# PROCESS EVALUATION

## Industrial and Process Efficiency Program

Final Report

Prepared for

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**Energy Research and Development Authority**

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# ABSTRACT AND KEY WORDS

This final report provides results from a three-phase process evaluation of NYSERDA's Industrial and Process Efficiency program. It presents the Wave-3 results, based on interviews with program staff, NYSERDA contractors, Industrial and Process Efficiency participants, and participants' contractors, and compares them with pertinent findings from the two prior waves.

Industrial and Process Efficiency team members have evolved the program over the course of its first two years in response to their implementation experiences and the first two waves of this process evaluation. Focus Contractor one-on-one outreach has been a key component of the program's success in attracting more new and repeat customers. Improvements to application processing, key account management practices, and marketing and outreach efforts contributed to increased project enrollment overall.

Given the program's progress to date and promising future, this evaluation only finds a few opportunities for improvement. Conclusions and recommendations are offered regarding database and application processing upgrades, continuing to refine the newly created "Project Management Dashboard," endeavoring to use the tool salesforce.com more consistently, and collaborating with Technical Reviewers to further clarify potentially good applications for per-unit-of-production savings calculations.

**KEY WORDS**

Process evaluation

Industrial energy efficiency

Industrial process efficiency improvements

Industrial outreach

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# EXECUTIVE SUMMARY

The **New York Energy $mart**SM programs are funded by an electric distribution System Benefits Charge (SBC) paid by customers of Central Hudson Gas and Electric Corporation, Consolidated Edison Company of New York, Inc., New York State Electric and Gas Corporation, National Grid, Orange and Rockland Utilities, and Rochester Gas and Electric Corporation. The programs are available to all electricity distribution customers that pay into the System Benefits Charge (SBC). The New York State Energy Research and Development Authority (NYSERDA), a public benefit corporation established in 1975, began administering the SBC funds in 1998 through NYSERDA's **New York Energy $mart**SM Program. During 2008, several changes arising from the New York State Public Service Commission's (PSC's) Energy Efficiency Portfolio Standard (EEPS) proceeding have affected NYSERDA's **New York Energy $mart**SM program portfolio and evaluation efforts. The PSC's June 23, 2008, EEPS Order called for an increase in SBC collections and a ramp-up of program efforts by NYSERDA and the state's six investor-owned electricity transmission and distribution utilities to meet New York's "15-by-15" electricity reduction goal. NYSERDA complied with the PSC's Order by submitting a Supplemental Revision to the SBC Operating Plan, incorporating approximately $80 million per year in additional funds for five new or expanded Fast Track programs, as well as for general awareness, administration, and evaluation associated with those programs.

The **Industrial and Process Efficiency** program, one of the Fast Track programs, was created in response to market feedback and increased funding through the EEPS. NYSERDA designed an enhanced Industrial and Process Efficiency program to increase industrial and data center projects. It accepts applications through the Existing Facilities Program (EFP) and New Construction Program (NCP) Opportunity Notices (PONs). NYSERDA offers ratepayers access to Industrial and Process Efficiency under these solicitations to provide simpler, one-stop-access by industrial customers and their service providers. In addition to providing incentives for projects with net energy savings, the program also has a performance-based incentive for projects that reduce energy use per unit of production.

This process evaluation of the Industrial and Process Efficiency program assesses the effectiveness of the program's outreach/marketing and operational processes, documents program progress, and makes recommendations for improvement. Research Into Action, Inc. completed the first of three waves of research in June 2010 and the second wave in October 2010. The Wave-3 research, completed in August 2011, included in-depth interviews with the six Industrial and Process Efficiency Project Managers who worked at least 30 percent time on Industrial and Process Efficiency; two NYSERDA staff members who provide managerial oversight for the program; NYSERDA's Commercial and Industrial Marketing Manager; four Technical Reviewers (consultants to NYSERDA); and three outreach contractors (consultants supporting program outreach to customers, service providers, and stakeholders). The research also included in-depth interviews with 23 participating customers and 13 contractors who worked on participants' projects. This report presents the Wave-3 findings and draws comparisons with pertinent findings from the prior two waves.

## FINDINGS

Industrial and Process Efficiency staff has evolved the program over the course of its first two years in response to their implementation experiences and the first two waves of this process evaluation. Outreach Contractor one-on-one outreach has been a key component of the program's success in attracting more new and repeat customers. Improvements to application processing, key account management practices, and marketing and outreach efforts contributed to increased project enrollment overall. In addition, industrial customers are beginning to participate in the program multiple times, which contacts attribute to the key account management approach.

Each of the three research waves identified similar issues for the program, yet each wave also demonstrated that program staff members were, by and large, aware of the issues and taking actions to address them. Evidence of the adaptive management of the Industrial and Process Efficiency program is shown in the following actions taken by program staff in response to staff and contractor implementation experiences and the process evaluation interviews and reporting (Table ES-1):

**Table ES-1. Program Issues and Actions Taken by Program Staff**

| Issues | Actions Taken by Program Staff |
|---|---|
| ▪ Delays in project support, approval, measurement and verification (M&V), and payment processing. | ▪ Created dashboard for all project staff (program and contractors) to tracks project status, hand-offs.<br>▪ Hired additional Technical Reviewer firms; nine firms now under contract. |
| ▪ Identification of, and outreach to, target markets. | ▪ Worked with marketing department on Integrated Marketing Plan.<br>▪ Used research by Anterres Group to develop sector-specific savings identification tools, case studies.<br>▪ Targeted outreach to contractors working with compressed air and data center customers. |
| ▪ Refinement of Key Account Management approach.<br>▪ Working with competing utility programs. | ▪ Increased account management role for Outreach Contractor.<br>▪ Developed dashboard to track projects, facilitating hand-off among and between program staff and contractors.<br>▪ Established National Grid hospital and ConEd data center collaborations. |
| ▪ Clarification of baseline and net versus per-unit-of-production savings calculations. | ▪ Met individually with selected customers to discuss process projects.<br>▪ Worked with Technical Reviewers to develop protocols for baseline measurements, variations in production schedules, and data center per-unit-of-production savings calculations. |

## CONCLUSIONS AND RECOMMENDATIONS

Given the program's progress to date and promising future, this evaluation finds only a few opportunities for improvement.

### Project Delays

**Conclusion 1:** Overall project support as well as response time for project approval, measurement and verification (M&V), and payment processing have improved, yet further improvements are desirable. Western New York and data centers throughout the state could be better served by additional project support.

Project delays decreased subsequent to staff's development of the "Project Management Dashboard" to track the duration between various program milestones, which enables staff to flag delayed projects for follow-up by the appropriate party or parties. In addition, the program has been able to provide more timely pre- and post-installation support as a result of the nine additional Technical Reviewer firms that NYSERDA hired.

> **Recommendation 1a:** The program would benefit from database and application processing upgrades needed for staff to improve project management, including implementing electronic signatures and better integration of NEIS and Buildings Portal.
>
> **Recommendation 1b:** The program team should continue to refine the dashboard in coordination with NYSERDA's Operations Group.
>
> **Recommendation 1c:** The program would benefit from additional Technical Reviewer support for Western New York and data centers throughout the state.

**Targeting and Outreach**

**Conclusion 2:** NYSERDA and program staff members have continued to improve its targeting of, and outreach to, the large and medium-size industrial customers the program intends to serve; yet ongoing targeting and outreach efforts are needed.

Between the Wave-2 and 3 evaluations, program staff increased the role of outreach contractors to address challenges associated with targeting customers, including list development and prioritization of outreach. The outreach contractors conducted extensive market analysis to augment NYSERDA's list of manufacturing establishments for targeted outreach; staff contacts generally agreed that the list of manufacturing establishments was nearly complete. In addition, staff and contractors considered successful their outreach to motivate contractors working with compressed air and data center customers to market the program's incentives. NYSERDA's Integrated Marketing Communications Approach for C&I programs (IMC) shows promise in increasing the clarity of Industrial and Process Efficiency messaging by providing specialized tools geared towards specific industrial subsectors and directed towards key decision makers.

> **Recommendation 2:** The program would benefit from additional Outreach Contractor outreach to data centers, to consulting engineers that serve targeted industrial submarkets, including data centers and compressed air users, and to industrial customers in Western New York (the greater Buffalo area, in particular). Across the state, outreach contractors should increase leveraging of economic development organizations to assist with targeted outreach.

**Branding**

**Conclusion 3:** Industrial and Process Efficiency competes for customers' attention with other non-efficiency plant investment opportunities and with utility efficiency programs. Participating customers have a greater understanding of the process improvement opportunities afforded by the program than they did at the program's outset, yet additional gains can be made.

> **Recommendation 3:** Program staff could take steps to more strongly brand Industrial and Process Efficiency as a one-stop shop that leverages a cohesive team of people to assist customers from opportunity identification and justification to verification and investment in the next cost-saving project. Solidifying this identity could further distinguish Industrial and Process Efficiency in the market and facilitate further cohesion of staff, outreach contractors, and Technical Reviewers around customer projects.

**Key Account Management**

**Conclusion 4:** The program team more successfully employed the key account management approach than they had as of the Wave-2 evaluation. Better use of salesforce.com facilitated key account management, and additional improvement in its use would benefit the program.

Outreach contractors' increased role in program activities benefitted key account management by increasing the extent to which customers received individualized attention. In addition, program staff members use of the dashboard decreased project delays, thereby increasing customer satisfaction.

> **Recommendation 4:** To facilitate coordinated outreach between program staff and outreach contractors and reduce duplicative or non-coordinated outreach to individual customers, the process evaluation team recommends that program staff use salesforce.com more consistently. To accomplish this, NYSERDA may need to implement database and application processing upgrades to increase staffs' available time.

**Energy Savings Calculations**

**Conclusion 5:** To address confusion about baseline, and about "net" versus "per-unit-of-production" savings calculations, the staff worked with Technical Reviewers to develop calculation protocols for baseline measurements, variations in production schedules, and data center per-unit-of-production calculations.

> **Recommendation 5:** The Industrial and Process Efficiency staff could host a workshop with Technical Reviewers and outreach contractors to further develop guidance case examples for per-unit-of-production calculation methodologies and messages likely to provide the best energy savings for the customer and the program. Staff might test-run the guidance, examples, methods, and messaging with customers that have conducted such per-unit-of-production projects and with whom the program has strong relationships, to explore the extent to which the new methods and messages increase the value of information and assist decision making.

Section 1:

# INTRODUCTION

The **New York Energy $mart**SM programs are funded by an electric distribution System Benefits Charge (SBC) paid by customers of Central Hudson Gas and Electric Corporation, Consolidated Edison Company of New York, Inc. (ConEdison), New York State Electric and Gas Corporation, National Grid, Orange and Rockland Utilities, and Rochester Gas and Electric Corporation. The programs are available to all electricity distribution customers that pay into the System Benefits Charge (SBC). The New York State Energy Research and Development Authority (NYSERDA), a public benefit corporation established in 1975, began administering the SBC funds in 1998 through NYSERDA's **New York Energy $mart**SM Program. During 2008, several changes arising from the New York State Public Service Commission's (PSC's) Energy Efficiency Portfolio Standard (EEPS) proceeding have affected NYSERDA's **New York Energy $mart**SM program portfolio and evaluation efforts. The PSC's June 23, 2008, EEPS Order called for an increase in System Benefits Charge collections and a ramp-up of program efforts by NYSERDA and the state's six investor-owned electricity transmission and distribution utilities to meet New York's "15-by-15" electricity reduction goal. NYSERDA complied with the PSC's Order by submitting a Supplemental Revision to the SBC Operating Plan, incorporating approximately $80 million per year in additional funds for five new or expanded Fast Track programs, as well as for general awareness, administration, and evaluation associated with those programs.

## 1.1 OVERVIEW OF PROGRAM AND PROCESS EVALUATION

NYSERDA created the **Industrial and Process Efficiency** program, one of the Fast Track programs, in response to market feedback and increased funding through the EEPS. The program is designed to increase industrial and data center projects. It accepts applications through the Existing Facilities and New Construction Program Opportunity Notices (PONs). NYSERDA offers customers access to the Industrial and Process Efficiency program through these PONS to provide simpler, one-stop-access to ratepayers and service providers. In addition to providing incentives for projects with net energy savings, the program also has a performance-based incentive for projects that improve energy use per unit of production.[1]

This process evaluation assesses the program's effectiveness and processes, and makes suggestions for improvement.[2] This report summarizes results from a three-phase process evaluation of the program. Research Into Action, Inc. completed the first wave of research in June 2010, the second wave in October 2010, and the third wave in August 2011.

## 1.2 EVALUATION METHODOLOGY

This section provides evaluation methodology for the third wave of research for NYSERDA's Industrial and Process Efficiency program.

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[1] *Process efficiency improvements*: Custom applications of commercially available technologies that increase productivity, improve processes, and/or support system efficiency. Process efficiency improvements reduce a firm's energy intensity (or the ratio of energy consumption to physical output). Such improvements may result in either an increase or a decrease in a firm's net energy use, depending on the change in output.

[2] See memorandum, *Final Work Plan for Process Evaluation of Industrial and Process Efficiency Program*, December 18, 2009.

The objectives of the all waves of research were to help program staff assess the effectiveness of the program outreach; identify customers' reasons for undertaking efficiency improvements and participating in the program; examine program processes and operations; document program progress; and make recommendations for program improvement. In addition to these objectives, Research Into Action identified and assessed respondents' experiences with other utility programs, their project decision-making concerns and criteria, and barriers to process-efficiency and per-unit-of-production calculations.

To collect information, the process evaluation team developed structured interview guides for the six key groups involved in the program: program staff members, focus contractors, Technical Reviewers, customers, partial participants, and contractors. The NYSERDA evaluation manager reviewed and approved these interview guides prior to implementation. The team conducted in-depth interviews with representatives of each of these six groups between June 3 and July 14, 2011. Interviews lasted approximately one hour for program staff, and forty-five minutes for Focus Contractors, Technical Reviewers, customers, partial participants, and contractors.

**Table 1-1. Identifies the Number of Interviews the Evaluation Team Conducted with Each Type of Respondent in Each of the Three Waves of Research**

| | Wave 1 | Wave 2 | Wave 3 |
|---|---|---|---|
| Program Staff | 9[3] | 11[3] | 8[3] |
| NYSERDA C&I Marketing Manager | -- | -- | 1 |
| Focus Contractors | -- | 3 | 3 |
| Technical Reviewers | 6 | 6 | 4 |
| DOE Contractors | -- | 3 | -- |
| Participants | 25 | -- | 23 |
| Partial Participants | -- | -- | 5 |
| Participants' Contractors | 14 | -- | 13 |
| High-Volume Contractors | 3 | -- | -- |

In Wave 3, the process evaluation team spoke with eight program staff members: six staff members who worked at least 30 percent time on the program and two staff members who provide managerial oversight as part of their duties. The team also spoke with NYSERDA's Commercial and Industrial Marketing Manager to better understand the relationship between program marketing approaches and NYSERDA's overall marketing approach to the Commercial and Industrial sector.

At the time of the Wave-3 evaluation, there were three firms working as Focus Contractors for the program; two of the firms targeted industrial clients and the other targeted data centers. The process evaluation team interviewed representatives from each of the three firms about their outreach, customer support, and contact list development activities.

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[3] NYSERDA is a highly dynamic organization undergoing much growth and new program responsibilities during this period. Inherently, staff assignments are highly matrixed and constantly evolving. Many program staff members were interviewed, but many also had significantly less than 50% of their responsibility in Industrial and Process Efficiency, and many staff members interviewed in Wave 1 were no longer working on the program by Wave 3.

Six firms had contracts with NYSERDA to serve as project Technical Reviewers at the time of the Wave-3 interviews. The process evaluation team interviewed representatives from four of the six firms about their quality assurance and program implementation efforts. The process evaluation team did not include representatives from the two firms that serve as both Technical Reviewers and Focus Contractors for the program; instead, the team interviewed representatives from these two firms regarding their Focus Contractor role.

### 1.2.1 Customer Sample

To select the customer sample, the team obtained the entire list of 643 Industrial and Process Efficiency measures in the Buildings Portal database as of May 20, 2011. The program team selected only those measures with Industrial and Process Efficiency applications received on or after September 1, 2010, to ensure that our participant responses reflected recent experiences with the program: 255 measures met this criterion. To ensure that contacts would have sufficient program experience, the team then identified measures listed as either "encumbered" or "installed;" 127 of 255 measures were listed as "installed" or "encumbered" in the database. The single NCP measure was excluded, leaving 126 measures.

Coordinating with the impact team, the process team sought to ensure that both groups did not contact customers regarding the same Industrial and Process Efficiency projects. This objective resulted in the team eliminating six additional measures (from two projects) from the sampling frame, reducing the frame to 120 measures, of which 96 were encumbered and 24 were installed.

Next, the team identified multi-measure projects and unique company contacts to interview. The process team created a purposive sample of customers to ensure that the team spoke with customers pursuing a variety of projects. The purposive sample included projects of each characteristic from the following four binary categories:

- Fuel type (electric or gas)
- Size of expected savings (small or large)[4]
- Project type (process or non-process)
- Sector (data center or industrial)

The purposive sample ensured the team obtained data from each of the eight possibilities described by the four binary categories of fuel type, savings size, project type and sector, ensuring customers with every type of project would be heard from. It oversamples project types of particular importance to the Industrial and Process Efficiency team. Through this approach, the participant survey responses should reveal whether any particular customer or project type commonly had problems with Industrial and Process Efficiency.

The team did not weight the resulting survey data to represent the population, as the population includes more small, electric non-process projects by industrial customers than any other project/customer type. Thus, such weighting would minimize any problems experienced by other groups, such as by data centers with large process projects.

While it is not appropriate with a small purpose sample, such as is the case here, to use a Chi-squared test or comparable statistical technique to determine statistically significant differences between groups, the

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[4] Projects categorized by median expected savings. The threshold for small projects is expected savings of < 500 MWh or < 4,000 MMBtu.

evaluators examined the responses for patterns suggesting a group responded differently than other groups. The team looked for responses that were primarily provided by one type of customer/project, and for customer/project types that primarily provided a specific response. The Chapter 3 discussion of findings identifies the very few patterns found among the responses.

From the list of 120 measures, the team identified 84 unique projects. Of these 84 projects, the team selected a sample of 54 that represented all of the listed characteristics. Table 1-2 displays the characteristics of the firms the process team interviewed.

**Table 1-2. Characteristics of Sampled and Interviewed Firms**

| Measure Category | Sample | Total Completes |
|---|---|---|
| **Non-Process Industrial Equipment Upgrades** | | |
| Electric Small | 11 | 2 |
| Electric Large | 10 | 3 |
| Gas Small | 4 | 2 |
| Gas Large | 8 | 4 |
| *Non-Process Industrial Equuipment Upgrades Subtotal* | *33* | *11* |
| **Process Data Efficiency Projects** | | |
| Electric Small | 8 | 3 |
| Electric Large | 4 | 4 |
| *Process Data Efficiency Projects Subtotal* | ***12*** | *7* |
| **Process Industrial Efficiency Projects** | | |
| Electric Small | 4 | 1 |
| Electric Large | 3 | 2 |
| Gas Small | 1 | 1 |
| Gas Unknown | 1 | 1 |
| *Process Industrial Efficiency Projects Subtotal* | ***9*** | *5* |

See Appendix A for the final sample disposition for the participant interviews.

### 1.2.2 Partial Participant Sample

To identify a partial participant sample, the process team first identified 43 projects with a status of "cancelled." The partial participant sample excluded NCP projects and projects where non-SBC payment was indicated, and companies that had been included in the participant or the impact sample. The team identified 11 unique contacts with projects meeting these criteria that had been submitted since September 2010. Table 1-3 displays the characteristics of the partial participant firms the process team interviewed and the final dispositions of the interviews.

**Table 1-3. Partial Participant Sample**

| Fuel | Project Type | | Population | Target Completions | Completes |
|---|---|---|---|---|---|
| Gas | Non-Process | Any | 0 | NA | NA |
| | Process | Any | 1 | 1 | 0 |
| Electric | Non-Process | Data | 1 | 1 | 1 |
| | | Industrial | 7 | 1 | 2 partial completes, 1 complete |
| | Process | Data | 1 | 1 | 0 |
| | | Industrial | 1 | 0 | 1 |
| *Total* | | | *11* | *4* | *5* |

**Contractor Sample**

Using the original list of 643 data and industrial measures, the process evaluation team identified 159 installed or encumbered program measures that listed a contractor as the "primary contact" for the measure. Using the list of 159 projects, the team identified 15 contractors who had worked on projects since September 2010; however, this number was insufficient to obtain the desired sample distribution. Therefore, the team identified an additional 28 contractors who had worked on projects since the inception of the program, bringing the sample size to 43. From the 43 contractors, the team selected a sample of 25, which included all the contractors who had worked on data or process projects, and a random sample of non-process contractors. The process team completed 13 in-depth interviews with contractors between June 20 and July 15, 2011. Table 1-4 displays the characteristics of the contractor firms the process team interviewed and associated sample sizes.

**Table 1-4. Contractor Population by Year and Associated Sample Size**

| Project type | | Population | | Sample | Completions |
|---|---|---|---|---|---|
| | | From 9/2010 to Present | All Projects (2008 on) | | |
| Non-Process | Industrial | 14 | 28 | 10 | 8 |
| Process | Industrial | 0 | 14* | 14 | 4 |
| | Data | 1 | 1 | 1 | 1 |
| *Total* | | *15* | *43* | *25* | *13* |

* Five contractors worked on both process and non-process industrial/manufacturing projects. Because fewer contractors reported working on process projects than on non-process projects, the team included these contractors in the process group, and interviewed them about their work on industrial projects.

See Appendix A for the final sample disposition for the contractor interviews.

Section 2:

# PROGRAM DESCRIPTION, EVOLUTION, AND CURRENT STATUS

This section provides a brief description of the program and describes programmatic changes that occurred during the program cycle.

## 2.1 PROGRAM DESCRIPTION

NYSERDA designed the program for industrial and data center ratepayers and their service providers under the EFP and NCP solicitations to provide a simpler, one-stop-access for projects. The program offers incentives for both non-process equipment upgrades (that reduce firms' net energy use) and performance-based incentives for process efficiency improvements (that reduce energy use per unit of production) through its EFP and NCP solicitations. Only firms that pay into the SBC are eligible to participate in the program, and they submit an application through one of the PONs listed in Table 2-1.

**Table 2-1. PONs through Which Industrial and Process Efficiency Projects May Enter**

| Number | PON Name | Notes |
|---|---|---|
| 1219 | Existing Facilities Program | SBC funding has enabled Industrial and Process Efficiency to be part of EFP since August 2008. Funding was revised December 2008. Department of Public Service approved the use of EEPS funding in March 2009. The PON extends incentives until November 30, 2011 or until funds are committed, whichever comes first. |
| 1222 | New Construction Program Financial Incentives | NCP allowed for new construction and major renovations projects. Industrial and Process Efficiency incentives were added October 2009. The PON ended December 31, 2009. |
| 1501 | New Construction Program Financial Incentives | A re-release of the previous NCP PON. EEPS and SBC funding apply. Applications accepted from January 4, 2010 through December 31, 2011 or until funds are fully committed. |

Customers may enroll in the program in one of the following ways:

- A contractor or equipment vendor working with a customer may apply on the customer's behalf.
- A customer may apply directly through NYSERDA's website.
- A customer may apply directly through a mailed application.
- A Focus Contractor may help customers complete and submit an application by mail or through the NYSERDA website.

Applicants are eligible for incentives of up to $5,000,000 per facility, not to exceed 50 percent of project cost. Projects must qualify for an incentive of at least $10,000 to participate in the program. Projects that save more than 500,000 kWh per year (1,000,000 kWh per year for lighting projects) or 10,000 MMBtu per year must undergo measurement and verification (M&V) for a period of up to two years.[5] NYSERDA's

[5] Projects that save less than 500,000 kWh per year are not required to complete M&V processes.

Technical Reviewers create a project-specific M&V plan in collaboration with the applicant. NYSERDA pays 60 percent of the incentive upon installation and the balance following M&V approval.

The project installation and approval process for both process efficiency improvements and non-process equipment upgrades requires the following:

- A facility representative, or contractor acting on the customers' behalf, submits an application.[6]
- NYSERDA reviews the application for eligibility. If it determines that a project is eligible, and an engineering analysis that documents the project savings is included, it issues a Purchase Order (PO) to the applicant.
- The applicant submits an Engineering Analysis to NYSERDA for approval, or works with the NYSERDA Technical Reviewer who prepares and submits an Engineering Analysis on the customer's behalf. The Engineering Analysis includes, but is not limited to, project description, economic evaluation, energy savings calculations, and equipment specification sheets.
- Projects above the M&V threshold require an M&V plan as part of the engineering analysis.
- NYSERDA, or its consultant, reviews the Engineering Analysis and conducts a pre-site inspection. NYSERDA may request revisions to the Engineering Analysis, as necessary. Upon approval of the Engineering Analysis and pre-site inspection, NYSERDA notifies the applicant that they can implement the project. Applicants that proceed with installation before NYSERDA approves the Engineering Analysis and conducts a pre-site inspection do so at their own risk. If a Purchase Order has not been issued previously, it is issued at this point.
- The applicant implements the project and notifies NYSERDA or its consultant that the project is complete and ready for a post-site inspection.
- NYSERDA, or its consultant, conducts a post-site inspection and collects invoices and any other remaining items.
- Upon approval of all final deliverables, including any required M&V, NYSERDA provides payment. When the M&V is completed, NYSERDA, or its consultant, reviews the results and releases any remaining funds (adjusted per the M&V results).

Program staff members assist customers and contractors with applications and oversee the incentive process. Some program staff members are designated as Key Account Managers for large customers. The key account management approach emphasizes the development of one-on-one, long-term relationships with customers, helping customers identify ways to use the program incentive to gain energy efficiency in the projects they pursue.

As program administrator, NYSERDA provides leadership, management, and oversight to two types of contractors assigned to this program: Technical Review Contractors and Focus on Industrial and Process Contractors. Technical Reviewers review project details and engineering estimates, as well as monitor M&V plans and results. Focus Contractors support program outreach to customers, service providers, and stakeholders. In January 2010, Focus Contractors began their work with program staff to support the communication and relationship-building necessary to educate customers, service providers, and stakeholders; to identify potential process and energy-efficiency improvement projects; to provide direct assistance with program participation; and to further develop contact lists of potential customers.

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[6] Applications must be submitted within 90 days after preliminary approval. Applicants must allow NYSERDA to conduct a site visit before the project begins.

In addition, the program received an additional $900,000 in grant funding from DOE to support contractors who conduct additional outreach for the program. These DOE-supported contractors include two industrial trade associations and a consulting firm that leveraged their existing roles as advisors to their member organizations and clientele on energy-related issues to promote the program and to further develop contact lists of potential customers.

## 2.2 PROGRAM CHANGES

Program changes that occurred during the program cycle included:

- In 2010, the program authorized an increase in natural gas savings goals from 1,081,940 MMBtu to 1,682,265 MMBtu.
- In 2010, the program authorized incentives for energy savings resulting from operations and maintenance (O&M) improvements. Qualifying O&M improvements must include the installation of continuous monitoring technologies. Incentives are $.05/kWh and $6/MMBtu (up to 50 percent of the project cost).
- In 2010, the program authorized internal labor accounting for up to 25 percent of project cost. Previously, customers who wished to include installation and/or engineering costs within their total project costs were required to use external contractors.

## 2.3 ENROLLING LARGE PROJECTS

During Wave-1 interviews, program staff members said the program was on target in terms of the number of projects expected to be in the program pipeline by that time. However, staff members reported that the average size of these projects fell short of expected savings and that it would be necessary to enroll a higher proportion of process efficiency projects into the program to meet program savings goals. The process team's comparison of cases from a February 3, 2010 extract of 170 projects from the Buildings Portal database[7] with similar analysis of all projects in NYSERDA's Buildings Portal database as of July 21, 2011[8] shows that, between February 3, 2010 and July 21, 2011, the share of total projects comprised by process efficiency projects increased by a factor of three, from 9 percent to 27 percent.

On average, process projects enrolled as of July 21, 2011 were projected to generate about 1.8 times the kWh savings of non-process projects. The largest process project is projected to generate nearly two and one-half times the savings of the largest non-process efficiency project (30,999 MWh versus 12,881 MWh).

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[7] Source: A February 3, 2010 extract of 170 projects from the Buildings Portal database listing EEPS as the funding source and designated as "installed," "encumbered," or "not yet encumbered." Analysis was limited to the 67 case records containing kWh saving data, six of which (9 percent) were designated process efficiency projects and 61 were designated non-process projects. Savings for the six process projects averaged 2,275.6 MWh (ranging from 135 MWh to 8,404 MWh), about three-and-a-half times the kWh savings garnered from the 61 non-process projects, which averaged 673.1 MWh (ranging from 86 MWh to 7,884 MWh).

[8] Source: A July 21, 2011 extract of 589 projects from the Buildings Portal database listing EEPS as the funding source and designated as "installed," "encumbered," or "not yet encumbered." Analysis was limited to the 465 case records containing kWh saving data, 126 of which (27 percent) were designated process efficiency projects and 339 (73 percent) were designated non-process projects. Savings for the 126 process projects averaged 1,178 MWh (ranging from 22 MWh to 30,999 MWh), about 1.8 times the average kWh savings per project garnered from the 339 non-process projects, which averaged 654 MWh (ranging from 1 MWh to 12,881 MWh).

Generally, savings are concentrated in a small number of projects for both process and non-process projects. Thirty process projects, or 23 percent of the process projects, accounted for 80 percent of projected process savings. Similarly, 114 projects, or 34 percent of non-process projects, accounted for 80 percent of the projected non-process savings. These findings are consistent with views expressed by staff during Wave-2 and Wave-3 interviews, who noted large projected savings from both process efficiency and non-process industrial projects.

As shown in Table 2-2, as of July 21, 2011, non-process projects are projected to deliver 60 percent – and process efficiency projects are projected to deliver 40 percent – of total program kWh savings to date.[9] Data center projects are projected to deliver considerably more process than non-process efficiency savings and constitute a larger share of process than non-process efficiency savings. These findings suggest that NYSERDA should continue to pursue process efficiency projects with special emphasis on data center projects, but not at the expense of conducting program marketing towards enrollment of non-process projects, since non-process projects are projected to deliver the largest proportion of kWh savings and several of the largest kWh-saving program projects.

**Table 2-2. Projected Annual Gross kWh Savings and Percentage of Total Projected Program kWh Savings by Measure Category, as of July 21, 2011 (N=465)**

| Measure Category | Projected Annual kWh Savings | Percentage of Total Projected Program kWh savings |
|---|---|---|
| **Non-Process Equipment Upgrades** | | |
| Industrial Non-Process Equipment Upgrades | 207,714,322 | 56% |
| Data-Center Non-Process Equipment Upgrades | 13,920,773 | 4% |
| *Non-Process Equipment Upgrades Subtotal* | *221,635,095* | *60%* |
| **Process Efficiency Projects** | | |
| Industrial Process Efficiency Improvements | 106,283,520 | 29% |
| Data Center Process Efficiency Improvements | 42,136,556 | 11% |
| *Process Efficiency Improvements Subtotal* | *148,420,076* | *40%* |
| ***Grand Total*** | ***370,055,171*** | ***100%*** |

[9] Source: The July 21, 2011 extract, described in the previous footnote.

Section 3:

# PROGRAM STAFF, FOCUS CONTRACTORS, AND TECHNICAL REVIEWERS

In this section, the evaluation team summarizes major findings derived from in-depth interviews with eight program staff, NYSERDA's Commercial and Industrial Marketing Manager, three Focus Contractors, and four Technical Reviewers conducted between June 20 and July 15, 2011. To provide a more complete assessment, the team includes for comparison pertinent findings from research Waves 1 and 2. The section also includes a summary of major findings derived from Wave-2 interviews with the three key organizations that received funding from the U.S. Department of Energy (DOE) to promote the program.

## 3.1 PROGRAM STAFF ROLE

The program staff role provided marketing, outreach, and project management for the program. The Senior Project Manager is primarily responsible for supervising Project Managers and coordinating activities. Additional responsibilities include: interpreting program rules and clarifying eligibility issues as needed; overseeing internal processes (including maintaining program records that track expenditures and project metrics); monitoring quality assurance (QA) processes at the project level; and overseeing the outreach efforts, including attainment of interim goals.

Project Managers perform program marketing and outreach, review customer applications for eligibility, verify project savings, monitor equipment installation, participate in M&V plan development, and distribute incentive payments. During Wave-1 interviews, staff contacts described spending more time on outreach than project management. In contrast, during Wave-2 and Wave-3 interviews, staff contacts frequently reported that increased customer enrollment required that they spend more time managing customers' projects than engaging in key account management and conducting other program outreach activities.

## 3.2 PROGRAM STAFF, PROGRAM MARKETING, AND OUTREACH

Program staff said program marketing and outreach had two distinct goals: 1) to make firms aware of the existence of the program, and 2) to elicit their participation. According to one program staff, customers become aware of the program through: 1) program marketing and 2) staff and contractors direct one-on-one contact with customers or staff and contractors presenting the program to customers at conferences, trade show, and other events.

Staff further reported facilitating firms' transition from awareness to participation through one-on-one communications with key decision makers, including firm facility directors, production and/or process engineers, directors of sustainability, and senior managers.

### 3.2.1 Program Marketing Materials

During both Wave-1 and Wave-2 interviews, program staff reported the need to spend a significant amount of time explaining details of the program to customers, because, according to staff, the marketing materials they designed at the outset of the program lacked sufficient detail. Contacts said upcoming marketing strategies would include a media campaign to raise awareness of NYSERDA and the program; the campaign was to be part of broader NYSERDA marketing effort. During both Wave-1 and Wave-2 interviews, program staff questioned the efficacy of mass marketing campaigns targeting the industrial sector.

During Wave-1 interviews, several program contacts suggested augmenting NYSERDA's mass-marketing campaign with campaigns targeted to specific industrial subsectors, because, in the words of one contact, "Each industry thinks it is unique. Therefore, case studies and marketing materials geared towards specific industries work better than general materials." In addition, one staff contact suggested that NYSERDA should increase its "electronic reach," by making use of social media websites, such as Facebook and Twitter.

In addition, staff contacts noted that, due to NYSERDA's lengthy approval processes and the frequent programmatic and marketing changes to the program, it was challenging to keep the program website up to date. During Wave-2 interviews, staff contacts characterized the website as "mostly accurate," and expected NYSERDA to complete a comprehensive update by the end of 2010. Staff contacts also suggested that the website should provide a more streamlined online application process. Additionally, one contact suggested that the website include links for specific users, including individual links for contractors and customers.

Integrated Marketing Communications Approach

Wave-3 interviews suggests that a new marketing strategy currently under development at NYSERDA, the Integrated Marketing Communications Approach for C&I programs (IMC), is responsive to staffs' suggestions to increase the clarity of program messaging and to not rely exclusively on mass marketing to reach the industrial sector. Although the IMC includes mass-marketing techniques, the IMC ultimately aims to provide highly relevant messaging and specialized tools geared towards specific industrial subsectors and directed towards key decision makers within firms.

Staff contacts explained that the IMC will combine traditional direct advertising, such as business publications and direct mail, with new media tactics, such as email, and social media. Customer response to the new media marketing materials will be tied to the NYSERDA website, via search engine marketing tactics such as "Pay-Per-Click"[10] which, according to staff contacts, will "drive interested parties back to a central NYSERDA site," allowing customers to "opt-in" and receive specific and relevant information, including "relevant case study information and sector-specific tools to help identify energy saving opportunities."

Staff contacts further noted that the program opt-in process will help to augment NYSERDA's list-development of prospective program customers, because the contact and firmographic information obtained during the "opt-in" process will be simultaneously recorded in the salesforce.com database.

According to one staff contact, "The IMC aims to accelerate NYSERDA awareness and program participation via a fully integrated marketing program for C&I programs." Staff contacts clarified that current IMC development includes researching the profiles and roles of the key energy efficiency and process-efficiency decision makers and identifying "unique touch points" for reaching the decision makers.[11]

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[10] According to Wikipedia, pay per click (PPC) is an internet advertising model used to direct traffic to websites, where advertisers pay the hosting service when the advertisement is clicked: http://en.wikipedia.org/wiki/Pay_per_click

[11] *"Reaping Deeper Energy Savings through a Commercial Market Sector Approach: Myth or Reality,"* Wendy MacPherson. Association of Energy Services Professionals Brownbag Webinar. March 3, 2011.

### 3.2.2 Generating Awareness of Industrial and Process Efficiency through Events

To attract new customers to the program, Project Managers describe the program at conferences, trade shows and other industry-related events, such as those held by the Multiple Interveners (MI) and Manufacturers Association of Central New York (MACNY).

Additionally, Project Managers work to motivate upstream industrial equipment supply chains, contractors, and equipment vendors so that they will market the program as part of selling their goods and services. However, although staff contacts noted successes when engaging with compressed air manufacturers, they considered their efforts to motivate industry consultants to be less effective than their direct outreach to customers.

## 3.3 FOCUS CONTRACTOR ROLE

Focus Contractors are consultants who support program outreach to customers, service providers, and stakeholders. Focus Contractors also assist customers with completion of project installation and approval processes.

According to staff, NYSERDA selects Focus Contractor firms based on their demonstration of knowledge of high-energy users, of major energy consuming areas, and of sector-specific business priorities and decision-making processes. In addition, Focus Contractor firms must demonstrate existing relationships with stakeholders, service providers, trade associations, and professional associations, and provide evidence of successful outreach experience in the industrial sector.

Similar to NYSERDA Project Managers, Focus Contractors' work to generate awareness about the program by presenting the program at conferences, trade shows, and other events, such as those held by Industrial Development Agencies (IDAs) and Technology Development Organizations (TDOs). During Wave-3 interviews, one Focus Contractor described a successful outreach approach in which the contact obtained lists of the highest energy users in each county from economic development organizations. Next, the contact enlisted each economic development organization to contact the prospective customers regarding the program. Finally, the Focus Contractor made inquiries with each of the contacted firms to arrange face-to-face meetings with key decision makers.

In addition, Focus Contractors seek to motivate upstream industrial equipment supply chains, contractors, and equipment vendors to market the program as part of selling their goods and services. Focus Contractors described working to reach representatives from these groups via their presentations at conferences and events, by meeting with various contractor stakeholder groups and through one-on-one meetings with contractors. The Focus Contractors reported that these activities were successful when engaging with consultants that work with data centers and compressed air.

In addition, the Focus Contractors considered successful their engagement with consultants that work with industrial firms to implement productivity improvements. The Focus Contractors noted that such firms have not traditionally considered the potential for productivity improvements to save energy. Instead, according to one Focus Contractor, "They are more used to looking at these projects as improvements in throughput, cycle time, and quality improvements."

## 3.4 FACILITATING FIRMS' TRANSITION FROM AWARENESS TO PARTICIPATION

While program marketing works well for attracting new customers to the program, staff members report that the approach itself does not address the challenge of facilitating firms' transition from awareness to participation. Staff further reported that facilitating firms' transition from awareness to participation was accomplished through one-on-one communications key decision makers at the firms.

### 3.4.1 Key Account Management

Program staff used the key account management approach to facilitate firms transitioning from awareness to participation; staff provided proactive assistance and a centralized point of contact for firms with the largest potential energy savings. During regular meetings (once per month or once per quarter) with such staff of large firms as facility directors, production and process engineers, and senior managers, staff members discuss potential projects, encourage development of efficiency action plans, and solicit Industrial and Process Efficiency qualified projects.

During each of the three research waves, staff consistently noted that customers appreciated having a single contact at NYSERDA, in contrast to the previous approach, which required industrial firms to work with several NYSERDA Project Managers for various projects. Program staff generally agreed that the key account management approach has demonstrated success in securing large and/or multiple Industrial and Process Efficiency projects with firms. In addition, staff noted that the key account approach has enhanced customers' awareness and understanding of program opportunities.

### 3.4.2 Program Staffing Levels and Account Management Responsibilities

Many interviewed program staff, Focus Contractors, and Technical Reviewer contacts reported that program staffing is insufficient and has not increased to keep up with increased customer participation levels. During each of the three research waves, staff consistently noted that successful key account management emphasizes the development of one-on-one, long-term relationships with customers and helping customers identify ways to use the program incentive to gain energy efficiency in the projects they pursue. However, during Wave 2, staff frequently reported that managing existing program responsibilities, as well as their program responsibilities associated with other NYSERDA programs, reduced the time available for staff to conduct outreach and interact with customers in support of project identification. Multiple staff reported that their lack of time was exacerbated by paperwork processing approaches and multiple databases. Some of the staff suggested that program staff levels were sub-optimal, especially administrative staffing levels.

During Wave 3, each of the eight interviewed program staff were asked to comment on whether they considered the number of program staff available to implement the program to be "too many," "just right," or "not enough." Seven of the eight program staff members said program implementation was hampered by lack of staff. The seven offered differing opinions about whether additional Project Managers, additional program administrative staff, or both, were needed. In addition, these seven said that they do not have adequate time to implement the key account management approach as designed. Staff contacts said improving paperwork processing procedures and adding staff would increase the time they have available time to implement key account management.

Regarding program staffing levels, one staff contact commented that, when the program was conceived, staff assumed that there would be fewer Industrial and Process Efficiency projects overall, and that the projects would be larger kWh-saving projects. According to the contact, "Instead, we have a larger total number of projects than anticipated, many of which are small projects; therefore, we are short on Project Managers."

Program staff contacts agreed that additional program administrative support is needed to increase the speed of paperwork processing. Staff contacts said that New York Governor David Paterson's 2008

prohibition of all but essential hiring in New York State agencies precludes the hiring of additional staff.[12] Despite the hiring freeze, NYSERDA's recent addition of contract employees (equivalent to one FTE administrative staff) has helped to augment the staff's paperwork processing capabilities.

### 3.5 FOCUS CONTRACTOR OUTREACH ACTIVITIES

During both Wave 2 and Wave 3, program staff unanimously reported satisfaction with the activities of the Focus Contractors.[13] According to one staff contact, the Focus Contractors are "very technical, very available to customers, and seem to have a good-sized staff, so they are able to set up a lot of meetings and reach a lot of customers." During Wave 3, one staff contact commented, "We would not be where we are in the program without the Focus Contractors; they have been the backbone – fifty percent of all of the applications we have received are the result of Focus Contractor activities."

Although staff reported being highly satisfied with the results of Focus Contractor activities, two staff contacts expressed a desire to increase the efficiency and cost-effectiveness of the activities. One of the two further commented that it might be more efficient to coordinate Focus Contractor activity under a single Focus Contractor firm, as opposed to the three firms with which NYSERDA currently subcontracts. In addition, one staff contact expressed a desire to increase the extent to which Focus Contractor activities are coordinated with regional and national efforts to increase energy efficiency in the industrial sector.

Wave-3 interviews revealed that NYSERDA's approach to key account management evolved considerably during the program cycle. As noted previously, this evolution appears to have occurred because program staffing did not increase to keep up with increased customer participation levels. During Wave 1, Project Managers described key account management as an activity that would be completed exclusively by Project Managers, in which the Managers would provide a single point of contact for firms with the largest potential energy savings. In contrast, during Wave 3, one staff contact stated that, currently, NYSERDA project managers provide a single point of contact for "only the most important key accounts, of which there are five to ten." Staff contacts estimated that Focus Contractors complete approximately ninety percent of all program marketing. One staff contact noted, "The vast majority of key accounts probably speak to Focus Contractors more than NYSERDA Project Managers." The remaining outreach to key accounts is handled either collaboratively by NYSERDA Project Managers and Focus Contractors, or exclusively by the Focus Contractors.

Staff contacts clarified that NYSERDA Project Managers typically conduct the strategic management of program outreach activities (such as coordinating the activities of the Focus Contractors, speaking at large events, conducting research on specific industrial subsectors, and developing marketing materials). In contrast, Focus Contractors tend to complete many of the face-to-face meetings with individual firms (such as completing customer site visits and identifying potential projects).

Focus Contractor contacts agreed that the key account management approach is successful in generating repeat participation among program customers. For example, one Focus Contractor contact stated, "Once customers understand the ease of the process, they engage with the program multiple times."

Regarding their key account management activities, Focus Contractor contacts emphasized the importance of maintaining regular communication with customers by holding monthly or bi-monthly meetings about

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[12] In 2008, New York Governor David Paterson prohibited all but essential hiring, in a directive to state agencies: http://www.cnycentral.com/news/news_story.aspx?id=123992

[13] Focus Contractors began program outreach subsequent to the first wave of Industrial and Process Efficiency research.

energy management. Focus Contractors said that, during on-site visits with customers, it is effective both to walk customers' facilities to identify potential projects and to review customers' lists of capital projects to identify opportunities where program incentives may apply.

### 3.5.1 Communicating with Program Staff about Customer Outreach and Project Installation and Approval Processes

In general, program staff and Focus Contractors reported satisfaction regarding their communication and coordination about outreach activities. The Focus Contractors said they primarily communicate with NYSERDA Project Managers about outreach via email and during weekly conference calls.

The Focus Contractors unanimously considered salesforce.com, a customer relationship management (CRM) software program, to be a useful tool to track their interactions with customers, as well as customer tier, annual kWh and gas usage, kWh and MMBtu savings potentials, and the status of program staff and Focus Contractor outreach activities. However, the Focus Contractors reported that, while their tracking of their interactions with customers using salesforce.com is relatively consistent, the program staff's tracking of such interactions using the software program is less so. Focus Contractors and program staff contacts agreed that duplicative and/or non-coordinated outreach to individual customers periodically occurred because of inconsistent tracking of customer interactions in salesforce.com. During Wave 3, two of the three interviewed Focus Contractors expressed the opinion that it is unsurprising that staff do not consistently track customer interactions in salesforce.com because, according to the two contacts, staff constraints limit the time staff have available to do so.

Following customers' application submissions, Focus Contractors access an excel spreadsheet (a monthly snapshot exported from NYSERDA's Buildings Portal database) to obtain updated customer project status information. During Wave 3, Focus Contractor contacts unanimously reported that this communication approach is effective and facilitates their ability to assist customers with project installation and approval processes.

### 3.5.2 Focus Contractor Staffing Levels and Account Management Responsibilities

During Wave 2, when staff contacts reflected on the large savings goals associated with the program and the short timeline for achieving the goals, the contacts suggested that it might be necessary to expand outreach either by hiring additional Focus Contractor firms or by providing additional funding so that the existing Focus Contractor firms may add staff. In contrast, during Wave 3, five of the seven program staff who commented on the relative sufficiency of the number of Focus Contractors available to serve the industrial market said that the current number of Focus Contractors is adequate. According to one of the five, "Any additional Focus Contractors and they would be tripping over each other." Consistent with the perspective of the five, during Wave 3 Focus Contractors unanimously reported that they have adequate time to implement the key account management approach as designed.

However, two of the seven staff commented that there are currently too few Focus Contractors available to serve the industrial market. These two suggested that the industrial market would be better served by additional Focus Contractor outreach in Western New York (the greater Buffalo area, in particular) and to data centers throughout the state. Regarding the potential to increase staff size at individual Focus Contractor firms, one Focus Contractor contact noted that it is a challenging to find individuals with the necessary qualifications.

## 3.6 DOE CONTRACTOR OUTREACH

The Industrial and Process Efficiency program received a $900,000 grant from DOE for additional program outreach. NYSERDA signed contracts with trade associations, consulting firms, universities, and other

stakeholders to leverage their current roles as advisors to their member organizations and networks on energy-related issues to promote the program. The three primary organizations that coordinated work funded by the DOE grant were Couch White, LLP (a legal firm and general counsel to MI), MACNY, and Antares Group (an engineering and development firm). In addition to providing program outreach, Antares Group acted as a liaison between the stakeholder organizations and NYSERDA, coordinating quarterly stakeholder meetings and publishing stakeholder success stories.

Antares Group staff also reported completion of a benchmarking report that identifies energy intensive industrial subsectors in New York using NAICS codes.[14] The Antares contact further clarified that a primary goal of the benchmarking report was to identify energy-intensive mid-sized (tier two) customers. Staff contacts reported using Antares research to develop relevant case study information and sector-specific tools to help identify energy saving opportunities. One staff contact clarified that the materials help staff and Focus Contractors to "know beforehand when we approach a customer what their energy hogs are likely to be, and to provide case studies specific to their industry."

Additionally, Antares staff reported development of a list of consultants that currently work with industrial firms to implement productivity improvements. The Antares contact noted that because such consultants focus on productivity improvements, as opposed to energy efficiency, the contractors have limited familiarity with NYSERDA and its incentive programs.[15] Therefore, the DOE Contractors intend to motivate these consultants to leverage program process efficiency incentives when marketing productivity improvements.[16]

All three organizations considered the program outreach made possible through the DOE grant successful and perceived a continued need to conduct the outreach. However, staff reported that DOE contractor outreach ended in Q4 2010, when the DOE funding was exhausted.

## 3.7 TARGET MARKET IDENTIFICATION AND KEY ACCOUNT LISTS

During Wave 1, program staff members reported development of a list of manufacturing establishments for targeted outreach; the list is divided into three tiers based on energy use.[17] During Wave 1, interviewed program staff noted that the list included contact information for facilities staff members, who typically oversee non-process equipment upgrades. Program staff members reported that the industrial firm contact list was difficult to keep up to date and, even in cases when an individual is still employed by a given firm, the contact may not have been the ideal person to approach about the program. Specifically, staff noted that

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[14] The North American Industry Classification System (NAICS) is used by the Federal government to classify business establishments for the purpose of government contracting and statistical analysis.

[15] The Antares contact noted that consultants who focus on implementing productivity improvements are frequently involved in supporting "lean manufacturing" or "six sigma" processes, as opposed to energy efficiency consulting services.

[16] Wave-1 interviews revealed that equipment vendors and contractors are an important component of program outreach; a high percentage of customer contacts reported that they enrolled in the program because of interactions with their contractor. However, Wave-1 interviews revealed that most of the contractors were unaware that the program provides incentives for process efficiency improvements. Consequently, the contractors were not leveraging program incentives for process efficiency to market their goods and services.

[17] Tier one – above 2 MW; tier two – 500 kW to 2 MW; and tier three – below 500 kW.

the list contains less information on process engineers or executive-level staff – the types of staff who are more likely to oversee production process decisions.[18]

During waves two and three, Focus Contractors described working to improve the list of industrial customers by adding contact information for additional employees, such as process engineers and chief financial officers, adding prospective firms to the list, verifying the firms' kWh and KW usage, classifying the firms by their NAICS code, and updating employee contact information. Focus Contractors reported that, when possible, they independently tracked customers' hours of operation, capital plans, and their level of interest in energy efficiency and sustainability initiatives to further assess customers' likelihood to initiate projects.

During waves two and three, when prompted, multiple staff and Focus Contractor contacts acknowledged that it might be useful to also augment lists that classify industrial customers using NAICS codes to include evidence of plant capacity constraints from the Survey of Plant Capacity Utilization.[19] Contacts agreed it might be useful to prioritize for outreach activities firms classified under NAICS codes reporting high capacity utilization rates. In addition, noting that a large proportion of program customers are capacity constrained, one Focus Contractor expressed the opinion that such firms should also be targeted for implementing non-process facilities upgrades, since firms that are capacity constrained are often economically healthy, and are therefore likely to have funds available to implement capital projects.[20] One staff contact cautioned that, "to be useful, I think it would need to be New York State-specific."

Program staff explained that Focus Contractors' vetting of the tiered list provided a basis for NYSERDA's designation of key accounts. During Wave 2, staff noted that, despite these improvements, the tiered list had yet to fully capture the industrial market. During Wave 3, one of the Focus Contractors reported conducting extensive market analysis to augment NYSERDA's list of manufacturing establishments for targeted outreach. The contact reported success with obtaining lists of large industrial customers from county economic development organizations. During Wave 3, staff contacts generally agreed that development of the list of manufacturing establishments for targeted outreach was nearly complete; one staff contact expressed the opinion that NYSERDA's "central marketing" may be able to uncover additional industrial firms for targeted outreach.

Wave-1 interviews revealed that identifying data centers is difficult. As one staff person put it, "Although data centers are a component of almost every company, because their function is mission-critical, companies don't want people to even know they have them, how big they are, or where they are located." Staff said that stand-alone data centers (such as Yahoo or Google) were easier to identify and contact. One staff person further elaborated, "It is not until I bump into someone from an organization at a seminar or get a warm introduction from a consultant that I get a breakthrough."

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18 The industrial participants interviewed in Wave 1 – largely facilities staff – recommended that NYSERDA market the process efficiency incentives to firms' process engineers.

19 US Census Bureau website page with Quarterly Survey of Plant Capacity Utilization results: www.census.gov/manufacturing/capacity/historical_data/index.html

20 Consistent with this perspective, economists have traditionally considered a high rate of capacity utilization to be a positive indicator of economic health; when capacity rates are high or increasing, industry has traditionally been more likely to invest in additional capacity (Elliot, Neal R., Shipley, Anna Monis, and McKinney, Vanessa, 2008).

At the time of the process team's Wave-1 interviews, program staff members reported identification of approximately 25 data center firms for targeted program outreach, which staff considered "20 percent complete." During Wave 3, one Focus Contractor contact reported that 100 data center firms had been identified, 40 of which the contact considered "tier one" firms. During Wave 3, staff contacts acknowledged that, although significant progress had been made with identification of data center firms for targeted outreach, the data center list was less-complete than the contact list for industrial customers.

### 3.7.1 SBC Status

NYSERDA's tiered list also includes, as available, information about whether the firm pays into the SBC. As noted, only firms that pay into the SBC are eligible to participate in the program. NYSERDA lacks the direct access utilities have to customers' energy use data and payment into SBC. Lack of clear information on customers' SBC status complicates outreach. During each of the three waves of interviews, program staff reported that they frequently do not know every firm's SBC status. If customer SBC status is not clear, staff members request information from utility account representatives. In Wave 1, contacts said that occasionally this process failed to reveal a firm's ineligibility (non-SBC-payer) or that a quoted incentive had to subsequently be lowered upon learning that the firm pays an SBC charge on only a portion of its consumption. A temporary lifting of the proportional incentive requirement briefly resolved this issue. Now that the proportional incentive requirement is again in place, the ability to determine a firm's level of SBC payment is again an important issue for NYSERDA.

In addition, during Wave 3, one Technical Reviewer said that determining customers' level of SBC payment on their gas bills is more challenging than determining their level of payment on their electricity bills, because, according to the contact, "the utilities are just now learning how to present that information on the bill."

In Interim Findings Memo Wave 1, the process team suggested that NYSERDA request that the Department of Public Service (DPS) require utilities to establish information-sharing arrangements with NYSERDA. During waves two and three, staff reported that NYSERDA and DPS are currently trying to find a resolution.

### 3.7.2 Prioritization of Marketing and Outreach Activities

During Wave 3, the Focus Contractors unanimously reported that, while NYSERDA sets the overall direction for their outreach, including setting the direction for the specific customer "tiers" and specific industrial subsectors to emphasize in their marketing, the Focus Contractors work independently when prioritizing their subsequent outreach to firms.

During Wave-1 interviews, program staff said that Focus Contractors targeting industrial firms would be primarily responsible for conducting outreach to tier two industrial firms. In contrast, Wave-2 and Wave-3 interviews indicate that Focus Contractors' outreach role evolved to provision of outreach to primarily large tier one industrial and data center firms that had not yet been targeted by program staff, and secondarily to tier two, and, in some cases, tier three customers.

During Wave 2, staff noted that the key account management successes had been with what program staff characterized as "tier one" industrial firms – the firms NYSERDA's market research had identified as those in the state with the largest kW demand. Staff reported that Focus Contractors conducted outreach to the tier two industrial firms by presenting the program at conferences, trade shows, and other events, such as those held by Industrial Development Agencies (IDAs) and Technology Development Organizations (TDOs), but that outreach to tier two firms was a lower priority. During Wave 3, staff and Focus Contractors reported an increased emphasis on implementing a key account management approach when interacting with tier two firms who had initiated Industrial and Process Efficiency projects previously, or

who had demonstrated sufficient interest in the program. One staff contact suggested that it would also be useful for Focus Contractors to increase the extent to which they present the program at conferences, trade shows, and other events.

Focus Contractors conduct outreach to data center firms by presenting the program at conferences, trade shows, and other events, such as those held by Data Center Dynamics, Uptime Institute, and Interop. The Focus Contractors prioritize their subsequent one-on-one outreach with data firms on the basis of the kWh savings potential of individual data center projects, and other relevant factors such as the number of servers at a given data firm, the size of firms' uninterruptable power supplies, and AC load. Focus Contractor contacts further elaborated that prioritization of outreach to data center firms is important because of the large number of suitable opportunities with the firms. During Wave 2, program staff and Focus Contractors working with data centers said they did not distinguish between tier one (large) and tier two (medium) firms in their activities. In contrast, Wave-3 interviews revealed that program staff and Focus Contractors working with data centers now consider customer tier in their prioritization of their subsequent one-on-one outreach.

During Wave 2, one staff contact noted that the majority of data center Industrial and Process Efficiency projects had been initiated by medium-sized data center firms. The contact questioned whether it would be efficacious to target more large data center firms. Regarding the lack of program participation among large data center firms, one staff contact reported "We know large data center projects are happening without NYSERDA support, but we are not exactly sure why. It could be that even the maximum NYSERDA incentive amount is only a drop in bucket for a one-hundred-million dollar project." Moreover, during Wave 3, one contact expressed the view that there are a limited number of large data center firms within New York. According to the contact, there are greater proportions of large data centers in states with lower operating costs.

During Wave 1, one program staff contact described a reactive approach to data center projects, in which customers contacted NYSERDA when ready to initiate a project. Despite these factors, Wave-3 interviews revealed an increased interest by staff and Focus Contractors to identify large data center firms. However, given the large number of suitable opportunities with medium-sized data firms, the Focus Contractor contact working with data center firms reported a lack of time to identify the large firms, and the appropriate contacts within those firms; the contact suggested that NYSERDA try to reach large data customers through a different avenue than the data center Focus Contractor.

### 3.7.3 Barriers to Process Efficiency and Per-Unit-of-Production Calculations in the Industrial Sector

During Wave-1 interviews, staff reported unique challenges associated with enrolling customers in process efficiency upgrades. Staff contacts clarified that process upgrades are generally more complex and typically require a larger investment on behalf of customers. Related to these factors, contacts noted that process efficiency projects typically take more time to develop, necessitating a longer decision cycle, which, according to one staff contact, has the potential to create conflicts with firms' capital budget cycles. Furthermore, staff noted that firms frequently are unable to increase their production due to issues such as a limited supply of raw materials, or other "choke points."

Moreover, because utility incentive programs traditionally have been designed to reduce firms' net energy use (offsetting the cost of non-process equipment upgrades, such as energy-efficient lighting and motors), responses from staff and Focus Contractors suggest that it can be challenging to convey to prospective participants that NYSERDA incentivizes process upgrades, because, although process upgrades reduce firms' energy intensity, such improvements also may increase their net energy use. According to staff,

industrial firms "don't even see process upgrades as energy-efficiency projects – they do them for other reasons."

Regarding these challenges, one staff contact said, "I think we are getting less process projects than we thought we would. We envisioned that there would be these huge production line changes; but overall, fewer companies than expected do total revamps. More do incremental improvements." Regarding the challenge of helping data centers understand how to gain per-unit efficiencies in terms of their IT systems, the Focus Contractor targeting data centers for outreach noted that conveying this concept to data firms involves a "huge education process and a huge amount of time." In addition, the Focus Contractor noted that per-unit efficiencies in data centers are difficult to measure, because, according to the contact, "there are no standards for doing that."

Despite these challenges, staff reported success with obtaining program process efficiency projects. Regarding these successes, one staff contact said, "It's been very successful and becoming more so." Staff and Focus Contractors stressed the importance of repeatedly explaining the availability of process-efficiency incentives to prospective program customers. For example, according to one Focus Contractor, "It's through repetition and persistence that you eventually get customers to talk with you about process projects."

## 3.8 TECHNICAL REVIEWER ROLE

Technical reviewers are independent contractors that support all phases of program implementation; they provide both pre- and post-installation support to program staff members, starting with the application process and concluding with post-installation measurement and verification (M&V). One program contact summed up Technical Reviewers' contribution to the program as providing both "flexibility and technical capacity."

Technical reviewers' pre-installation support includes reviewing the project engineering analysis supplied by program applicants. If the applicant does not provide an engineering analysis, or the one provided lacks sufficient detail, the Technical Reviewer supplements the engineering analysis for the applicant. If required for completion of the initial engineering analyses, Technical Reviewers conduct site pre-installation inspections to understand baseline conditions and to collect baseline measurements and verification data.

Technical reviewers' post-installation activities include conducting post-installation inspections and, if required, post-installation M&V data collection and analysis. In addition, Technical Reviewers make final incentive recommendations to NYSERDA and verify project cost, including collection and review of invoices.

In general, Technical Reviewers reported that they possessed the technical expertise necessary to complete their program responsibilities, consistent with the program staff's unanimous report that the quality of technical assistance provided by the Technical Reviewers is high.

However, during each of the three waves of research, staff contacts noted frequent delays associated with Technical Reviewers' activities. Contacts noted that several factors can delay project review, including delays in NYSERDA's initial review of applications, insufficient or missing information on project applications, delayed responses to application-specific questions raised by the reviewers, and, occasionally, late M&V approvals.

### 3.8.1 Industrial and Process Efficiency Project Review Delays

Both Wave-1 and Wave-2 research revealed frequent project processing delays. Interviewed program staff and contractors reported that the delays resulted in some cases in projects that languished for months or in applicants terminating their projects.

Delays in NYSERDA's Initial Review of Applications

Program documentation specifies that following receipt of customer project applications, NYSERDA program staff members are responsible for reviewing the applications for eligibility. If a project is eligible for the program, NYSERDA issues a Purchase Order (PO) to the applicant.

During both Wave-1 and Wave-2 interviews, multiple program staff and contractors described as "lengthy" the time between customers' submitting project applications and being issued a PO. During Wave 2, one Focus Contractor elaborated that, following customers' submission of project applications, the applications frequently remain unassigned to program staff for extended periods. The contact described frequently needing to alert NYSERDA about the existence of submitted applications in order to initiate application review processes.

During Wave-3 interviews, program staff contacts described their current development of a "Project Management Dashboard." Staff explained that the dashboard enables them to identify such delays, by flagging Industrial and Process Efficiency projects not yet encumbered. In response to such prompts, program staff members contact Technical Reviewers to determine what actions need to be taken to continue with program participation processes. According to one staff contact, staffs' use of the dashboard has all but eliminated the issue of Industrial and Process Efficiency applications being unassigned to staff for extended periods.

Insufficient or Missing Information on Project Applications

Following NYSERDA's initial review of project applications for eligibility, applicants are required to submit an Engineering Analysis (EA). The information required for NYSERDA's review of EA submissions includes, but is not limited to: project descriptions, economic evaluation, energy savings calculations, and equipment specification sheets. According to one staff contact, "Usually the EA takes the most time, because that is when most of the documents are required to complete the review." Similarly, during Wave 3, Technical Reviewers unanimously stated that the process of obtaining the customer-information required for completion of EAs frequently results in delays.

Staff contacts explained that use of the dashboard and their subsequent follow-up with Technical Reviewers enables them to expedite EA processes. For example, staff said that following their identification of delayed projects via use of the dashboard, their subsequent contact with Technical Reviewers most frequently revealed that projects are delayed due to Technical Reviewers' difficulty with obtaining the information from customers necessary to complete EAs; in such cases, staff reported that they frequently intervene to encourage the customers to provide the required information.

Interviews with Technical Reviewers in each wave of the process evaluation revealed that EAs take time and effort and requires staff and contractors to obtain a large amount of data from program customers. There is no consensus on additional ways to streamline these processes. However, during Wave 3, two of the four Technical Reviewers noted that invoices and equipment specification sheets are particularly time-consuming to obtain. The two contacts suggested that NYSERDA allow EAs to include estimated kWh savings and measure costs, instead of requiring the invoices and equipment specification sheets. To facilitate their provision of estimated kWh savings and measure costs, the Technical Reviewers suggested that NYSERDA provide average kWh savings and default costs for a list of energy efficiency measures that industrial and data center firms commonly install.

Delayed Response to Application-Specific Questions Raised by Technical Reviewers

Following receipt of customer EAs and, if applicable, M&V plans, NYSERDA staff are responsible for reviewing program applications and issuing to Technical Reviewers Notices to Proceed (NTP). During

each of the three waves of interviews, program staff and contractors said that the time between customers' submitting project applications and Technical Reviewers receiving NTPs was frequently more than 90 days, which the contacts considered "lengthy."

The Technical Reviewer contacts said that quicker response times from NYSERDA when answering application-specific questions would help to reduce the time between customers' submitting project applications and the Technical Reviewers being issued NTPs. Regarding the Project Managers' level of responsiveness, one Technical Reviewer contact clarified, "Some NYSERDA Project Managers are easy to get a hold of; with some I spend weeks trying to get a hold of them."

To further reduce the time between customers' submitting project applications and Technical Reviewers being issued NTPs, one Technical Reviewer contact suggested that NYSERDA provide a list of Industrial and Process Efficiency projects that have received NTPs. The contact explained that the list would provide a basis for the Technical Reviewers to identify those projects that have not received NTPs, thus prompting the Technical Reviewers to follow up with program staff about the status of those projects.

### 3.8.2 M&V Issues and Suggestions

During each of the three waves of interviews, program staff and contractors noted occasional delays in M&V approvals. Interviews with Technical Reviewers in each wave of the process evaluation revealed that M&V takes time and effort and requires staff and contractors to obtain a large amount of data from program customers. There is no consensus on ways to streamline these processes.

In general, Technical Reviewer contacts said that customers needed their assistance when generating M&V plans. One Technical Reviewer contact clarified that, even in cases in which customers complete the M&V plan, "it is usually faulty."

Staff and Technical Reviewers noted that completing EAs and developing M&V plans for process efficiency projects that are calculated on a per-unit-of-production basis can be particularly challenging. For example, Technical Reviewers and staff contacts working with manufacturers to complete process-efficiency projects provided the following representative comments:

- "There's ongoing discussion about how to determine the baseline. Even though it will vary by project, we need to have a conceptual protocol;"
- Customers have concerns about providing production data; some are inherently scared to give it out, some are afraid to give it to state agency;"
- "These have to be calculated on a case-by-case basis. These projects require a lot of interaction between the Project Manager and Technical Reviewer."

In addition, a Technical Reviewers working with data centers to complete process-efficiency projects noted that calculating process efficiency incentives in data centers is more difficult than conducting such calculations for manufacturers, because according to one Technical Reviewer, "No one knows how to define a unit of processing." In addition, a staff contact said, contact noted, "It's a little harder to get the M&V because data centers can't turn anything off." However, the contacts reported working with consultants to address these challenges.

Related to these issues, Technical Reviewers noted that EAs for Industrial and Process Efficiency projects that are calculated on a per-unit-of-production basis have been underestimated by as much as a factor of ten. Staff further noted that it is difficult to convey to Technical Reviewers, at times, which projects are suitable to be calculated on a per-unit basis and the methods for doing so. They notice that projects labeled

as process efficiency projects in the Buildings Portal database are frequently calculated on a net-energy-reduction basis.

Regarding customers' decisions about whether to calculate process-efficiency projects on a per-unit or net-energy-savings basis, the Technical Reviewers commented said that, typically, customers make this determination by weighing the additional incentive amount which may result from calculating their projects on a per-unit basis, versus the extra effort involved in completing EAs and M&V processes when incorporating per-unit calculations.

In addition, one staff contact said that customers occasionally choose to calculate their process efficiency projects on a net-energy-reduction basis, because, although firms frequently increase their capacity to generate more product via process-efficiency improvements, the customers frequently do not immediately increase their production. The staff contact clarified that, in such cases, calculating the savings resulting from a process efficiency project on a net-energy-reduction basis may provide a larger incentive than calculating the project-savings on a per-unit-of-production basis.

### 3.8.3 Technical Reviewer Staffing Levels

As noted, multiple program staff reported a need to increase the number of Technical Reviewers to match increased customer participation levels. Wave-3 staff responses suggest that the industrial market would be better served by additional Technical Reviewer support in Western New York (the greater Buffalo area, in particular) and to data centers throughout the state. Staff reported releasing an RFP for additional Technical Review firms during 2010, to which they had 34 responses. Regarding the response to the RFP, one program staff contact remarked, "There isn't enough talent out there; people don't understand what we're trying to do. They didn't have the process experience, either."

During Wave-2 interviews, staff reported that they selected nine qualified firms from the pool of 34 to begin work for the program in 2011; staff had hoped to find more firms they judged as qualified. During Wave-3 interviews, staff reported being in the process of getting the nine firms "up to speed."

During Wave 2, most Technical Review firms noted a substantial increase in program participation during the program cycle, yet did not report substantial backlogs, in some cases because they had expanded their staffs. The Technical Reviewer contacts said that it is difficult to find individuals with the necessary skills. During Wave 3, one staff contact noted that the Technical Reviewer firms are hesitant to increase the size of their staffs, because, according to the contact, "they are unsure of future of Industrial and Process Efficiency program."

### 3.8.4 Technical Reviewer Training

Program staff members reported that the program offers training and education for Technical Reviewers twice a year, or more frequently if the program has changed substantially. In general, Technical Reviewers reported that these periodic training sessions were adequate. Multiple Technical Reviewers reported that their extensive experience with other NYSERDA programs provided a strong foundation for their program activities.

In addition, although few contacts said the program's education and training were not meeting their needs, overall, the contacts' responses suggested that additional training in specific manufacturing and data processes, including case studies, and other NYSERDA programs, such as New Construction and R&D would be useful. One contact recommended that NYSERDA provide trainings via webinar to reduce travel time. In addition, one Technical Reviewer suggested that NYSERDA provide either a program manual or a "consultants only" tab on NYSERDA website, to provide NYSERDA consultants with updated rules, case studies, and other relevant information.

## 3.9 COORDINATION WITH OTHER UTILITY PROGRAMS

According to program staff members, the Public Service Commission has approved all six investor-owned utilities that intersect with NYSERDA's service territory to offer large industrial and/or data center programs that overlapped with the NYSERDA Industrial and Process Efficiency program.[21]

Staff described collegial relationships with the staff of these overlapping programs, including coordination with the other utility programs at marketing events, trade shows and, on occasion, during joint-customer meetings. Additionally, staff reported that NYSERDA and ConEdison have presented a coordinated front to their data center incentive programs to reduce data center customers' confusion about the duplicative incentive programs. Program staff explained that customers are instructed to send applications to NYSERDA offices, and NYSERDA and ConEdison staff members jointly review customer applications to determine which organization's program is most advantageous for customers.

In addition, during Wave 3, staff contacts described "National Grid and NYSERDA's Hospital Partnership,"[22] which is designed to assist the healthcare industry with reducing energy costs. Staff contacts explained that under the new initiative National Grid and NYSERDA will work together to provide hospitals with individualized and targeted technical assistance. Staff contacts further noted that, because data centers are a component of most hospitals and health insurance companies, the collaboration has helped NYSERDA augment its list of data centers for targeted program outreach.

In each of the three waves of research, interviewed program staff and NYSERDA contractors expressed concern about competing with the other utility programs, particularly in cases where the utilities offer higher incentives and/or require less of customers, such as not requiring customers to complete M&V processes. Additionally, staff reported that the utilities' access to their customers' data provides an advantage NYSERDA lacks when seeking to conduct targeted marketing campaigns. During Wave 3, interviewed Technical Reviewers estimated that up to one-third of the program customers they work with are also working with their utilities on efficiency projects.

Multiple staff contacts suggested that NYSERDA should promote its capacity to "bundle" incentives from a variety of NYSERDA incentive programs at once (including NYSERDA's natural gas incentives), thereby creating an overall package that is more compelling to customers. Additionally, staff suggested promoting NYSERDA's capacity to offer customers' a superior level of technical assistance, including technical audits that are more comprehensive than those offered by the utilities.

## 3.10 PROJECT ADMINISTRATIVE PROCESSES

As noted, both Wave-1 and Wave-2 research revealed frequent project processing delays, which in some cases resulted in projects that interviewed program staff and contractors described as having languished for months and in a few cases resulted in applicants terminating their projects.

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[21] The PSC's June 23, 2008 EEPS Order called for a ramp-up of program efforts by the state's six investor-owned electricity transmission and distribution utilities to meet New York's "15-by-15" electricity reduction goal. NY Public Service document: 07-M-0548: Energy Efficiency Portfolio Standard

[22] In 2010, National Grid and NYSERDA launched "Energy Efficiency For Health," a partnership to help National Grid's hospital customers reduce their energy use: http://www.nyserda.org/HealthCare/default.asp#ngrid

The processing delays appear to occur primarily at juncture points where responsibility for project review passes from one NYSERDA staff or contractor to another. Staff further attributed delays to the lack of a single database to track project information, redundant data entry across the databases, and sub-optimal program administrative staffing. In addition to its impact on customers, the time that was required for program staff to navigate NYSERDA's paperwork processing approach appeared to reduce the amount of time available for staff to implement key account management as designed.

Although staff, focus contractors, and technical reviewers noted continued processing delays during Wave-3 interviews, staff contacts noted several improvements to program paperwork processing procedures.

### 3.10.1 Approval Processes and Project "Hand-Offs"

During Wave-1 interviews, program staff noted "too many hand-offs," with paperwork that sits in queues waiting for staff's approval. To address this issue, staff contacts described developing a dashboard to flag delayed projects for follow-up by the appropriate party or parties, as noted in Section 3.9.1. Staff reported using the dashboard to track the duration between various milestones and successfully identifying projects that are in need of follow-up.

### 3.10.2 Switching from Paper to Electronic Sign-Offs

Program staff reported that NYSERDA initiated a transition to an Enterprise Application Software database system (PeopleSoft) at the beginning of the program, in part to facilitate electronic (as opposed to paper) sign-offs. After an initial period of lengthened paperwork processing, staff reported they grew accustomed to the software; nonetheless, they report little reduction in paperwork processing time. According to one staff contact, "PeopleSoft doesn't operate as intended. So, to streamline the process would be to create a system that fits the way our processes actually work."

During Wave 3, multiple staff contacts reported that the program's Project Coordinator has helped program staff to standardize their approach to using the PeopleSoft software, including how the data is recorded and transmitted amongst the staff, which, according to the contacts, has helped to reduce processing time.

### 3.10.3 Transition to a Single Database

Staff reported that a second driver of NYSERDA's transition to PeopleSoft was to consolidate data into a single database, thereby making the data more easily accessible to staff and reducing redundant data entry. However, staff reported that the transition to PeopleSoft did not result in a single database. [23] Instead, during each of the three waves of research, staff contacts said they accessed multiple databases to obtain program data.

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[23] During Wave-2 interviews, staff described accessing program data by using the following resources:

- For current project-level detail: NYSERDA's Buildings Portal provides the current status of all NYSERDA projects and some historical data.
- For project approval status: PeopleSoft is used to complete project approvals and to provide "certain types of historical data."
- Project communications: A spreadsheet located in NYSERDA's network drive communicates project status between Project Managers and Project Coordinators.
- Focus Contractor lead development: Focus Contractors and NYSERDA use salesforce.com to communicate about and coordinate customer outreach.

However, during Wave-3 interviews, staff contacts noted that they now access fewer databases than they had previously. Staff contacts said that this improvement has resulted in a reduction in redundant data entry and has reduced overall processing time.

### 3.10.4 Remaining Opportunities to Expedite Paperwork Processing

During Wave 3, program staff noted several remaining opportunities to further expedite paperwork processing; however, they considered these opportunities to be beyond the scope of the program team. For example, the staff noted several remaining opportunities to switch from paper to electronic sign-offs: Staff explained that the final stage of review prior to NYSERDA's issuing a PO requires that staff submit a paper copy of customer applications to NYSERDA's contracts department for final review. Multiple staff contacts described this step in the process as a "bottleneck" and suggested that NYSERDA expedite the process by switching from paper to electronic sign-offs. Staff also suggested that incentive sign-offs, which currently require paper copies, be completed using PeopleSoft. However, one staff contact said that such changes would need to be implemented "either division-wide or NYSERDA-wide."

Similarly, staff noted that transitioning to single database would increase the speed of paperwork processing by reducing redundant data entry and enabling staff to access relevant information for all NYSERDA programs. However, program staff considered initiating such a transition beyond their scope; one staff attributed the minimal progress on transitioning to a single database to competing initiatives at NYSERDA that are frequently assigned a higher priority.

Section 4:

# PARTICIPANT, PARTIAL PARTICIPANT, AND CONTRACTOR FINDINGS

This section summarizes major findings derived from 23 in-depth interviews with program participants, five in-depth interviews with partial participants, and 13 in-depth interviews with participants' contractors, conducted between June 20 and July 15, 2011.

The topics discussed in these interviews included program awareness and experience, experiences with other utility programs, and industrial decision-making. The evaluation team compared Wave-1 and Wave-3 results[24] to identify changes that occurred during the program cycle, including differences in the types of Industrial and Process Efficiency projects participants and contractors pursued and changes in their participation experiences. Also included in the sections are staffs', Technical Reviewers', and Focus Contractors' perspectives on customer participation and industrial decision making.

Appendices B and C provide tallies of responses to short-answer and closed-ended questions for participants and participating contractors, respectively.

The evaluation team assessed the participant responses to identify any patterns by project fuel type (electric or gas), size of expected savings (small or large), project type (process or non-process), and sector (data center or industrial). The discussion identifies the very few patterns discerned.

## 4.1 PROGRAM AWARENESS

Participants reported varied sources of awareness of the program. Participants reported hearing about the program from a co-worker, a Focus Contractor, one of their contractors or vendors, their ongoing relationships with NYSERDA, or from an economic development organization (see Table 4-1). In comparison with Wave 1, these findings suggest increased intra-company communication about the program and increased effectiveness of economic development organizations as a conduit for program awareness.

[24] The Wave-2 research did not interview participants.

**Table 4-1. Source of Program Awareness (N=23)**

| Source of Awareness | Count |
|---|---|
| Someone at your company | 5 |
| A Focus Contractor | 4 |
| One of your contractors or vendors | 4 |
| Economic development organization | 3 |
| Ongoing NYSERDA relationship | 3 |
| Other | 2 |
| Don't know | 2 |
| *Total* | *23* |

## 4.2 SATISFACTION

Participants reported high levels of overall satisfaction with the program in both Wave 1 and Wave 3; in each waved all but one contact reported satisfaction. All but one of the 13 Wave-3 contacts who reported working with a Focus Contractor described the contractor as helpful. (Focus Contractors began their work with customers after Wave 1.) Several participants specifically mentioned that their Focus Contractor assisted them in identifying projects and navigating the application process.

### 4.2.1 Increased Satisfaction with Timing of Incentive Payments, Yet Opportunities for Improvement Persist

A majority of participant contacts (eight of ten with completed projects) reported being either "somewhat satisfied" or "very satisfied" with the timeliness of incentive payments. This contrasts with the Wave-1 findings, where participants' key complaints were time delays in receipt of payments (specifically, M&V requirements taking too long – one to two years. A few contacts mentioned not receiving checks as expected. To a lesser extent, participants reported dissatisfaction with the time between submitting an application and receiving a purchase order.

Similarly, the majority of interviewed participant contractors (nine of twelve with completed projects) reported being either "somewhat satisfied" or "very satisfied" with the timeliness of incentive payments. However, three of the twelve reported being "somewhat unsatisfied" with the timeliness of incentive payments; one of the three contacts reported waiting over seven months to receive an incentive payment. Regarding the timeframe for incentive payments, the contact said "It seems like there is a gap there; there are projects that fall through the cracks." To address the issue, the contact suggested that NYSERDA enable contractors to view current project status via an online database.

### 4.2.2 Decreased Satisfaction with Turn-Around Time between Application Submittal and PO Receipt

Participants, their contractors, and Technical Reviewers all noted a lengthy time between application submittal and purchase order (PO) receipt, especially among more complex projects.

During Wave-3 interviews, participants' key complaint concerned the time between submitting an application and receiving a PO. Eight participants indicated being either "somewhat unsatisfied" or "very unsatisfied" with the time to receive a PO. Participants initiating process efficiency projects with per-unit-of-production calculations and projects requiring M&V were more likely to express this dissatisfaction than

participants with other project types. Many of the respondents considered the time to receive a PO lengthy and regarded the process of providing support information as onerous.

These findings are consistent with the remarks of Technical Reviewers interviewed during Wave 3, who noted processing delays among Industrial and Process Efficiency projects that included an M&V component and/or required per-unit-of-production savings calculations.

Program staff, Technical Reviewers, contractors, and participants appear to share responsibility in the delays The Technical Reviewers unanimously stated that the process of obtaining information from participants necessary for completion of Engineering Analysis (EA) frequently results in delays. In addition, Technical reviewers noted delayed responses from staff to application-specific questions. That said, Technical Reviewers themselves seem to play a role in the delay. Four of 12 contractor respondents who initiated process efficiency projects through the program described their technical reviewer "not at all" or "somewhat" responsive. A much smaller proportion of participants (one of the eight respondents who initiated a non-process Industrial and Process Efficiency project) considered their technical reviewer "not at all" or "somewhat" responsive.

One-third (four of 12) of the participants' contractors reported being "somewhat unsatisfied" with the time between submitting an application and receiving a PO. One of the four expressed the opinion that the time between submitting an application and receiving a PO should be under two weeks and is currently four to six weeks; a second contact commented that this time can be upwards of two to three months. The second contact attributed the delays to "the lag time between when NYSERDA gets it out the door to when the Technical Reviewer picks it up." The contact clarified that, once assigned, the technical review is frequently delayed, because "the Technical Reviewers have too many projects." This point of view is consistent with comments from program staff, who reported a need to increase the number of Technical Reviewers to match increased participation levels.

A few contractors and Technical Reviewers mentioned interim steps to ease delays: The contacts said that, after checking-in with Project Managers, they frequently begin the process of obtaining the customer-information required for completion of EAs in advance of receipt of a PO. However, contractors and Technical Reviewers noted that this approach has the limitation that the contractor or Technical Reviewer is not paid upon rendering of services.

Regarding the delays, one of the four contractor contacts noted that, "It's not clear who has the ball; unless you call to keep it moving, it can get stuck." The contact advocated a system to monitor "milestone completion," including a "punch list" of steps required for effective communication and a system to monitor project status. According to the contact, development of such a system would be "the single largest thing NYSERDA can do [to improve the program]."

The program team, aware of the problem of project delays from their own experience and the Wave-1 findings, has developed such a system. Staff reported in the Wave-3 interviews that they now have a dashboard that enables them to track the duration between various project milestones, facilitating the staffs' ability to flag delayed projects for follow-up by the appropriate party or parties.

## 4.3 OTHER UTILITY PROGRAMS

### 4.3.1 Participants Have Experiences with Other Energy Efficiency Programs

Roughly half (13 of 23) of the participant contacts said they had participated in other energy efficiency programs: eleven said they had participated in other NYSERDA programs, six in utility programs, and two in federal or state programs. This finding is consistent with responses from Technical Reviewer contacts,

who said up to one-third of the program participants they worked with were also working with their utilities on efficiency projects.

Eleven of the 13 interviewed contractors stated that their utilities offer incentives for industrial energy efficiency. All but one of the eleven indicated that they understood how NYSERDA and the utility programs differed. Two said they spend substantial time keeping up with the duplicative programs.

### 4.3.2 Participants and Contractors Choose Programs with Best Incentives, But Other Factors Matter, Too

Participants said their primary criterion when determining which energy efficiency programs to participate was the incentive amount offered; two of the thirteen said they also considered the relative ease of participation. Most contacts did not indicate an overall preference among program administrators; one contact thought it was easier to work with the NYSERDA programs while another contact expressed the opposite view. The latter contact described advantages of the utility program: it guarantees the incentive amount early in the participation process, making it easier to obtain budgetary approval, and does not require M&V.

All of the participants' contractors indicated that they pursue the incentive programs that offer the best incentive for their clients. A few contractors commented on the confusion of working with multiple or duplicative programs, voicing differing opinions about the ease of working with NYSERDA versus the utilities.

In addition to the criterion of incentive amount, two contractors noted that they or their clients might select incentive programs based on their familiarity with the programs, familiarity with the program implementers, or the program implementer's familiarity with energy efficiency. One contact elaborated, "We push that part – that NYSERDA has been doing this since the 1980s." Another contact, a lighting contractor, shared this view. He believes NYSERDA is more knowledgeable about lighting than the utilities. He values the fact that NYSERDA helps customers to "understand the difference between cheap and ROI." This contractor had experienced utility programs as faster to deal with, yet did not think that advantage offset NYSERDA's expertise. He found it difficult to communicate with the utilities.

Furthermore, this contractor found his company in competition with the preferred lists of contractors recommended by the utilities, and noted frequent discrepancies in the project incentive amounts versus the actual amount collected. This contact expressed the view that, because incentives for industrial energy efficiency are government-sanctioned, to reduce confusion among customers, there should be only one industrial energy efficiency incentive program and that NYSERDA should run the program, as opposed to the utilities.

On the other end of the spectrum, two contractors preferred working with a local utility versus NYSERDA. Noting that participation in NYSERDA's program required interactions with both program staff and Technical Reviewers, one of the two contacts indicated the NYSERDA program required interacting with too many individuals, whereas the utility program required interactions with a single account representative. The second contractor preferred working with the utility program instead of NYSERDA because the utility guarantees the incentive amount early in the participation process.

## 4.4 DECISION-MAKING IN THE INDUSTRIAL SECTOR

During each of the three waves of research, multiple interviewed program staff and Technical Reviewers reported that, when determining future investment, payback (ROI) is the primary consideration for industrial clients. Several of the staff and Technical Reviewers noted that, while saving energy and ROI

continue to be important considerations for firms, maintaining and improving production and output is frequently of equal or greater importance.

Wave-3 participant interviews confirmed each of these assertions. Almost all (20 of 23) said that reducing energy costs was a very significant factor in their decision to pursue the program energy efficiency or process efficiency project. In addition, over half of participants (15 of 23) indicated that improving product quality, increasing production, or other kinds of cost savings (such as labor or operations and maintenance savings) were very significant considerations in making their decisions. When asked generally about the primary project goals, participants frequently mentioned production efficiency (8 of 23) and cost savings (7 of 23). Participants whose projects required M&V were more likely to mention either production efficiency or cost savings as motivators than were respondents whose projects did not require M&V.

### 4.4.1 Industrial Decision-Makers and Decision-Making Criteria

Industrial decision-making processes, including the specific staff involved in the processes, vary among firms. People in managerial positions were often our primary contact for participant interviews. Participant contacts indicated working with other employees holding various positions in the organization on projects. Among the 23 projects, participants mentioned involving people with the following titles:

- Systems analysts
- Systems engineers
- Managers of:
  - Information technology
  - Data centers
  - Manufacturing engineering
- Directors of:
  - Information technology
  - Data centers
  - Environmental safety
- VPs of:
  - Information systems
  - Data centers
  - Enterprise systems
  - Finance
  - Facilities
- C-level titles, including:
  - CEO
  - CIO
  - COO

Consistent with the results of Wave-3 contractor interviews, each of the 23 participants indicated that the incentive was an important motivator to apply for the program; eight specifically mentioned improving ROI as a key factor. Furthermore, 21 of the 23 said the incentive was a “very significant” factor in achieving the needed ROI, and two said it was “somewhat significant.”

Eleven of the 23 participants described criteria used by decision makers to assess their decisions to participate in the program. The 11 contacts most frequently cited return on investment (4 of 11) and energy savings (4 of 11), followed by cost benefit analyses (2 of 11) and equipment reliability (1 of 11). A few of the participants noted that decision makers considered the ability to update technology and assess equipment reliability to be “secondary” benefits. Similar to Wave-1 findings, about half (11 of 23) of the participants interviewed during Wave 3 said there were internal timelines the decision needed to meet, such as capital budgeting. One contact mentioned needing to install a product at a particular time of year to coordinate with production cycles. Each of the 23 participants indicated that no one in their organizations raised strong objections to their projects. However, some decision makers wanted to discuss the methods used to quantify energy savings to ensure the projects would meet the needed return on investment.

The process team asked interviewees if they sought advice from NYSERDA program representatives when they were making decisions about applying for the program incentive. Eleven of the 23 participants said they sought no advice from NYSERDA. Seven mentioned having initial discussions about the program; the seven described accessing NYSERDA to answer questions about eligibility, incentive levels, and application processes. Five said they discussed savings estimates and validation of savings.

Approximately half of the participant respondents considered NYSERDA's role as a trustworthy and independent source of information about energy efficiency options, its project support, and its quality assurance activities to be a "primary" benefit of program participation. The other half considered these aspects "secondary" benefits. Fourteen of the 23 respondents considered NYSERDA's independent confirmation of energy savings either "somewhat" to "very" significant factor in their decision to pursue the program. Fifteen of the 23 said the technical expertise to quantify the energy savings was "somewhat" to "very" significant.[25]

The process team found that contacts with process-efficiency projects were more likely to report that they valued NYSERDA's overall project support and help with measuring and verifying the results of their projects than those with non-process projects. The 12 respondents who completed process-efficiency projects were more likely to report that NYSERDA's support was "somewhat" to "very" significant in convincing upper management to fund the project than the 11 respondents who completed non-process efficiency projects. The respondents who completed process-efficiency projects were also more likely to report that obtaining help with measuring and verifying the results of their projects was a "somewhat" to "very" significant factor in their decision to pursue the program incentive. Furthermore, all four interviewees with large process efficiency projects that required M&V stated that obtaining help with measuring and verifying the results of their projects was a "somewhat" to "very" significant factor in their decision to pursue the program incentive.

### 4.4.2 Motivations for Implementing Energy Efficiency Projects, Per Interviewed Contractors

Contractors indicated a variety of factors that influenced their clients' decisions to pursue their energy efficiency projects. Six of the thirteen contractor contacts noted their clients' objectives to save energy and money; four said their clients wanted to "go green;" two said their clients sought to update equipment; two said their clients' appreciated the ease of the application process; and one said their client was attempting to find a way to prevent their data center from relocating elsewhere, despite the high cost of energy in New York.

The process team asked the contractors to rate the relative significance of factors that may have influenced their client's decision to undertake the efficiency project. Eleven of the 13 said that reducing energy costs and taking advantage of the incentive or cost sharing opportunity were very significant factors. Twelve of the 13 said implementing their recommendation was a "somewhat" to "very" significant factor in the decision. Ten felt that providing other cost savings, such as labor or operations and maintenance costs, was a somewhat to very significant factor. Eight said that the opportunity to increase production was a "somewhat" to "very" significant factor, as was the opportunity to further their company's goal of improving energy efficiency. Seven thought that implementing a recommendation from a technical study was "somewhat" to "very" significant. When prompted, the factors that contractors said were "not at all" or "not very" significant were meeting codes or regulations (8 of 13), improving safety (8 of 13), and decreasing rejection or scrap rates (7 of 13).

Next, contractors reflected on the reasons their clients decided to complete their energy efficiency projects through the program. All but one contractor indicated that receiving the incentive and getting the necessary ROI were their clients' primary motivators. In addition, 11 of 13 said their clients considered the incentive a "very significant" factor in obtaining the necessary ROI. Nine of 13 contractors considered the technical

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[25] Two of the 15 indicated they were referring to their own contractor, as opposed to NYSERDA Technical Reviewers. As such, these results should be interpreted as technical support from either the customer's contractor and/or NYSERDA Technical Reviewers.

expertise to quantify the energy savings for their clients' projects "somewhat" to "very" significant. The contractors were split on the significance of having NYSERDA's support in order for their clients to convince upper management to approve the project; four of thirteen said it was "not at all significant," four of the thirteen said it was "somewhat" to "very" significant, and four of thirteen said it was "not applicable" to their situation. About half of the contractors said that having NYSERDA's help to measure and verify the results of their clients' projects were "not at all" or "not very" significant, four of the thirteen said these factors were "somewhat" to "very" significant, and three of the thirteen said it did not apply to their client's situation.

When asked what NYSERDA can do to motivate increased participation in the program, contractors requested that NYSERDA conduct additional program marketing, including targeted outreach to specific industrial subsectors, provide energy efficiency audits that include benchmarking against national averages, increase direct communication between program participants and NYSERDA Project Managers, and re-instate the NYSERDA's loan-fund.

Most (11 of 13) interviewed contractors considered the incentive, the primary program benefit for their clients, because it facilitated their clients' abilities to secure project approval. In addition, six of the thirteen said participating in the program improved the clients' technical or engineering abilities, and one of the thirteen said the project increased their clients' production. The contractors also perceived NYSERDA's validation of savings, facilitating their clients' ability to upgrade to higher efficiency equipment, and contributing to companies' "green goals" program benefits.

### 4.4.3 Pursuing Projects with and without Program Incentive

Had they not participated in the program, eight of 23 participants said their plans would not have changed; all but one of the eight reported that their Industrial and Process Efficiency projects were process efficiency projects and required M&V. In contrast, seven of the 23 indicated that, without the program incentive, they would have delayed their projects, and six of the twenty-three said they would have scaled their projects back, pursued a less energy efficient alternative, or canceled their projects.

Participants reported entering the program with varying levels of project plans in place. Each of the twelve process efficiency projects came into the program with a preliminary plan (50 percent) or a final plan with an approved budget (50 percent). Participants implementing non-process projects were more likely to enter the program at various stages of project development, with responses split evenly across the range from having an idea pitched to them by a contractor (2 of 11), a general plan (2 of 11), information/expertise gathered (2 of 11), preliminary plan (2 of 11), to a final plan with approved budget (3 of 11).

Similarly, participants with process projects were more likely to have a final plan with approved budget to make their projects energy efficient (7 of 12) or have a preliminary plan in place (3 of 12) than participants with non-process projects (2 of 11, 2 of 11 respectively). Participants with non-process projects were more likely to have a range of energy efficiency plans in mind at the beginning of their projects.

### 4.4.4 Customer Barriers to Process Efficiency and Per-Unit-of-Production Calculations in the Industrial Sector

As noted previously, staff and contractors noted unique challenges associated with enrolling customers in process efficiency upgrades, including the complexity of the projects, the large investment the projects frequently require, and firms inability to increase their production due to issues such as a limited supply of raw materials, or other "choke points." Moreover, staff contacts noted that many customers are not aware of NYSERDA's incentives for process efficiency improvements and/or do not understand the concept of calculating savings on a per-unit-of-production basis.

When asked what additional NYSERDA support might facilitate customers' pursuit of process-efficiency projects, during Wave 3, participant contacts most frequently said feasibility studies and/or energy audits to identify potential process projects. Contacts also requested general public education about incentives for process efficiency improvements, presentations to management and/or stakeholders, and case studies geared towards specific industrial subsectors.

## 4.5 PARTIAL PARTICIPANTS

During Wave 3, the process team spoke with five partial participants about their experiences with the program, and their reasons for discontinuing their involvement. Two of these interviews were very brief. The partial participant contacts provided various reasons for not completing their projects with NYSERDA. Two contacts were disqualified from the program for failing to comply with the program timelines. Both projects purchased their new equipment too far in advance of submitting completed application; one of these contacts mentioned that the application process was difficult to navigate. One contact discontinued involvement because "National Grid offered a better incentive." Another discontinued involvement because he/she did not think they could benefit from the program. The last contact's process project was rolled up into another Industrial and Process Efficiency project.

Four of the five contacts specified that their project was completed anyway; the fifth contact did not specify. Of the three full-length interviews, all three contacts either had completed previous Industrial and Process Efficiency projects, or intended to complete future projects.

Section 5:

# CONCLUSIONS AND RECOMMENDATIONS

Program staff has evolved Industrial and Process Efficiency over the course of its first two years in response to their implementation experiences and the first two waves of this process evaluation. Focus Contractor one-on-one outreach has been a key component of the program's success in attracting more new and repeat customers. Improvements to application processing, key account management practices, and marketing and outreach efforts contributed to increased project enrollment overall. In addition, industrial customers are beginning to participate in the program multiple times, which contacts attribute to the key account management approach.

## 5.1 SUMMARY OF FINDINGS

Each of the three research waves identified similar issues for the program, yet each wave also demonstrated that program staff members were, by and large, aware of the issues and taking actions to address them. Evidence of the adaptive management of the Industrial and Process Efficiency program is shown in the following actions taken by program staff in response to staff and contractor implementation experiences and the process evaluation interviews and reporting. The list also identifies continuing opportunities for improvement, as suggested from our interview findings.

**ISSUE:** Identification of, and outreach to, target markets.

- **Actions Taken by Program Staff:**
  - Worked with marketing department on Integrated Marketing Plan.
  - Used research by Antares Group to develop sector-specific savings identification tools, case studies.
  - Targeted outreach to contractors working with compressed air and data center customers.
- **Opportunities Program Staff Should Consider:**
  - Develop outreach plan with economic development organizations using success stories.
  - Prioritize firms by NAICS codes with highest capacity utilization rates.
  - Speed-up data center outreach with solid lists of firms, including multiple contact names.
  - Consider "packaging" program as one-stop shop for opportunity identification, planning, funding, and verification of cross-division energy-efficiency process projects.
- **Opportunities Beyond Scope of Program Staff Role:**
  - Increase Staffing Resources for Program
  - Follow-through on database and application processing upgrades needed for staff to further improve account management.

**ISSUE:** Refinement of Key Account Management approach. Working with competing utility programs.

- **Actions Taken by Program Staff:**
  - Increased account management role for Focus Contractor.
  - Developed dashboard to track projects, facilitating hand-off among and between program staff and contractors.
  - Established National Grid hospital and ConEd data center collaborations.
- **Opportunities Program Staff Should Consider:**
  - Use salesforce.com more consistently and comprehensively to track projects and pipeline.

- Fund additional Focus Contractors in greater Buffalo area and for data centers throughout state.

- **Opportunities Beyond Scope of Program Staff Role:**
  - DPS should require utilities to establish SBC payment information sharing arrangements with NYSERDA to enable program staff to more quickly and accurately establish customer eligibility.

**ISSUE:** Delays in project support, approval, M&V, and payment processing.

- **Actions Taken by Program Staff:**
  - Created dashboard for all project staff (program and contractors) to tracks project status, hand-offs.
  - Hired additional Technical Reviewer firms; nine firms now under contract.

- **Opportunities Program Staff Should Consider:**
  - Further promote and reinforce use of dashboard by all parties.
  - Discuss future of program with Technical Reviewer firms to support Technical Reviewer staff planning and hiring decisions.

- **Opportunities Beyond Scope of Program Staff Role:**
  - Refine dashboard with Operations Group.
  - Increase program staffing resources. Follow-through on database and application processing upgrades needed for staff to improve project management.

**ISSUE:** Confusion about baseline and net versus per-unit-of-production savings calculations.

- **Actions Taken by Program Staff:**
  - Met individually with selected customers to discuss process projects and program approaches.
  - Worked with Technical Reviewers to develop protocols for baseline measurements, variations in production schedules, and data center per-unit-of-production savings calculations.

- **Opportunities Program Staff Should Consider:**
  - Develop guidelines with Technical Reviewers to better identify situations where per-unit-of-production calculations likely to yield better savings than net calculations.

- **Opportunities Beyond Scope of Program Staff Role:**
  - None identified.

## 5.2 CONCLUSIONS AND RECOMMENDATIONS

Given the program's progress to date and promising future, this evaluation finds only a few opportunities for improvement.

### 5.2.1 Project Delays

**Conclusion 1:** Overall project support as well as response time for project approval, M&V, and payment processing have improved, yet further improvements are desirable. Western New York and data centers throughout the state could be better served by additional project support.

Project delays decreased subsequent to staff's development of the "Project Management Dashboard" to track the duration between various program milestones, which enables staff to flag delayed projects for follow-up by the appropriate party or parties. In addition, the program has been able to provide more timely pre- and post-installation support as a result of the nine additional Technical Reviewer firms that NYSERDA hired.

> **Recommendation 1a:** The program would benefit from database and application processing upgrades needed for staff to improve project management, including: implementing electronic signatures and better integration of NEIS and Buildings Portal.
>
> **Recommendation 1b:** The program team should continue to refine the dashboard in coordination with NYSERDA's Operations Group.
>
> **Recommendation 1c:** The program would benefit from additional Technical Reviewer support for Western New York and data centers throughout the state.

### 5.2.2 Targeting and Outreach

**Conclusion 2:** NYSERDA and program staff have continued to improve its targeting of, and outreach to, the large and medium-size industrial customers the program intends to serve; yet ongoing targeting and outreach efforts are needed.

Between the Wave-2 and Wave-3 evaluations, program staff increased the role of outreach contractors to address challenges associated with targeting customers, including list development and prioritization of outreach. The outreach contractors conducted extensive market analysis to augment NYSERDA's list of manufacturing establishments for targeted outreach; staff contacts generally agreed that the list of manufacturing establishments was nearly complete. In addition, staff and contractors considered successful their outreach to motivate contractors working with compressed air and data center customers to market the program's incentives. NYSERDA's Integrated Marketing Communications Approach for C&I programs (IMC) shows promise in increasing the clarity of Industrial and Process Efficiency messaging by providing specialized tools geared towards specific industrial subsectors and directed towards key decision makers.

> **Recommendation 2:** The program would benefit from additional Outreach Contractor outreach to data centers, to consulting engineers that serve targeted industrial submarkets, including data centers and compressed air users, and to industrial customers in Western New York (the greater Buffalo area, in particular). Across the state, outreach contractors should increase leveraging of economic development organizations to assist with targeted outreach.

### 5.2.3 Branding

**Conclusion 3:** Industrial and Process Efficiency competes for customers' attention with other non-efficiency plant investment opportunities and with utility efficiency programs. Participating customers have a greater understanding of the process improvement opportunities afforded by the program than they did at the program's outset, yet additional gains can be made.

> **Recommendation 3:** Program staff could take steps to more strongly brand Industrial and Process Efficiency as a one-stop shop that leverages a cohesive team of people to assist customers from opportunity identification and justification to verification and investment in the next cost-saving project. Solidifying this identity could further distinguish Industrial and Process Efficiency in the market and facilitate further cohesion of staff, outreach contractors, and Technical Reviewers around customer projects.

### 5.2.4 Key Account Management

**Conclusion 4:** The program team more successfully employed the key account management approach than they had as of the Wave-2 evaluation. Better use of salesforce.com facilitated key account management, and additional improvement in its use would benefit the program.

Outreach contractors' increased role in program activities benefitted key account management by increasing the extent to which customers received individualized attention. In addition, program staff members use of the dashboard decreased project delays, thereby increasing customer satisfaction.

> **Recommendation 4:** To facilitate coordinated outreach between program staff and outreach contractors and reduce duplicative or non-coordinated outreach to individual customers, the process evaluation team recommends that program staff use salesforce.com more consistently. To accomplish this, NYSERDA may need to implement database and application processing upgrades to increase staffs' available time.

### 5.2.5 Energy Savings Calculations

**Conclusion 5:** To address confusion about baseline, and about "net" versus "per-unit-of-production" savings calculations, the staff worked with Technical Reviewers to develop calculation protocols for baseline measurements, variations in production schedules, and data center per-unit-of-production calculations.

> **Recommendation 5:** The Industrial and Process Efficiency staff could host a workshop with Technical Reviewers and outreach contractors to further develop guidance case examples for per-unit-of-production calculation methodologies and messages likely to provide the best energy savings for the customer and the program. Staff might test-run the guidance, examples, methods, and messaging with customers that have conducted such per-unit-of-production projects and with whom the program has strong relationships, to explore the extent to which the new methods and messages increase the value of information and assist decision making.

**APPENDIX A:**

# WAVE-3 DISPOSITION TABLES

Table A-1 provides the disposition for the interviews with Industrial and Process Efficiency program participants, and Table A-2 provides the disposition for the interviews with participants' contractors. The evaluation team sent all individuals on the call lists introductory emails. The surveys attained response rates (defined as the number of completed interviews divided by the number of eligible or potentially eligible respondents contacted ) of 42% for the participant interviews and 65% for the participating contractor interviews.

**Table A-1. Final Disposition for Participant Interviews**

| Disposition | Count | Percent of Total |
|---|---|---|
| Not reached[1] | 27 | 50% |
| Refused | 3 | 6% |
| Subsample Quota Filled[2] | 1 | 2% |
| Completed | 23 | 43% |
| *Total* | *54* | *100%*[3] |

[1] After sending the introductory email, the researchers called, but did not reach, 7 of the 27 contacts. The remaining 20 contacts were not contacted following the introductory email because the quotas for the subsample groups associated with these 20 had already been filled.

[2] Contacts responded to initial inquiry after quota had been filled.

[3] This column totals 101% due to the rounding errors in the row percentages.

**Table A-2. Final Disposition for Contractor Interviews**

| Disposition | Count | Percent of Total |
|---|---|---|
| Subsample Quota filled | 1 | 4% |
| Not reached | 5 | 20% |
| Refused | 3 | 8% |
| Not eligible | 4 | 16% |
| Completed | 13 | 52% |
| *Total* | *25* | *100%* |

**APPENDIX B:**

# PARTICIPANT RESPONSES TO SHORT-ANSWER AND CLOSED-ENDED QUESTIONS

This appendix provides tallies of participant responses to short-answer and closed ended questions. Note that participant open-ended responses – to short-answer questions as well as elaborations on the closed-ended option "other (please describe)" – have been coded to reflect themes; thus, responses in these tables may not match the pre-coded options provided in interview guides.

**Q1: How did your firm learn about the program?**

| Source of Awareness | Count |
|---|---|
| Someone at your company | 5 |
| Focus Contractor | 4 |
| One of your contractors or vendors | 4 |
| Economic development agency | 3 |
| Ongoing NYSERDA relationship | 3 |
| Other | 2 |
| Don't know | 2 |

**Q5: Rate your satisfaction with the following aspects of the program.**

| Aspect | Very Unsatisfied 1 | Somewhat Unsatisfied 2 | Somewhat Satisfied 3 | Very Satisfied 4 | Don't Know/ Not Applicable |
|---|---|---|---|---|---|
| Overall program experience | 0 | 1 | 6 | 11 | 2 |
| The amount of the incentive | 0 | 0 | 8 | 13 | 0 |
| The program staff's knowledge of the program | 0 | 1 | 4 | 12 | 4 |
| The program staff's ability to answer your questions | 0 | 2 | 4 | 12 | 3 |
| The ease of the application process | 0 | 1 | 11 | 10 | 1 |
| The quality of the technical/engineering services | 0 | 0 | 8 | 9 | 6 |
| The resolution of any issues that arose during the project | 0 | 3 | 0 | 6 | 12 |
| Time between submitting an application and receiving a PO | 1 | 7 | 4 | 9 | 1 |
| The timeliness of the technical/engineering services | 1 | 2 | 7 | 9 | 1 |
| The timeliness of the incentive | 1 | 1 | 2 | 6 | 9 |
| Receiving information on the status of your application | 1 | 3 | 8 | 6 | 3 |

**Q8: How responsive was the Technical Reviewer?**

| Rating | Count |
|---|---|
| Extremely | 15 |
| Somewhat | 4 |
| Not at all | 1 |
| No opinion/unsure | 3 |

**Q9: How accurate was the Technical Reviewer's work?**

| Rating | Count |
|---|---|
| Extremely | 14 |
| Somewhat | 0 |
| Not at all | 0 |
| No opinion/unsure | 9 |

**Q13: Rate the following factors in your firm's decision to undertake this energy efficiency/process efficiency project.**

| | Not At All Significant | Not Very Significant | Somewhat Significant | Very Significant | Unsure / No Opinion |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | |
| Improving safety | 7 | 3 | 2 | 5 | 6 |
| Meeting code or regulations | 9 | 3 | 2 | 4 | 5 |
| Replacing failed equipment | 5 | 4 | 3 | 5 | 6 |
| Improving product quality | 5 | 1 | 2 | 11 | 4 |
| Decreasing rejection or scrap rates | 5 | 2 | 4 | 3 | 9 |
| Increasing production | 4 | 0 | 5 | 10 | 4 |
| Reducing energy costs | 0 | 1 | 2 | 20 | 0 |
| Providing other cost savings (like labor or O&M) | 0 | 5 | 9 | 7 | 2 |
| Implementing a contractor's recommendation | 6 | 1 | 3 | 4 | 9 |

**Q21: Rate how important the following factors were in your firm's decision to apply for an incentive from the IPE program.**

| Factor | Not At All Significant 1 | Not Very Significant 2 | Somewhat Significant 3 | Very Significant 4 | Unsure / No Opinion |
|---|---|---|---|---|---|
| The technical expertise to quantify the energy savings | 4 | 1 | 8 | 7 | 3 |
| The incentive in order to get the necessary return on investment out of the project | 0 | 0 | 2 | 21 | 0 |
| NYSERDA's independent confirmation that the project would save energy | 6 | 0 | 5 | 9 | 3 |
| NYSERDA's support in order to convince upper management to fund the project | 6 | 2 | 4 | 3 | 8 |
| Help with measuring and verifying the results of the project | 5 | 1 | 8 | 5 | 4 |

**Q22: Which aspects of the program your firm considered to be of value for this project?**

| Aspect | Primary Benefit | Secondary Benefit | Not a Benefit | DK/NA |
|---|---|---|---|---|
| The financial incentive NYSERDA provided | 23 | 0 | 0 | 0 |
| NYSERDA staff and its contractors were available to provide support for our project | 9 | 7 | 3 | 4 |
| NYSERDA was a trustworthy and independent source of information about energy efficiency options | 8 | 9 | 1 | 5 |
| NYSERDA helped ensure we implemented a quality project | 8 | 7 | 4 | 4 |

**Q23: Before you connected with the program, how concrete were your project plans?**

| Planning level | Count |
|---|---|
| Final plan with an approved budget | 9 |
| Created a preliminary plan, perhaps with a cost estimate | 7 |
| Begun to gather the relevant information, such as consulting technical experts | 2 |
| General plans to solve/ address a problem | 2 |
| Other | 1 |

**Q24: Before you connected with the program, how concrete were your plans to make the project energy efficient?**

| Response | Count |
|---|---|
| Final plan for efficiency with an approved budget | 9 |
| Created a preliminary plan for efficiency, perhaps with a cost estimate | 5 |
| Begun to gather information on efficiency, such as consulting technical experts | 3 |
| Other | 3 |
| Not sure | 1 |
| No Answer | 1 |

**Q25: If you had NOT participated in this program, how would your plans for this project have changed, if at all?**

| Response | Count |
|---|---|
| Undertaken the project exactly as you're doing now | 8 |
| Postponed the project to some point in the future | 7 |
| Pursued a similar project, but without the energy efficiency features | 3 |
| Scaled back the project in some way | 3 |
| Cancelled | 1 |
| Not answered | 1 |

**Q27: Rate the following possible obstacles in terms of significance at your firm.**

| | Not at All | Not Very | Somewhat | Very | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | DK/NA |
| A lack of funds for energy efficiency | 5 | 4 | 2 | 12 | 0 |
| Competition for funding from other projects | 5 | 3 | 5 | 10 | 0 |
| Relevant staff not having enough time for the project | 5 | 6 | 5 | 7 | 0 |
| Not being evaluated on energy efficiency and therefore not spending much time on it | 11 | 5 | 2 | 5 | 0 |
| Not having staff with the right technical expertise | 13 | 3 | 3 | 3 | 1 |
| Unfavorable lending environment | 11 | 1 | 1 | 1 | 9 |
| Not having sufficient certainty about the energy savings | 7 | 10 | 4 | 1 | 1 |
| Not wanting to make changes unless we have to | 17 | 1 | 4 | 0 | 1 |

**Q28 and Q30: Do you have a continuous improvement team or something similar within your organization? Is energy efficiency an explicit goal for the team?**

| Response | Count |
|---|---|
| No | 5 |
| Yes | 18 |
| *Energy efficiency is an explicit goal of the team* | *11* |
| *Energy efficiency is not an explicit goal of the team* | *7* |

**Q32: Have you participated in any other energy efficiency programs offered by NYSERDA, your utility or the State or Federal government?**

| Participation | Count |
|---|---|
| Participated in another program | 13 |
| *NYSERDA* | *11* |
| *Utility* | *6* |
| *State government* | *1* |
| *Fed government* | *1* |
| Have not participated in another program | 8 |
| Don't know | 1 |

**Q34: Does your utility offer incentives for industrial energy efficiency?**

| Response | Count |
|---|---|
| Yes | 13 |
| No | 4 |
| DK/Not answered | 6 |

**Q39: What, if any, support from NYSERDA would help you to continue to improve energy efficiency at your facility?**

| Type of Support Desired | Count |
|---|---|
| Nothing | 11 |
| Feasibility study/energy audit | 8 |
| Channels of awareness for incentives/programs | 4 |
| Identify potential projects | 2 |
| Presentations to management/stakeholders | 1 |
| Technical/engineering support | 0 |
| Incentives | 0 |
| Other | 2 |

**Q40: What, if any, support from NYSERDA would help you to improve the efficiency of production processes at your facility?**

| Type of Assistance Desired | Count |
|---|---|
| Nothing | 10 |
| Feasibility study- energy audit | 7 |
| Technical- engineering support | 0 |
| Incentives | 0 |
| Presentations to management- stakeholders | 0 |
| Other | 7 |

**APPENDIX C:**

# CONTRACTOR RESPONSES TO SHORT-ANSWER AND CLOSED-ENDED QUESTIONS

This appendix provides tallies of participating contractor responses to short-answer and closed ended questions. Note that contractor open-ended responses – to short-answer questions as well as elaborations on the closed-ended option "other (please describe)" – have been coded to reflect themes; thus, responses in these tables may not match the pre-coded options provided in interview guides.

**Q7: Rate your satisfaction with the following elements of the program.**

| Program Element | Very Unsatisfied 1 | Somewhat Unsatisfied 2 | Somewhat Satisfied 3 | Very Satisfied 4 | DK/ Not Applicable |
|---|---|---|---|---|---|
| The program staff's ability to answer your questions | 0 | 0 | 1 | 12 | 0 |
| The program staff's knowledge of the program | 0 | 0 | 2 | 11 | 0 |
| The ease of the application process | 0 | 0 | 4 | 9 | 0 |
| The resolution of any issues that arose during the project | 1 | 0 | 3 | 8 | 1 |
| The quality of the technical-engineering services | 0 | 0 | 6 | 7 | 0 |
| Your overall program experience | 0 | 0 | 6 | 7 | 0 |
| The timeliness of the technical-engineering services | 1 | 1 | 5 | 6 | 0 |
| Receiving information on the status of your application | 0 | 1 | 6 | 6 | 0 |
| The amount of the incentive | 1 | 1 | 6 | 5 | 0 |
| Time between submitting an application and receiving a PO | 0 | 4 | 5 | 3 | 1 |
| The timeliness of the incentive | 0 | 3 | 7 | 2 | 1 |

**Q8: Timeframes for projects submitted within the last six months compared with projects submitted in the previous year.**

| Change | Count |
|---|---|
| Stayed the same | 7 |
| Gotten better | 2 |
| Gotten worse | 1 |
| DK | 1 |

**Q9: Exclusive of timeliness, how has the overall program experiences changed?**

| Change | Count |
|---|---|
| Stayed the same | 6 |
| Gotten better | 5 |
| DK | 1 |
| NA | 1 |

**Q10: How has participating in the IPE Program benefited your client?**

| Benefit | Count |
|---|---|
| Incentive allowed them to get project approval | 11 |
| Improved technical/engineering ability | 6 |
| Project funded by NYSERDA increased production/reduced costs | 1 |
| No benefits | 0 |
| Other | 4 |

**Q 15: Significance of factors in undertaking efficiency project.**

| Factor | Not At All Significant 1 | Not Very Significant 2 | Somewhat Significant 3 | Very Significant 4 | DK/ NA |
|---|---|---|---|---|---|
| Reducing energy costs | 0 | 1 | 1 | 11 | 0 |
| Taking advantage of the incentive or cost-sharing opportunity provided by NYSERDA | 0 | 0 | 1 | 11 | 1 |
| Implementing your recommendation | 0 | 0 | 3 | 9 | 1 |
| Providing other cost savings (like labor or O&M) | 1 | 2 | 4 | 6 | 0 |
| Meeting code or regulations | 7 | 1 | 1 | 3 | 1 |
| Improving product quality | 2 | 2 | 4 | 3 | 1 |
| Increasing production | 2 | 2 | 5 | 3 | 1 |
| Implementing a NYSERDA recommendation | 1 | 0 | 2 | 3 | 6 |
| Implementing a recommendation from a technical study | 2 | 1 | 4 | 3 | 3 |
| This company is always trying to improve energy efficiency- so this project fit with their "business as usual" practices | 0 | 4 | 5 | 3 | 1 |
| Improving safety | 5 | 3 | 3 | 2 | 0 |
| Replacing failed equipment | 2 | 4 | 4 | 2 | 0 |
| Decreasing rejection or scrap rates | 5 | 2 | 2 | 1 | 2 |

**Q17. Importance of factors in decision to undertake program project.**

| Factor | Not At All Significant 1 | Not Very Significant 2 | Somewhat Significant 3 | Very Significant 4 | DK/NA |
|---|---|---|---|---|---|
| The incentive in order to get the necessary return on investment out of the project | 0 | 0 | 2 | 11 | 0 |
| The technical expertise to quantify the energy savings | 1 | 1 | 3 | 6 | 2 |
| NYSERDA's support in order to convince upper management to fund the project | 4 | 0 | 2 | 2 | 4 |
| Help with measuring and verifying the results of the project | 4 | 2 | 3 | 1 | 3 |

**Q19. Frequencies of client mention of obstacles to increasing energy efficiency.**

| Obstacle | Not At All Frequently 1 | Not Very Frequently 2 | Somewhat Frequently 3 | Very Frequently 4 | DK /NA |
|---|---|---|---|---|---|
| A lack of funds for energy efficiency | 1 | 0 | 3 | 9 | 0 |
| Competition for funding from other projects | 1 | 3 | 6 | 3 | 0 |
| Unfavorable lending environment | 3 | 4 | 1 | 3 | 2 |
| Not wanting to make changes unless we have to | 3 | 1 | 6 | 3 | 0 |
| Not having sufficient certainty about the energy savings | 2 | 4 | 6 | 1 | 0 |
| Relevant staff not having enough time for the project | 4 | 5 | 3 | 0 | 1 |
| Not having staff with the right technical expertise | 5 | 2 | 4 | 0 | 2 |
| Not being evaluated on energy efficiency and therefore not spending much time on it | 2 | 5 | 4 | 0 | 2 |

**Q25: Are your industrial clients participating in any other energy efficiency programs?**

| Program | Count |
|---|---|
| Utility | 9 |
| NYSERDA | 5 |
| State Government | 2 |
| Fed Government | 3 |
| None | 2 |
| Do not know | 2 |

**Q27: Does your utility offer incentives for industrial energy efficiency?**

| Response | Count |
|---|---|
| Yes | 11 |
| No | 0 |
| Don’t know | 2 |

**APPENDIX D:**

# INTERVIEW GUIDES

# MEMORANDUM

**TO:** Kenneth Galarneau and Patricia Gonzales, NYSERDA

**FROM:** Marjorie McRae, Kara Crohn and Ned Harris, Research Into Action

**RE:** Interview Questions – Program Staff

Research Into Action will pose the following questions to Industrial and Process Efficiency program staff during the third round of interviews.

## Questions for Industrial and Process Efficiency Program Staff - Spring 2011

My firm, Research Into Action, is working with NYSERDA to evaluate the Industrial and Process Efficiency program. I would like to talk with you today for about 45 minutes about your experiences with the program. Your responses will be kept confidential.

This is the last round of data collection we will conduct for this program cycle, so we are focusing on learning what has changed, how those changes affect your work, and what additional changes could help to achieve program goals. While most of our questions are open-ended, we have sprinkled in some closed-ended questions to enable us to more directly compare responses across contacts. And of course, if I ask a question about a topic you lack experience with, just let me know and we'll skip that question.

We know that you are really busy, therefore we have tried to write the questions such that they can be answered in a couple of sentences. So feel free to speak in shorthand and if I need clarification, I will certainly ask. We'll try to get you back to your regular work as soon as possible.

**Continuous Improvement**

1. What changes, if any have occurred in the program since fall 2010? [Prompt: As of last September, the recent program changes included increasing natural gas savings goals, providing incentives for energy savings resulting from Operations & Maintenance (O&M) improvements, and allowance of internal labor to account for up to 25 percent of project cost, are you aware of any other program changes?]

2. [Brian/Mark/Wendy] If any, what changes have occurred in response to recommendations provided in Research Into Action's Wave-1 and Wave-2 Industrial and Process Efficiency reports?

3. [Brian/Mark/Wendy] Please describe the status of the Industrial and Process Efficiency program, relative to any program metrics that program staff uses to measure the success of the program and of program-related initiatives and activities?

4. [Wendy/Cheryl] How does NYSERDA's operations group work with the Industrial and Process Efficiency program to facilitate tracking of various program metrics? To what extent has program staff interfaced with these tracking mechanisms? What would you suggest we ask program staff about these tracking mechanisms? [Other Industrial and Process Efficiency staff] We understand that NYSERDA has instituted use of a "dashboard" to track various program metrics. Have you

interfaced with the dashboard? [IF YES] What have you learned as a result of interfacing with the dashboard? Do you have any other comments about the dashboard?

5. [Wendy/Cheryl]In your experience, what have been the longest times that have elapsed between receipt and assignment, and between assignment and first actions? [PRESS FOR NUMERICAL ANSWERS, EVEN IF RANGES]

6. What steps, if any, has the program staff taken in the last six months to reduce bottlenecks in project processing, and what key bottlenecks remain, if any?

7. [Wendy/Cheryl]What is the status of NYSERDA efforts to consolidate program data into a single database?

**Staff Constraints**

8. What is your experience regarding the number of Industrial and Process Efficiency staff available (including program administrative staff/project coordinators) to implement Industrial and Process Efficiency? Would you say…[Read closed-ended responses and enter comments]

   - ❍ Too many
   - ❍ Just right
   - ❍ Not enough
   - ❍ Would you like to elaborate? _____
   - ❍ [Brian] Is NYSERDA able to add staff? _____

9. What is your experience regarding the number of Focus Contractors available to serve the industrial market? Would you say…[READ CLOSED-ENDED RESPONSES AND ENTER COMMENTS]

   - ❍ Too many
   - ❍ Just right
   - ❍ Not enough
   - ❍ Would you like to elaborate? _____
   - ❍ [Brian] Is NYSERDA able to add Focus Contractors [AS APPLICABLE, ADD:] was there a need? _____

10. What is your experience regarding the number of Technical Reviewers available to serve the industrial market? Would you say…[READ CLOSED-ENDED RESPONSES AND ENTER COMMENTS]

    - ❍ Too many
    - ❍ Just right
    - ❍ Not enough
    - ❍ Would you like to elaborate? _____
    - ❍ [Brian] Is NYSERDA able to add Technical Reviewers [AS APPLICABLE, ADD:] was there a need? _____

11. Are you satisfied with the length of time required for the technical review?

12. What does the program do to provide key customers with a single point of contact, and how effective is it?

13. I want to ask you about key account management. How do you coordinate with Focus Contractors to conduct key account management? Has the way you coordinate with Focus Contractors to conduct key account management changed over time?

14. Do you feel most Industrial and Process Efficiency staff members have adequate time to implement the key account management approach as designed? [IF NO] What changes might facilitate this?

**Other Utility Programs**

15. What collaborations with other utilities is the Industrial and Process Efficiency staff engaged in (example: Con Ed) and what is the status of these collaboration(s)?

16. Are you involved with any of the collaborations with the utilities? [IF YES]What are you learning in your efforts to collaborate? [IF NO, SKIP TO Q18].

17. What other types of communications are you having with other utilities? [PROBE TO CLARIFY WHICH UTILITIES]

18. What do you see gets in the way of collaboration or fruitful communication?

19. What do you see are the advantages and disadvantages of both NYSERDA and utilities offering industrial efficiency incentives? [PROBE TO ENSURE BOTH ADVANTAGES AND DISADVANTAGES ARE EXPLICITLY MENTIONED, EVEN IF ANSWER IS "NONE"]

**Process Efficiency Projects and Per-Unit-of-Production Calculations**

20. How would you assess Industrial and Process Efficiency's success to date in enrolling process efficiency projects into the program?

21. Have there been any issues with – or do you foresee possible issues with – calculating kWh savings on a per-unit-of-production basis? [IF YES] Please explain.

22. Have any customers submitted applications for multiple projects that they plan to undertake in succession? [IF YES] Are there any indications that this is becoming more common?

**Marketing**

23. What are your responsibilities for customer outreach and marketing and for about what proportion of your time spent on Industrial and Process Efficiency are you engaged in customer outreach and marketing?

Skip to next section if few specific responsibilities and if proportion of Industrial and Process Efficiency time spent on marketing is "small" or less than 10%.

24. Considering the combined marketing and outreach efforts of the Industrial and Process Efficiency staff and the Focus Contractors, about what proportion of the total would you say each group conducts?

25. How is it working to use salesforce.com to prioritize, coordinate, and communicate with program staff about customer outreach?

26. How effective is the current approach to prioritization, coordination, and communication with Focus Contractors about customer outreach and how might it be improved?

27. How well would you say the industrial and data center populations have been identified to date? [PROBE TO GET BOTH INDUSTRIAL AND DATA CENTERS]

28. What are the difficulties in identifying these populations?

29. [Mark/Brian]What is the status of NYSERDA's effort to work with DPS to obtain information-sharing arrangements? [To make SBC status easier to verify and identification of customers' enrollment in utility programs possible].

30. Have any changes occurred in the last six months in how you and the Focus Contractors target industrial and data center firms? [PROBE TO GET BOTH INDUSTRIAL AND DATA CENTERS]

31. It is our understanding that Antares Group developed a report that identifies the largest energy users in the State, as well as a benchmarking report that identifies energy intensive industrial subsectors using NAICS codes. Do you use this report? If so, how? If not, why not?

32. To what extent have the Focus Contractors met your expectations thus far in terms of activities undertaken and effectiveness of those activities, such as numbers and types of projects?

33. How does NYSERDA's Integrated Marketing Communications Approach differ from its previous marketing approach and what are the results of this approach, thus far? [IF CONFUSED] How do you interact with NYSERDA's Marketing and Communication team?

34. Have members of NYSERDA's Industrial and Process Efficiency staff joined professional and trade associations serving industrial firms? [ IF YES] Which ones? How has the staff promoted Industrial and Process Efficiency in those settings, if at all?

35. Has the Industrial and Process Efficiency team taken any steps to identify industrial customers through job placement activities at the BOCES, colleges and universities, or the state employment office? What?

36. What staff at customer firms are involved in making decisions about improvements to firms' production processes and what are the challenges to gaining their attention?

37. What activities have the Industrial and Process Efficiency team and its contractors undertaken to motivate upstream industrial equipment supply chains, contractors, and equipment vendors to market the program's incentives as part of selling their goods and services?

38. Do you have any thoughts about further efforts the Industrial and Process Efficiency team might engage in to encourage the supply chain to promote industrial efficiency?

**Opportunities for Improvement**

And for my final questions:

39. Have you had any challenges working with the Industrial and Process Efficiency program that we have not discussed? [IF YES] Please explain.

40. What do you think are the program's strengths, or things that are working well?

41. And what do you think are its weaknesses, or things that are not working well, or challenges now facing the program?

42. Do you have any suggestions for improvement or problem areas you would like resolved that we have not yet discussed? [IF YES] Please explain

43. Any final comments?

**Thank you for your time.**

# MEMORANDUM

**TO:** Kenneth Galarneau and Patricia Gonzales, NYSERDA

**FROM:** Marjorie McRae, Kara Crohn and Ned Harris, Research Into Action

**RE:** Interview Questions – C and I Marketing Project Manager

Research Into Action will pose the following questions to NYSERDA's C and I Marketing Project Manager during the third round of interviews.

***

## Questions for Industrial and Process Efficiency Commercial and Industrial Marketing Project Manager - Spring 2011

My firm, Research Into Action, is working with NYSERDA to evaluate the Industrial and Process Efficiency program. I would like to talk with you today for about 30 minutes about your experiences with marketing for the program. Your responses will be kept confidential.

If I ask a question about a topic you lack experience with, just let me know, and we'll skip that question.

**Integrated Marketing Communications Approach**

1. Has NYSERDA researched the profiles and roles of the key energy efficiency and process efficiency decision makers in industrial and data center firms?

2. [IF YES] What are their perceptions, needs, and expectations with regards to energy efficiency and process efficiency improvements? How does this vary from sector to sector? From job title to job title?

3. What staff at customer firms is involved in making decisions about improvements to firms' production processes and what are the challenges to gaining their attention?

4. What unique touch points and channels has NYSERDA identified to reach key decision makers with specific and relevant messaging?

5. What messaging has NYSERDA developed? Does the messaging differ by sector? By job title?

6. [Q1=YES] To what extent has NYSERDA's development of relevant messaging been informed by its research to identify the profiles and roles of the key energy efficiency and process efficiency decision makers in industrial and data center firms?

7. It is our understanding that the first step of the "participant engagement cycle" is to generate awareness. Can you describe NYSERDA's use of the Integrated Marketing Communications activities to generate awareness and successes to date?

8. [IF NOT ANSWERED] It is our understanding that the Integrated Marketing Communications Approach employs tactics that combine traditional direct advertising, social media, and new media tactics. Can you please describe NYSERDA's use of these tactics to generate awareness and successes to date?

9. What metrics do you use to track the relative success of each of these tactics? Which approaches have been most successful? Why?

10. Have members of NYSERDA's Industrial and Process Efficiency staff or Industrial and Process Efficiency Focus Contractors joined professional and trade associations serving industrial firms? [ IF YES] Which ones? How has the staff promoted Industrial and Process Efficiency in those settings, if at all?

11. To what extent have the Focus Contractors met your expectations thus far in terms of activities undertaken and effectiveness of those activities, such as numbers and types of projects?

12. Has the Industrial and Process Efficiency team taken any steps to identify industrial customers through job placement activities at the BOCES, colleges and universities, or the state employment office? What?

13. What about the next step of the participant engagement cycle: Lead Generation. Can you describe NYSERDA's use of the Integrated Marketing Communications activities to develop leads and successes to date?

14. What about the next step of the participant engagement cycle: Engagement. Can you describe NYSERDA's use of the Integrated Marketing Communications approach to engage with prospective Industrial and Process Efficiency customers and successes to date?

15. What about nurturing leads to program sign up? Can you describe NYSERDA's use of the Integrated Marketing Communications to nurture leads to program sign up and successes to date?

16. What materials are currently/will be included in Focus Contractors' "Contractor Tool-Kits?" [Prompts: How do these tools facilitate lead generation, nurturing, and customer sign-up? Sales and onsite presentations, sector-specific/program-specific marketing collateral, case studies that are relevant to those sectors, templates that help them promote NYSERDA programs?]

17. What activities have the Industrial and Process Efficiency team and its contractors undertaken to motivate upstream industrial equipment supply chains, contractors, and equipment vendors to market the program's incentives as part of selling their goods and services?

18. Do you have any thoughts about further efforts the Industrial and Process Efficiency team might engage in to encourage the supply chain to promote industrial efficiency?

**Targets**

19. Have any changes occurred in the last six months in how Industrial and Process Efficiency staff and the Focus Contractors target industrial and data center firms? [PROBE TO GET BOTH INDUSTRIAL AND DATA CENTERS]

20. How well would you say the industrial and data center populations have been identified to date? [PROBE TO GET BOTH INDUSTRIAL AND DATA CENTERS]

21. What are the difficulties in identifying these populations?

22. What is the status of NYSERDA's effort to work with DPS to obtain information-sharing arrangements? [To make SBC status easier to verify and identification of customers' enrollment in utility programs possible].

23. It is our understanding that Antares Group developed a benchmarking report that identifies energy intensive industrial subsectors in New York using NAICS codes. How has this benchmarking report been used?

**Opportunities for Improvement**

And for my final questions:

24. Have you had any challenges working with the Industrial and Process Efficiency program that we have not discussed? [IF YES] Please explain.

25. What do you think are the program's strengths, or things that are working well?

26. And what do you think are its weaknesses, or things that are not working well, or challenges now facing the program?

27. Do you have any suggestions for improvement or problem areas you would like resolved that we have not yet discussed? [IF YES] Please explain

28. Any final comments?

**Thank you for your time.**

# MEMORANDUM

**TO:** Kenneth Galarneau and Patricia Gonzales, NYSERDA

**FROM:** Marjorie McRae, Kara Crohn and Ned Harris, Research Into Action

**RE:** Interview Questions – Industrial and Process Efficiency Focus Contractors

Research Into Action will pose the following questions to Industrial and Process Efficiency Focus Contractors during the third round of interviews.

## Questions for Industrial and Process Efficiency Focus Contractors - Spring 2011

My firm, Research Into Action, is working with NYSERDA to evaluate the Industrial and Process Efficiency program. I would like to talk with you today for about 30 to 45 minutes about your experiences with the program. We want to assure you that this interview is confidential to the extent permitted by law. We will report all responses in aggregate and will not attribute any comments to you.

Thank you for taking time to speak with [Kara/Ned] last fall about your experiences with Industrial and Process Efficiency. We incorporated your feedback into our last interim report. This is our final round of interviews about the Industrial and Process Efficiency program. We're focusing on learning how your work and the program have changed, what is working well, and what other changes, if any, the program should make.

If I ask you a question about a topic you lack experience with, just let me know and we will skip that question.

1. Since we last spoke, has there been any change in the program activities that you work on the most/that take the most of your time?

2. Do you work with manufacturing firms, data centers, or both?
   - Manufacturing only
   - Data centers only
   - Both

**<u>Workload</u>**

3. Please provide your opinions regarding the relative sufficiency of the number of Industrial and Process Efficiency staff available to perform the following program functions. Use a rating of "1" for "Too many," "2" for "Just Right," "3" for "Not Enough." Let me know if you have no opinion or are unsure. What is your experience regarding the number of Industrial and Process Efficiency staff available to….[IF RESPONDENT PROVIDES RATING OF "TOO MANY" OR "NOT ENOUGH," ASK RESPONDENT TO ELABORATE].

| | Too Many | Just Right | Not Enough | Don't Know | Comments |
|---|---|---|---|---|---|
| Support the work of Focus Contractors | | | | | |
| Perform management of Industrial and Process Efficiency projects | | | | | |
| Perform project processing of Industrial and Process Efficiency projects | | | | | |
| Provide Industrial and Process Efficiency marketing support | | | | | |

4. Do you have the resources you need to perform your Focus Contractor responsibilities?

5. What additional resources and/or assistance might help your firm to increase enrollment of large Industrial and Process Efficiency projects?

**Targeting and Outreach**

These next questions address processes for customer targeting and outreach.

6. To what extent is NYSERDA directing you and to what extent are you setting your own direction in identifying the groups and individual firms you will contact and identifying whom you will continue to contact?

7. How well would you say the industrial and data center populations have been identified? [PROBE TO GET BOTH INDUSTRIAL AND DATA CENTERS]

   What are the difficulties in identifying these populations?

8. We understand that Antares Group developed a report that identifies the largest energy users in the State, as well as a benchmarking report that identifies energy-intensive industrial subsectors in New York using NAICS codes. Do you use this report? If so, how? If not, why not?

9. Are you still designating firms by tiers?

10. Are you still primarily working with tier one industrial firms and tier two data center firms?

11. How do you interact with NYSERDA's Marketing and Communication team to reach Industrial or Data Center prospects? What, if anything, have you learned from NYSERDA's Marketing and Communication team?

12. In the past six months, have you and Industrial and Process Efficiency staff changed how you target industrial and data center firms? [PROBE TO GET BOTH INDUSTRIAL AND DATA CENTERS]

13. Please describe your experience using salesforce.com to prioritize, coordinate, and communicate with program staff about customer outreach.

    a. If applicable, please describe your experience using any other approaches to prioritize, coordinate, or communicate with program staff about customer outreach.

    b. [IF USE METHODS OTHER THAN SALESFORCE] How effective are each of these methods? How might each of these methods be improved?

14. What activities have NYSERDA and its contractors taken to motivate upstream industrial equipment supply chains, contractors, and equipment vendors to market the program's incentives as part of selling their goods and services?

15. What else might be done to encourage the supply chain to promote industrial efficiency?

**Project Types**

16. Which types of staff at your customers' firms are involved in making decisions about improvements to their firms' production processes? [Is it challenging to gain their attention? What challenges do you encounter? Which do you encounter most frequently? How do you overcome those challenges? Are there any challenges you haven't been able to address?]

17. [If working with data centers]: What are the challenges in helping data centers understand how to gain per-unit efficiencies in terms of their IT systems? (not per unit of data delivered)

18. What are the challenges in helping industrial centers understand whether a per-unit-of-production incentive will work for them?

19. How, if at all, have you changed what you discuss with customers in light of the Industrial and Process Efficiency incentives that are now available for gas savings?

20. Have any customers submitted multiple applications (i.e., repeat participation)? [IF YES] Are there any indications that this is becoming more common? What do you do, if anything, to help customers develop longer-term plans for repeated energy efficiency investments?

**Process for Working with Customers**

21. What does the program do to provide key customers with a single point of contact? How effective is it?

22. Do you engage in what you would you describe as a "key account management" approach?

23. [IF CONTACT INDICATES INVOLVED IN KEY ACCOUNT APPROACH] Have any changes occurred in the last six months in the key account management approach?

24. [IF INVOLVED] Do you feel you have adequate time to implement the key account marketing approach as designed? [IF NO] What changes might facilitate this?

25. Once customers submit an application, how do you keep track of their projects throughout the process?

26. [IF NOT ADDRESSED] Do you receive project status updates from NYSERDA?

27. How well is project status tracking working between you and program staff? Specifically, what's working well, what's not working well, and, if anything, what would help you keep better track of projects?

28. Are your customers notified when NYSERDA receives their applications? [IF NO] Do you think such notification should occur? How should that happen?

29. Are you aware of any projects that have been delayed or protracted due to Industrial and Process Efficiency staff response time?

    [IF NO, SKIP TO NEXT SECTION:]

30. Compared to your previous experience with the program, in the last four to six months, would you say you've had…

    - Fewer delays than previously
    - About the same amount of delays
    - More delays

31. Could you describe any changes in the number of projects impacted, or the length of the delays, or the average delay across all projects? [IF YES] Please explain.

32. When do the delays typically occur?

33. Do you have any insights into what causes the delays or what changes might reduce delays? [IF YES] Please explain.

**Program Experiences**

34. Do you have the access you need to the Industrial and Process Efficiency program databases? [IF NO] Please describe what else you need.

35. Does NYSERDA communicate with the Industrial and Process Efficiency Focus Contractors collectively, such as in trainings, periodic updates, or sharing lessons learned?

36. [IF Q35=YES] What occurs? Do you have any feedback on this, including how well it's working and any suggestions to improve it?

37. [IF Q35=NO] Do you think that additional communication would be beneficial? [IF RESPONDENT CONSIDERS ADDITIONAL COMMUNICATION BENEFICIAL] What communication would you like to see? [Probes: format (e.g., training, emails), content (e.g., program updates, discussion of best practices), and frequency]

38. Can you give me feedback on working with the Industrial and Process Efficiency staff, such as how well communication occurs and how any conflicts are resolved?

**Coordination with Other Programs**

39. Have any of the Industrial and Process Efficiency applicants you have worked with also worked with FlexTech or any other NYSERDA program?

40. [IF YES] Have any confusions or problems arisen in these cases? [IF YES] Please explain.

41. Do the Industrial and Process Efficiency applicants ask you about the available utility incentives? [IF YES] What do they typically want to know?

42. [IF ENGAGE IN DISCUSSION ABOUT OTHER PROGRAMS] Do you advise Industrial and Process Efficiency applicants about which programs to apply to? [IF YES] What do you advise them to think about their opportunities?

43. Have any of the Industrial and Process Efficiency applicants you work with applied to utility-sponsored programs?

44. [IF YES] Have any confusions or problems arisen in these cases? [IF YES] Please explain.

45. What are the advantages of both NYSERDA and utilities offering industrial efficiency incentives? How about disadvantages? [PROBE TO ENSURE BOTH ADVANTAGES AND DISADVANTAGES ARE EXPLICITLY MENTIONED, EVEN IF ANSWER IS "NONE"]

**Opportunities for Improvement**

46. What do you think are the program's strengths, or things that are working well?

47. And what do you think are its weaknesses or the challenges now facing the program?

48. Do you have any suggestions for improvement or problem areas you would like resolved that we have not yet discussed? [IF YES] Please explain.

49. Any final comments?

**Thank you for your time.**

# MEMORANDUM

**TO:** Kenneth Galarneau and Patricia Gonzales, NYSERDA

**FROM:** Marjorie McRae, Kara Crohn, and Ned Harris, Research Into Action

**RE:** Interview Questions – Industrial And Process Efficiency Technical Reviewers

Research Into Action will pose the following questions to Industrial and Process Efficiency Technical Reviewers during the third round of interviews.

## Questions for Industrial and Process Efficiency Technical Reviewers – Spring 2011

My firm, Research Into Action, is working with NYSERDA to evaluate the Industrial and Process Efficiency program. I would like to talk with you today for about 30 to 45 minutes about your experiences with the program. We want to assure you that this interview is confidential to the extent permitted by law. We will report all responses in aggregate and will not attribute any comments to you.

While most of our questions are open-ended, we've sprinkled in some closed-ended questions to enable us to more directly compare responses across contacts.

[FOR PREVIOUS INTERVIEWEES]: You spoke with [Kara/Ned] on [date]. Thank you for taking the time to do that. We incorporated your feedback into the last interim report. This is the last round of interviews we are conducting for the Industrial and Process Efficiency process evaluation, so while we may ask similar questions, it is for the purpose of learning what has changed, how well things are going, and what could be done differently to make the program run better.

**Program Role**

First, let's talk about your company's role and your personal role in the program.

1. [NEW CONTACTS] Tell me about the activities that occupy a majority of your work for the program.

   [PREVIOUS INTERVIEWEES]: Has there been any change since we last spoke in the activities that occupy a majority of your work for the program.

2. Do you work with manufacturing firms, data centers, or both?

   - Manufacturing only
   - Data centers only
   - Both

3. Do you work on projects with gas savings?

4. [IF YES] In what ways, if any, have the addition of gas savings goals affected your work or your approach?

**Workload**

5. What is your experience regarding the number of Industrial and Process Efficiency staff available to implement Industrial and Process Efficiency? Would you say…[Read closed-ended responses and enter comments]

   - Too many
   - Just right
   - Not enough
   - Would you like to elaborate? _____

6. What is your experience regarding the number of Technical Reviewers available to serve the industrial market? Would you say…[READ CLOSED-ENDED RESPONSES AND ENTER COMMENTS]

   - Too many
   - Just right
   - Not enough
   - Would you like to elaborate? _____

7. Hypothetically, if your firm's Industrial and Process Efficiency work were to increase by 20%, how likely would your firm be to hire additional staff to accommodate this work? Would you say…

   - High likelihood
   - Moderate likelihood
   - Low likelihood
   - [Don't know]

**Customer Service**

8. What would it take to reduce the current review time for projects below the M&V threshold?

9. What would it take to reduce the current review time for projects above the M&V threshold? , [IF NOT ANSWERED] For instance to the review of project engineering analysis? To the post installation M&V data collection and analysis?

10. What would you estimate is the typical elapsed time between when you receive a project and your first contact with the applicant?

11. Are you aware of any projects that have incurred delays or an extended processing time?

    [IF NO, SKIP TO NEXT SECTION:]

12. How would you compare the last four to six months with the prior year or so that the program has been running in terms of processing delays? Would you say the recent period has seemed to have …

    - Fewer delays than previously
    - About the same amount of delays
    - More delays

13. Do you have any insights as to any change in number of projects impacted, or length of delays, or average delay across all projects? [IF YES] Please explain.

14. At what junctures do the delays typically occur?

15. Do you have any insights into what causes the delays or what changes might reduce delays? [IF YES] Please explain.

**Project Experiences**

16. Let's first discuss projects that do not require M&V. I'll let you know when I want to switch to discussing M&V projects. What is the average time required to conduct the technical review?

17. What factors tend to delay the technical review processes?

18. Of the information included in an application, which elements have the most errors or omissions?

19. How might the application form and requirements for supporting information be changed to facilitate the submittal of more complete, accurate information?

20. [IF NOT MENTIONED] Would it be helpful to require additional information?

    [IF YES] Please describe. (Probe as to whether a new form would be required or additions to existing forms.)

21. [IF NOT MENTIONED] Would it be helpful to require that information about the equipment or the energy savings estimation calculations be presented in a different format?

    [IF YES] Please describe. (Probe to understand what that format might be.)

22. [IF NOT MENTIONED] Would it be helpful to include a checklist in the application form identifying common omissions and errors?

    [IF YES] Please explain.

23. Is there anything else that might expedite the technical review processes for projects that don't require M&V?

    [IF YES] Please explain.

24. Now let's explore similar issues concerning projects with M&V. What factors tend to delay these reviews?

25. What elements of the M&V plan or M&V reporting have the most errors or omissions?

26. Would it be helpful for NYSERDA to develop a template for the M&V plan or M&V reporting?

    [IF YES] Please explain.

27. Is there anything else that might expedite the technical review processes for projects that require M&V? Explain.

28. Now thinking of all projects, regardless of whether or not they require M&V: Do you review any projects that originated through FlexTech?

29. [IF YES] Do these projects typically take less time to review than other projects? Explain.

30. Are you also a contractor for FlexTech? [IF YES] Are there any lessons that Industrial and Process Efficiency might learn from Flex Tech?

31. [ASK ALL] Have you explained to any applicants the concept of incentives based on per-unit-of-production savings?

32. [IF YES] What responses have applicants have? (probes: concerns, expectation that it will or won't work for them)

33. [IF P-U-P AND WORKING WITH DATA CENTERS]: How do you help data centers understand how to gain per-unit efficiencies in terms of their IT systems? (not per unit of data delivered)

34. Has your firm conducted technical reviews of projects with incentives based on per-unit-of-production?

35. [IF YES] Have you encountered any technical review issues related to calculating savings on a per-unit-of-production basis?

    [IF YES] Please explain.

36. Have applicants or program staff ever asked you to provide any services you were unable to provide?

    IF YES: Please describe

**Program Experiences**

On that note, let's talk a bit about your experiences in the program.

37. Is there any information or resources that would help you be more effective in your role as a Technical Reviewer? [IF YES] Please explain

38. Do you have the access you need to the Industrial and Process Efficiency program databases?

    [IF NO] Please describe.

39. Has NYSERDA made it clear to technical reviewers whether they can both bring customers into the program and serve as the customer's technical reviewer?

    [IF NO] Please describe.

40. Has NYSERDA made it clear the extent to which you can assist customers in identifying the data and developing the calculations necessary to support the energy savings estimation?

    [IF NO] Please describe.

41. Has NYSERDA made it clear the extent to which you can assist customers in developing M&V plans and M&V reports?

    [IF NO] Please describe.

42. Do you feed you have current information on NYSERDA programs, procedures and current policies?

    [IF NO] Please describe.

43. Does NYSERDA communicate with the technical reviewers collectively, such as in trainings, periodic updates, or sharing lessons learned?

44. [IF NO] Do you think that would be beneficial? [IF YES] What would communication would you like to see?

    (Probe format (e.g., training, emails), content (e.g., program updates, discussion of best practices), and frequency)

45. [IF YES TO COMMUNICATION] What occurs and do you have any feedback on this, including how well it's working and suggestions?

**Program Outreach and Marketing**

46. Do you have any feedback on or suggestions regarding the program's marketing and outreach efforts? [IF YES] Please explain.

47. Does your firm collaborate or coordinate with any other utility energy efficiency programs? [IF YES] Please explain.

48. Have you run into any instances where the firm you are working with is also working with their utility on an efficiency project?

    [IF NO, SKIP TO NEXT SECTION]

49. How often has this happened?

50. Which utility or utilities?

51. What type of projects?

52. What issues, if any, arose?

53. [IF ISSUES] How did these issues get resolved?

**Opportunities for Improvement**

54. And for my final questions: Has your firm had any challenges working with the Industrial and Process Efficiency program that we have not discussed? [IF YES] Please explain.

55. What do you think are the program's strengths, or things that are working well?

56. And what do you think are its weaknesses, or things that are not working well, or challenges now facing the program?

57. Do you have any suggestions for improvement or problem areas you would like resolved that we have not yet discussed? [IF YES] Please explain.

Any final comments?

**Thank you for your time.**

# MEMORANDUM

**TO:** Kenneth Galarneau and Patricia Gonzales, NYSERDA

**FROM:** Marjorie McRae, Kara Crohn, and Ned Harris, Research Into Action

**RE:** Interview Questions – Industrial and Process Efficiency Customers

Research Into Action will pose the following questions to Industrial and Process Efficiency Customers during the third round of interviews.

## Questions for Industrial and Process Efficiency Customers – Spring 2011

I understand that your company has been working with NYSERDA's Industrial Process Efficiency program to undertake some energy efficiency improvements at your facility. My firm, Research Into Action, is working with NYSERDA to help them learn about your experiences and opportunities for better assisting you and customers like you.

Today I would like to talk with you for about 30-45 minutes about your experiences with your efficiency project that involved [*insert measures from NYSERDA database*]. We want to assure you that this interview is confidential to the extent permitted by law. We will report all responses in aggregate and will not attribute any comments to you.

**Screening Questions**

Are you familiar with this particular project?

IF YES, continue.

IF NO: Who would be the best person for me to talk with?

Name _____

Title _____

Phone _____

**Awareness**

Let us start by talking a bit about how your firm found out about the Industrial & Process Efficiency Program.

1. How did your firm learn about the program? [DO NOT READ, record verbatim, then probe to code]

- ❍ Someone at NYSERDA
- ❍ Someone at your company
- ❍ One of your contractors or vendors
- ❍ Other
- ❍ Don't know

**Satisfaction**

2. Did your firm work with a Focus Contractor? [If YES] Was that interaction helpful to your company?

3. How satisfied were you with the program? Probe: Anything else?

4. Did this project require Measurement and Verification by NYSERDA? [If no, skip the measurement and verification questions below]

5. Now, please rate your satisfaction with the following aspects of the program, using a four point scale where "1" is "very unsatisfied," "2" is "somewhat unsatisfied," "3" is "somewhat satisfied" and "4" is "very satisfied." Let me know if you have no opinion, are unsure, or the item is not applicable to you. How satisfied are you with….

| | 1 | 2 | 3 | 4 | Don't Know/ No Answer/ NA | Comments |
|---|---|---|---|---|---|---|
| The ease of the application process | ❍ | ❍ | ❍ | ❍ | ❍ | |
| Time between submitting an application and receiving a purchase order | ❍ | ❍ | ❍ | ❍ | ❍ | |
| The quality of the technical/engineering services | ❍ | ❍ | ❍ | ❍ | ❍ | |
| The timeliness of the technical/engineering services | ❍ | ❍ | ❍ | ❍ | ❍ | |
| The amount of the incentive | ❍ | ❍ | ❍ | ❍ | ❍ | |
| The timeliness of the incentive | ❍ | ❍ | ❍ | ❍ | ❍ | |
| The program staff's knowledge of the program | ❍ | ❍ | ❍ | ❍ | ❍ | |
| The program staff's ability to answer your questions | ❍ | ❍ | ❍ | ❍ | ❍ | |
| Receiving information on the status of your application | ❍ | ❍ | ❍ | ❍ | ❍ | |
| The resolution of any issues that arose during the project | ❍ | ❍ | ❍ | ❍ | ❍ | |
| And your overall program experience | ❍ | ❍ | ❍ | ❍ | ❍ | |

[For each item with a "1" or "2"] Please describe _____

6. Did you have energy savings quantified at the time of application? [IF NO] Was it a benefit to your company to have NYSERDA's Technical Reviewer calculate the energy savings for you?

7. Were the savings for this project calculated on a per-unit-of-production basis?

   a. [IF NO] Are you aware that, in addition to providing incentives for non process equipment upgrades, the Industrial and Process Efficiency program also provides incentives for process efficiency improvements (wherein energy savings are calculated on a per-unit-of-production basis)?

   b. [IF YES] Have you encountered any issues related to calculating savings on a per-unit-of-production basis? What?

c. What advantages or disadvantages do you find in this approach?

Now, I would like you to rate your experience with the Technical Reviewer. Let me know if you have no opinion or are unsure.

8. How responsive was the Technical Reviewer? Would you say … [READ RESPONSES]

- ❍ Not at all
- ❍ Somewhat
- ❍ Extremely
- ❍ No opinion; unsure

a. [IF SOMEWHAT OR NOT AT ALL] Can you elaborate?

9. How accurate was their work? Would you say … [READ RESPONSES]

- ❍ Not at all
- ❍ Somewhat
- ❍ Extremely
- ❍ No opinion; unsure

a. [IF SOMEWHAT OR NOT AT ALL] Can you elaborate?

10. Would your organization participate again in the Industrial and Process Efficiency program?

a. [If NO]: Why not? _____

11. Were there any problems or issues that come up during your project.[IF YES] Why?

**Decision Making and Efficiency**

12. [IF Q4=YES] What factors contributed to your firm's decision to undertake the process improvement project? [IF Q4=NO] What factors contributed to your firm's decision to undertake the energy efficiency project?

13. Please rate how significant each of the following factors was to your firm's decision to undertake this energy efficiency/process efficiency project. Use a rating of "1" for "not at all significant," "2" for "not very significant," "3" for "somewhat significant," and "4" for "very significant." Let me know if you have no opinion or are unsure. How significant was….

| | 1 | 2 | 3 | 4 | DK | Comments |
|---|---|---|---|---|---|---|
| Improving safety | | | | | | |
| Meeting code or regulations | | | | | | |
| Replacing failed equipment | | | | | | |
| Improving product quality | | | | | | |
| Decreasing rejection or scrap rates | | | | | | |
| Increasing production | | | | | | |
| Reducing energy costs | | | | | | |
| Providing other cost savings (like labor or O&M) | | | | | | |
| Implementing a contractor's recommendation | | | | | | |

**Decision Making**

Now I'd like to talk about your firm's decision making process.

14. Who at your firm was involved in the decision-making process? I am looking for specific people and their roles at your company. [Probe to capture names and titles/roles in company] {Record using table below}

15. For each person you identified, can you describe his/ her role in the decision? [Probe for 1) budgetary authority 2) users of the equipment 3) budget committee 4) supervisor] {Record using table below }

| Names and titles/roles in company | Role in the decision [Exs: 1) budgetary authority 2) users of the equipment 3) budget committee 4) supervisor] |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |

16. What criteria were used by these people to assess the project? [Optional to add: —such as return on investment or through put or environmental regulations] _____

17. What, if any, specific concerns or objections to the project were raised? _____

18. What, if any, input did your firm seek from NYSERDA's program representatives during the decision-making? _____

19. Were there internal timelines the decision needed to meet—such as capital budgeting?

**Program Influence**

20. You have already told me about your firm's decision to undertake the energy efficiency/process efficiency improvement. What factors contributed to your firm's decision to apply for an incentive from the Industrial and Process Efficiency program?

21. Please rate how important each of the following factors were to your firm's decision to apply for an incentive from the Industrial and Process Efficiency program, using the same four-point scale. [Use a rating of "1" for "not at all significant," "2" for "not very significant," "3" for "somewhat significant," and "4" for "very significant."]

| | 1 | 2 | 3 | 4 | DK | Comments |
|---|---|---|---|---|---|---|
| The technical expertise to quantify the energy savings | | | | | | |
| The incentive in order to get the necessary return on investment out of the project | | | | | | |
| NYSERDA's independent confirmation that the project would save energy | | | | | | |
| NYSERDA's support in order to convince upper management to fund the project | | | | | | |
| Help with measuring and verifying the results of the project | | | | | | |

22. Now I would like to understand which aspects of the NYSERDA program your organization considered to be of value for this project. I'm going to read a list of statements describing potential benefits of participating in the Industrial and Process Efficiency program. Please rank each as either a primary benefit, a secondary benefit, or not a benefit of participating.

| | Primary Benefit | Secondary Benefit | NOT a Benefit | DK | Refused |
|---|---|---|---|---|---|
| The financial incentive NYSERDA provided | | | | | |
| NYSERDA was a trustworthy and independent source of information about energy efficiency options | | | | | |
| NYSERDA staff and its contractors were available to provide support for our project | | | | | |
| NYSERDA helped ensure we implemented a quality project | | | | | |

23. BEFORE you connected with the Industrial and Process Efficiency program, how concrete were your project plans? [DO NOT READ; RECORD VERBATIM; THEN PROBE TO CODE AND CONFIRM WITH RESPONDENT]

- ❍ No plans to do anything resembling the project (1) ➔ Skip to Q 26
- ❍ General plans to solve/ address a problem (2)
- ❍ Begun to gather the relevant information, such as consulting technical experts (3)
- ❍ Created a preliminary plan, perhaps with a cost estimate (4)
- ❍ Final plan with an approved budget (5)

- ❍ Not sure (6)
- ❍ Other (7)

24. BEFORE you connected with the Industrial and Process Efficiency program, how concrete were your plans to make the project energy efficient? [DO NOT READ; RECORD VERBATIM; THEN PROBE TO CODE AND CONFIRM WITH RESPONDENT]

- ❍ General plans to pursue energy efficiency (1)
- ❍ Begun to gather information on efficiency, such as consulting technical experts (2)
- ❍ Created a preliminary plan for efficiency, perhaps with a cost estimate (3)
- ❍ Final plan for efficiency with an approved budget (4)
- ❍ Not sure (5)
- ❍ Other (6)

25. If you had NOT participated in this program, how would your plans for this project have changed, if at all? [DO NOT READ; RECORD VERBATIM; THEN PROBE TO CODE AND CONFIRM WITH RESPONDENT]

- ❍ Never come up with this project idea (1)
- ❍ Undertaken the project exactly as you're doing now (2)
- ❍ Pursued a similar project, but without the energy efficiency features (3)
- ❍ Scaled back the project in some way (4) ; Describe _____
- ❍ Postponed the project to some point in the future (5); When? _____
- ❍ Other (6)

**<u>Internal Barriers</u>**

26. What are the internal obstacles to increasing energy efficiency at your firm?

27. Please rate the following possible obstacles in terms of significance at your firm. Use a rating of "1" for "not at all," "2" for "not very," "3" for "somewhat," and "4" for "very." Let me know if you have no opinion or are unsure. How much of an obstacle was….

| | 1 | 2 | 3 | 4 | DK | Comments |
|---|---|---|---|---|---|---|
| A lack of funds for energy efficiency | | | | | | |
| Competition for funding from other projects | | | | | | |
| Unfavorable lending environment | | | | | | |
| Relevant staff not having enough time for the project | | | | | | |
| Not having staff with the right technical expertise | | | | | | |
| Not having sufficient certainty about the energy savings | | | | | | |
| Not wanting to make changes unless we have to | | | | | | |
| Not being evaluated on energy efficiency and therefore not spending much time on it | | | | | | |

**Continuous Improvement Team**

28. Do you have a continuous improvement team or something similar within your organization?

- ❍ Yes ➔Go to Q 26
- ❍ No ➔ Go to Q 28
- ❍ Don't know ➔ Go to Q28

29. What are the goals of the continuous improvement team?

30. Is energy efficiency an explicit goal for the team?

- ❍ Yes
- ❍ No
- ❍ Don't know
- ❍ Comments: _____

31. Do any other teams or job descriptions include explicit goals to pursue energy efficiency

- ❍ Yes
- ❍ No
- ❍ Don't know
- ❍ Comments: _____

**Coordination with Other Programs**

32. Have you participated in any other energy efficiency programs offered by NYSERDA, your utility or the State or Federal government? [OPEN-ENDED, RECORD VERBATIM, THEN PROBE TO CODE AND CHECK ALL THAT APPLY]

    - ❍ NYSERDA
    - ❍ Utility; Specify _____
    - ❍ State government
    - ❍ Fed government
    - ❍ No ➔ Skip to Q 34
    - ❍ Don't know ➔ Skip to Q 34

33. [IF Q32=Y] How did you decide which programs to apply to? _____

34. Does your utility offer incentives for industrial energy efficiency?

    - ❍ Yes
    - ❍ No ➔ Skip to Q 36
    - ❍ Don't know ➔ Skip to Q 36

35. Is it clear to your firm how the NYSERDA and utility programs differ and what offers you the best opportunity? [record comments]

**Opportunities for Improvement**

We are almost done. Now I would like to ask about any room for improvement.

36. Is there anything you wish would have happened differently with your project? _____

37. Is there any support NYSERDA might have provided that would have made it easier for you to obtain approval or funding for the project? _____

38. Is there anything NYSERDA should know about your firm's decision making that would help the Industrial and Process Efficiency staff better serve you and firms like yours? _____

39. What, if any, support from NYSERDA would help you to continue to improve energy efficiency at your facility? [DO NOT READ, probe to code, check all that apply]

    - ☐ Feasibility study/energy audit
    - ☐ Technical/engineering support
    - ☐ Incentives
    - ☐ Presentations to management/ stakeholders
    - ☐ Nothing
    - ☐ Other _____

40. What, if any, support from NYSERDA would help you to improve the efficiency of production processes at your facility? [DO NOT READ, probe to code, check all that apply]

- ☐ Feasibility study/energy audit
- ☐ Technical/engineering support
- ☐ Incentives
- ☐ Presentations to management/ stakeholders
- ☐ Nothing
- ☐ Other _____

41. What can NYSERDA do to strengthen its long-term relationship with your organization? _____

**Other Contacts**

42. And finally just a couple logistical questions. First, what is your job title? [DO NOT READ, probe to code, check all that apply)

- ☐ Facilities Manager
- ☐ Energy Manager
- ☐ Other facilities management/maintenance position
- ☐ Chief Financial Officer
- ☐ Other financial/administrative position
- ☐ Proprietor/Owner
- ☐ President/CEO
- ☐ Manager
- ☐ Other (Specify) ____
- ☐ Don't know
- ☐ Refused

43. Is there anyone else in your company you'd recommend we talk with – perhaps someone from management or finance who was also involved with this project?

Name _____

Title _____

Phone _____

Email _____

44. Did you hire an external contractor to work on this project that also interacted with NYSERDA? [IF YES]… Would this contractor be able to comment on the Industrial and Process Efficiency program?

IF YES: I'd be interested in speaking with him or her. Would you be willing to provide some contact information?

Name _____

Title _____

Phone _____

Email _____

45. Do you have any additional comments? Anything I forgot to ask about?

**Thank you for your time.**

# MEMORANDUM

**TO:** Kenneth Galarneau and Patricia Gonzales, NYSERDA

**FROM:** Marjorie McRae, Kara Crohn, and Ned Harris, Research Into Action

**RE:** Interview Questions – Industrial and Process Efficiency Partial Participants

Research Into Action will pose the following questions to Industrial and Process Efficiency Partial Participants during the first round of interviews.

## Questions for Industrial and Process Efficiency Partial Participants - Spring 2011

I understand that your company contacted NYSERDA's Industrial Process Efficiency program about assistance with some energy efficiency improvements at your facility, but that you did not continue with the program. My firm, Research Into Action, is working with NYSERDA to help them learn how they're doing in serving customers like you, and what they can do better.

Today I would like to talk with you for about 30-45 minutes about your efficiency project that involved [*insert measures from NYSERDA database*]. We want to assure you that this interview is confidential to the extent permitted by law. We will report all responses in aggregate and will not attribute any comments to you.

**Screening Questions**

Are you familiar with this particular project?

IF YES, continue.

IF NO: Who would be the best person for me to talk with?

Name _____

Title _____

Phone _____

**Program Experiences**

Let us start by talking about this energy efficiency project.

1. [*If not available from program database*] Tell me about the energy efficiency project(s) you had in mind when you contacted NYSERDA. [Probe for facility type, measure type]

2. How did your firm learn about the program? [DO NOT READ, record verbatim, then probe to code]

   - ❍ Someone at NYSERDA
   - ❍ Someone at your company

- ❍ One of your contractors or vendors
- ❍ Other
- ❍ Don't know

3. At what point did you contact the Industrial and Process Efficiency program?[DO NOT READ, record verbatim, then probe to code]

- ❍ Before an energy efficiency project was identified
- ❍ Upon identifying the opportunity but before technical specs started
- ❍ While technical specs were underway
- ❍ After technical specs were completed but before implementation
- ❍ While implementation was underway
- ❍ After implementation completed
- ❍ Do not know/do not remember
- ❍ Other

4. Why did you not continue working with the program?[DO NOT READ, record verbatim, probe to code]

- ❍ Project tabled due to insufficient funding from the program
- ❍ Project tabled due to insufficient funding in-house
- ❍ Funding from another source/participating in another program
- ❍ Could not comply with program M&V requirements
- ❍ Could not comply with program timeline
- ❍ Could not comply with program paperwork
- ❍ Did not receive sufficient technical assistance to estimate energy savings
- ❍ Do not know
- ❍ Other

[If Q4 = "Project tabled … " SKIP to Q6]

5. What is the current status of the energy efficiency project you originally proposed to the program? [DO NOT READ, record verbatim, then probe to code]

- ❍ Tabled indefinitely
- ❍ Has not started – uncertain start date
- ❍ Has not started – expected to start within 6 months
- ❍ Underway – expected to be complete within 6 months
- ❍ Underway – expected to be complete in over 6 months

- ❍ Complete
- ❍ Do not know
- ❍ Other

6. How far along in the program were you when you decided not to participate? [DO NOT READ, record verbatim, then probe to code]

   - ❍ Before the application was complete and submitted
   - ❍ After the application was submitted but work had not started
   - ❍ After the work had started

   [If Q6 = "After the work . . ." proceed to Q7, otherwise SKIP to Q8]

7. Tell me about why you decided not to participate at that time?

8. While you were participating, which of the following services did you receive from the program? [DO NOT READ, record verbatim, then probe to code]

   - ❍ Account management
   - ❍ Help filling out the application
   - ❍ Help calculating projected savings from proposed upgrades
   - ❍ Technical review of our application
   - ❍ None
   - ❍ Other

   [If Q8 = None, SKIP to Q10]

9. What is your opinion of the program? [open-ended]

10. Please rate your satisfaction with the following aspects of the program, using a four point scale where "1" is "very unsatisfied," "2" is "somewhat unsatisfied," "3" is "somewhat satisfied" and "4" is "very satisfied." Let me know if you have no opinion, are unsure, or the item is not applicable to you. How satisfied are you with….

| | 1 | 2 | 3 | 4 | Don't Know/ No Answer/ NA | Comments |
|---|---|---|---|---|---|---|
| The ease of the application process | | | | | | |
| Time between submitting an application and receiving a purchase order | | | | | | |
| The quality of the technical/engineering services | | | | | | |
| The timeliness of the technical/engineering services | | | | | | |
| The amount of the incentive | | | | | | |
| The timeliness of the incentive | | | | | | |
| The program staff's knowledge of the program | | | | | | |
| The program staff's ability to answer your questions | | | | | | |
| Receiving information on the status of your application | | | | | | |
| The resolution of any issues that arose during the project | | | | | | |
| And your overall program experience | | | | | | |

[For each item with a "1" or "2", if not evident from open-ended response] Please describe _____

11. It would be helpful to know if there were any services you needed that the program was not able to provide – services that would have made it possible for you to continue with the program.

[DO NOT READ, record verbatim, then probe to code]

- ❍ Feasibility study/energy audit
- ❍ Technical support to calculate energy savings
- ❍ Higher cost sharing or incentive
- ❍ Financing
- ❍ Nothing
- ❍ Other

[If Q11 = Nothing, SKIP to Q13]

12. Would you tell me a bit more about the services you needed but were not provided by the program?

**Decision Making and Efficiency**

13. What factors contributed to your firm's decision to undertake the energy efficiency project? [open-ended]

14. Please rate how significant each of the following factors was to your firm's decision to undertake this energy efficiency project. Use a rating of "1" for "not at all significant," "2" for "not very significant," "3" for "somewhat significant," and "4" for "very significant." Let me know if you have no opinion or are unsure. How significant was…..

| | 1 | 2 | 3 | 4 | DK | Comments |
|---|---|---|---|---|---|---|
| Improving safety | | | | | | |
| Meeting code or regulations | | | | | | |
| Replacing failed equipment | | | | | | |
| Improving product quality | | | | | | |
| Decreasing rejection or scrap rates | | | | | | |
| Increasing production | | | | | | |
| Reducing energy costs | | | | | | |
| Providing other cost savings (like labor or O&M) | | | | | | |
| Implementing a contractor's recommendation | | | | | | |

15. What factors contributed to your firm's decision to apply for an incentive from the Industrial and Process Efficiency program? [open ended]

16. Please rate how important each of the following factors were to your firm's decision to undertake this energy efficiency project, using the same four-point scale.

| | 1 | 2 | 3 | 4 | DK | Comments |
|---|---|---|---|---|---|---|
| The technical expertise to quantify the energy savings | | | | | | |
| The incentive in order to get the necessary return on investment out of the project | | | | | | |
| NYSERDA's independent confirmation that the project would save energy | | | | | | |
| NYSERDA's support in order to convince upper management to fund the project | | | | | | |
| Help with measuring and verifying the results of the project | | | | | | |

17. What were the internal obstacles to increasing energy efficiency at your firm? [open ended]

18. Please rate the following possible obstacles in terms of significance at your firm. Use a rating of "1" for "not at all," "2" for "not very," "3" for "somewhat," and "4" for "very." Let me know if you have no opinion or are unsure. How much of an obstacle was….

| | 1 | 2 | 3 | 4 | DK | Comments |
|---|---|---|---|---|---|---|
| A lack of funds for energy efficiency | | | | | | |
| Competition for funding from other projects | | | | | | |
| Unfavorable lending environment | | | | | | |
| Relevant staff not having enough time for the project | | | | | | |
| Not having staff with the right technical expertise | | | | | | |
| Not having sufficient certainty about the energy savings | | | | | | |
| Concern with project impacting business process | | | | | | |
| Not being evaluated on energy efficiency and therefore not spending much time on it | | | | | | |

19. Are there any other challenges to improving energy efficiency at your firm? _____

20. What about the challenges associated with participating in the Industrial and Process Efficiency program? Were there any "hurdles" that made it difficult or impossible for you to take advantage of the services and incentives?

    [DO NOT READ, record verbatim, then probe to code, check all that apply]

    - ❍ Completing the application form
    - ❍ Paperwork or reporting requirements
    - ❍ Measurement & verification requirements
    - ❍ The time it took to get the incentive payment
    - ❍ The time required by your staff
    - ❍ Getting funding for the project costs
    - ❍ Finding out about the program and learning what it would pay for
    - ❍ Getting comfortable sharing confidential data with NYSERDA
    - ❍ Identifying technical experts to help improve the efficiency of manufacturing/data processes
    - ❍ Other; Describe: _____

**<u>Continuous Improvement Team</u>**

21. Do you have a continuous improvement team or something similar within your organization? [DO NOT READ, record verbatim, then probe to code]

    - ❍ Yes ➔Go to Q 22
    - ❍ No ➔ Go to Q 24
    - ❍ Don't know ➔ Go to Q 24

22. Is energy efficiency an explicit goal for the team? [DO NOT READ, record verbatim, then probe to code]

- ❍ Yes ➔Go to Q 24
- ❍ No
- ❍ Don't know

23. Does any team or job description include an explicit goal to pursue energy efficiency?

- ❍ Yes
- ❍ No
- ❍ Don't know

**Coordination with Other Programs**

24. Are you participating in any other energy efficiency programs offered by NYSERDA, your utility or the State or Federal government? [DO NOT READ; record verbatim, then probe to code; CHECK ALL THAT APPLY]

- ❍ NYSERDA
- ❍ Utility; Specify _____
- ❍ State government
- ❍ Fed government
- ❍ No ➔ Skip to Q 27
- ❍ Don't know ➔ Skip to Q 27

25. How did you decide which programs to apply to?

26. Please describe your experience working with multiple programs at the same time. _____

**Opportunities for Improvement**

We are almost done. Now I would like to ask about any room for improvement.

27. What can NYSERDA do to strengthen its long-term relationship with your organization?

28. Would you consider working with the Industrial and Process Efficiency program in the future on energy efficiency projects? [If respondent answers "No" or seems unsure, probe for reasons.]

29. Any final comments – anything you think I should know about your experience with this program?

**Thank you for your time.**

# MEMORANDUM

**TO:** Kenneth Galarneau and Patricia Gonzales, NYSERDA

**FROM:** Marjorie McRae, Kara Crohn and Ned Harris, Research Into Action

**RE:** Interview Questions – Industrial and Process Efficiency Program Participants' Contractors

Research Into Action will pose the following questions to customers' contractors during the third round of interviews.

## Questions for Industrial and Process Efficiency Participants' Contractors – Spring 2011

I understand that your client, [name], has been working with NYSERDA's Industrial Process Efficiency program, to undertake some energy efficiency improvements at its facility. My firm, Research Into Action, is working with NYSERDA to help them learn how they are doing in serving applicants like you, and what they can do better.

Today I would like to talk with you for 30 to 45 minutes about your experiences with your efficiency project that involved [insert measures from NYSERDA database]. We want to assure you that this interview is confidential to the extent permitted by law. We will report all responses in aggregate and will not attribute any comments to you.

**Screening Questions**

1. Are you familiar with this particular project?

   IF YES, continue.

   IF NO: Who would be the best person for me to talk with?

   - ❍ Name _____
   - ❍ Title _____
   - ❍ Phone _____

**Program Experiences**

Let us start by talking a bit about how your project experience with the Industrial & Process Efficiency program.

2. Can you talk a little about how the Industrial and Process Efficiency program figures into your business strategy?

   a. Does your company suggest Industrial and Process Efficiency participation to your customers, or do you wait for them to express an interest in it?

   b. What do you tell your customers about the benefits of participating in Industrial and Process Efficiency ?

3. Are you aware that the Industrial and Process Efficiency program provides incentives for improving the efficiency of production processes (process efficiency incentives)?

a. [IF YES] When marketing Industrial and Process Efficiency incentives (as part of selling your goods and services), how does your marketing approach differ when marketing Industrial and Process Efficiency process efficiency incentives versus marketing non-process equipment upgrades? Why?

4. Do you feel comfortable with the process of applying for incentives based on per-unit-of-production energy savings?

b. Are such savings relevant to your customers?

5. About what percent of all your current projects are participating in the Industrial and Process Efficiency program? [note if percentage is by number of projects or dollar volume]

6. For how long has your firm been aware that NYSERDA offers energy efficiency incentives to industrial customers?

7. How satisfied have you been with your program experiences?

8. Now, please rate your satisfaction with the following elements of the program on a scale of 1 to 4, where 1 is "very unsatisfied," and "2 is "somewhat unsatisfied," 3 is "somewhat satisfied," and 4 is "very satisfied." If you did not receive this service, you can say "not applicable" or "N/A."

| | **1** | **2** | **3** | **4** | **Don't Know/ No Answer/ NA** | **Comments** |
|---|---|---|---|---|---|---|
| The ease of completing the application | ❍ | ❍ | ❍ | ❍ | ❍ | |
| Time between submitting an application and receiving a purchase order | ❍ | ❍ | ❍ | ❍ | ❍ | |
| The quality of the technical/engineering services | ❍ | ❍ | ❍ | ❍ | ❍ | |
| The timeliness of the technical/engineering services | ❍ | ❍ | ❍ | ❍ | ❍ | |
| The amount of the incentive | ❍ | ❍ | ❍ | ❍ | ❍ | |
| The timeliness of the incentive | ❍ | ❍ | ❍ | ❍ | ❍ | |
| The ease of the application process | ❍ | ❍ | ❍ | ❍ | ❍ | |
| The program staff's knowledge of the program | ❍ | ❍ | ❍ | ❍ | ❍ | |
| The program staff's ability to answer your questions | ❍ | ❍ | ❍ | ❍ | ❍ | |
| Receiving information on the status of your application | ❍ | ❍ | ❍ | ❍ | ❍ | |
| The resolution of any issues that arose during the project | ❍ | ❍ | ❍ | ❍ | ❍ | |
| And your overall program experience | ❍ | ❍ | ❍ | ❍ | ❍ | |

a. [If not clear from open-ended reasons for any response of 1 or 2] Please describe why you said _____?

b. [If endorsed "timeliness," ask:] What do you think would be reasonable turn-around times for the different project phases?

c. [If endorsed "not knowing the status," ask:] What status updates would you have wanted to have? _____

9. Considering comparable projects from the past six months with those in the year previous to that, would you say that the length of time it takes from submittal of application to receipt of incentive has...

- Gotten better
- Stayed about the same
- Gotten worse
- [not applicable; only recent experience]
- Comments: _____

10. Considering overall program experiences, exclusive of project duration, and comparing the last six months with the year previous to that, would you say that program processes have...

- Gotten better
- Stayed about the same
- Gotten worse
- [not applicable; only recent experience]
- Comments: _____

11. How has participating in the Industrial and Process Efficiency program benefited your client? [Record verbatim, then probe to code]

❍ Improved technical/engineering ability

❍ Incentive allowed them to get project approval

❍ Project funded by NYSERDA increased production/reduced costs

❍ No benefits

❍ Other _____

12. How has participating in the Industrial and Process Efficiency program benefited you and your firm? [Record verbatim, then probe to code]

❍ Improved technical/engineering ability

❍ Helps them get more business

❍ No benefits

❍ Other _____

13. What, if any, support from NYSERDA would help you to continue to improve energy efficiency at your clients' facilities? [Record verbatim, then probe to code]

❍ Feasibility study/energy audit

❍ Technical/engineering support

❍ Incentives

❍ Nothing

❍ Other _____

14. What, if any, support from NYSERDA would help you to improve the efficiency of production processes at your clients' facilities?

[DO NOT READ, probe to code, check all that apply]

- ❍ Feasibility study/energy audit
- ❍ Technical/engineering support
- ❍ Incentives
- ❍ Presentations to management/ stakeholders
- ❍ Nothing
- ❍ Other _____

**Decision Making and Efficiency**

15. What factors contributed to your client's decision to undertake this energy efficiency/process efficiency project?

16. Please rate how significant each of the following factors was to your client's decision to undertake this energy efficiency/process efficiency project. Use a rating of "1" for "not at all significant," "2" for "not very significant," "3" for "somewhat significant," and "4" for "very significant." Let me know if you have no opinion or are unsure. How significant was…..

| | 1 | 2 | 3 | 4 | DK | Comments |
|---|---|---|---|---|---|---|
| Improving safety | | | | | | |
| Meeting code or regulations | | | | | | |
| Replacing failed equipment | | | | | | |
| Improving product quality | | | | | | |
| Decreasing rejection or scrap rates | | | | | | |
| Increasing production | | | | | | |
| Reducing energy costs | | | | | | |
| Providing other cost savings (like labor or O&M) | | | | | | |
| Implementing your recommendation | | | | | | |
| Implementing a NYSERDA recommendation | | | | | | |
| Implementing a recommendation from a technical study | | | | | | |
| Taking advantage of the incentive or cost-sharing opportunity provided by NYSERDA | | | | | | |
| This company is always trying to improve energy efficiency, so this project fit with their "business as usual" practices | | | | | | |

17. You have already told me about your client's decision to undertake the energy efficiency/process efficiency project. What factors contributed to your client's decision to apply for an incentive from the Industrial and Process Efficiency program?

18. Please rate how important each of the following factors were to your client's decision to undertake this Industrial and Process Efficiency project, using the same four-point scale, plus don't know. How significant was…..

| | 1 | 2 | 3 | 4 | DK | Comments |
|---|---|---|---|---|---|---|
| The technical expertise to quantify the energy savings | | | | | | |
| The incentive in order to get the necessary return on investment out of the project | | | | | | |
| NYSERDA's support in order to convince upper management to fund the project | | | | | | |
| Help with measuring and verifying the results of the project | | | | | | |

19. What do your clients most frequently mention as being the internal obstacles to increasing energy efficiency at their firms?

20. Now please rate the frequency with which your clients mention the following issues as being obstacles to increasing energy efficiency at their firms. Use a rating of "1" for "not at all frequently," "2" for "not very frequently," "3" for "somewhat frequently," and "4" for "very frequently." Let me know if you have no opinion or are unsure. How frequently do you clients mention…

| | 1 | 2 | 3 | 4 | DK | Comments |
|---|---|---|---|---|---|---|
| A lack of funds for energy efficiency | | | | | | |
| Competition for funding from other projects | | | | | | |
| Unfavorable lending environment | | | | | | |
| Relevant staff not having enough time for the project | | | | | | |
| Not having staff with the right technical expertise | | | | | | |
| Not having sufficient certainty about the energy savings | | | | | | |
| Not wanting to make changes unless they have to | | | | | | |
| Not being judged on energy efficiency and therefore not spending much time on it | | | | | | |

Are there any other challenges to increasing energy efficiency at your clients' firms?

_____

21. Do you work with the staff at your clients' firms that are involved in making decisions about improvements to their production processes, or do you work mostly with facility staff? [record comments]

22. Are the obstacles to improving the efficiency of production processes different than the obstacles to improving energy efficiency, generally, at your clients' firms? [IF YES] How?

23. What about the challenges to participating in the Industrial and Process Efficiency program? Were there any "hurdles" you and your client had to get over to take advantage of the services and incentives? [DO NOT READ, record verbatim, then probe to code]

- ❍ Completing the application form
- ❍ Paperwork or reporting requirements
- ❍ Measurement & verification requirements
- ❍ The time it took to get the incentive payment
- ❍ The time required by your staff
- ❍ Getting funding for the project costs
- ❍ Finding out about the program and learning what it would pay for
- ❍ Getting comfortable sharing confidential data with NYSERDA
- ❍ Other _____

24. Were the project savings calculated on a per-unit-of-production basis?

    a. [IF YES] Have you encountered any issues related to calculating savings on a per-unit-of-production basis?

    b. What advantages or disadvantages do you find in this approach?

**Coordination with Other Programs**

25. Are you working with industrial clients who are participating in any other energy efficiency programs offered by NYSERDA, utilities or the State or Federal government? [DO NOT READ, record verbatim, then probe to code]

    - ❍ NYSERDA
    - ❍ Utility
    - ❍ State government
    - ❍ Fed government
    - ❍ No➔skip to Q27
    - ❍ Don't know➔skip to Q27

26. How did your client decide which programs to apply to?

27. Does your utility offer incentives for industrial energy efficiency?

    - ❍ Yes
    - ❍ No ➔ Skip to Q 29
    - ❍ Don't know ➔ Skip to Q29

28. Is it clear to your firm how the NYSERDA and utility programs differ and what offers you the best opportunity? [record comments]

**Opportunities for Improvement**

29. What might NYSERDA do to better support energy-efficiency in your industry?

30. Is there anything you wish would have happened differently with this project?

31. Can you think of any information or assistance that NYSERDA could have provided that would have made it easier for your client to obtain approval or funding for the project?

32. And finally, what is your job title? [DO NOT READ, probe to code)

- ❍ Engineer
- ❍ Energy Manager
- ❍ Proprietor/Owner
- ❍ President/CEO
- ❍ Manager
- ❍ Other (Specify) ____
- ❍ Don't know
- ❍ Refused

**Thank you for your time.**