PROCESS EVALUATION

Industrial and Process Efficiency (IPE) Program

Final Interim Report (Wave 2 of 3)

Prepared for
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ABSTRACT

This interim report provides the results of the second phase of a three-phase process evaluation of NYSERDA's Industrial and Process Efficiency (IPE) Program, a Fast Track program that provides performance-based incentives for energy efficiency improvements to processes, support systems, and facilities. The IPE program offers integrated gas and electric incentive funding through its Existing Facilities and New Construction solicitations for simpler one-stop access by ratepayers and service providers. The second-wave research included in-depth interviews with 11 NYSERDA program staff (all of whom also work on other programs and three of which currently spend only a small proportion of their time on IPE), 6 Technical Reviewers (consultants to NYSERDA), 3 Focus Contractors (consultants supporting program outreach to customers, service providers, and stakeholders), and 3 DOE-funded Contractors (consultants leveraging U.S. Department of Energy grant funding and existing relationships with industrial customers to support program outreach).

Program savings acquisition has not occurred at a rate to meet program goals, a situation that reflects the deep recession the economy entered in late 2008. Nonetheless, the program has acquired some very large projects, both non-process and process efficiency. Program staff generally agreed that the key account management approach has demonstrated success in securing large and/or multiple IPE projects with firms, especially among large industrial firms. The majority of data center IPE projects were initiated by medium-sized data center firms. Staff said customers appreciated having a single point of contact, instead of the previous approach, which required industrial firms to work with several NYSERDA project managers for various projects.

Technical Reviewers have kept pace with demand and have been providing services respected and valued by program staff. The activities of Focus Contractors and DOE-funded contractors appear to be successful in creating program awareness and generating project applications.

Program staff and contractors reported project delays due to unsuccessful transitions between successive parties (staff and contractors) with different responsibilities, difficulties in tracking project progress across multiple databases, inefficient processes, such as a need for paper signatures and duplicative data entry, and a perceived lack of NYSERDA staff at the time of this research in relation to program needs, especially a lack of administrative staff.

Conclusions and recommendations are offered regarding the expediting paperwork processing (minimizing processing delays) in both the near term and longer term, further facilitating the key account management approach, identifying the population of eligible firms and targeting firms within the population, and pursuing process and non-process projects.

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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 (IPE), 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 customers access to IPE under these solicitations to provide simpler, one-stop-access by ratepayers and service providers. In addition to providing incentives for projects with net energy savings, IPE also has a performance-based incentive for projects that improve energy use per unit of production.

The purpose of the IPE process evaluation is to assess the effectiveness of the program's outreach/marketing and operational processes, document program progress, and make recommendations for improvement. Research Into Action, Inc. completed the first of three waves in June 2010. The third wave of data collection is scheduled to begin in late spring 2011, with a final report due in fall 2011. The second-wave research included in-depth interviews with 11 NYSERDA program staff (all of whom also work on other programs and three of which currently spend only a small proportion of their time on IPE), 6 Technical Reviewers (consultants to NYSERDA), 3 Focus Contractors (consultants supporting program outreach to customers, service providers, and stakeholders), and 3 DOE-funded Contractors (consultants leveraging U.S. Department of Energy grant funding and existing relationships with industrial customers to support program outreach).

SUMMARY OF FINDINGS

Program savings acquisition has not occurred at a rate to meet program goals, a situation that reflects the deep recession the economy entered in late 2008. Nonetheless, the program has acquired some very large projects, both non-process and process efficiency.

Program staff generally agreed that the key account management approach has demonstrated success in securing large and/or multiple IPE projects with firms, especially among large industrial firms. The majority of data center IPE projects were initiated by medium-sized data center firms. Staff said customers appreciated having a single point of contact, instead of the previous approach, which required industrial firms to work with several NYSERDA project managers for various projects.

Technical Reviewers have kept pace with demand and have been providing services respected and valued by program staff. The activities of Focus Contractors and DOE-funded contractors appear to be successful in creating program awareness and generating project applications.

Program staff and contractors reported project delays due to unsuccessful transitions between successive parties (staff and contractors) with different responsibilities, difficulties in tracking project progress across multiple databases, inefficient processes, such as a need for paper signatures and duplicative data entry, and a perceived lack of NYSERDA staff at the time of this research in relation to program needs, especially a lack of administrative staff.

CONCLUSIONS AND RECOMMENDATIONS

Processing Delays

***Conclusion*:** Both wave 1 and wave 2 research revealed frequent project processing delays, which in some cases resulted in projects that interviewed IPE staff and contractors described as having languished for months and in a few cases resulted in applicants terminating their projects. Project processing delays have the potential to damage the reputation of the IPE program, thereby dissuading industrial customers from risking the upfront investment and effort necessary to participate in the program.

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 IPE administrative staffing levels.

> ***Recommendation*:** To expedite paperwork processing *in the near term*, NYSERDA should immediately seek to develop a system to monitor each project more closely, identify needed next steps by the appropriate party or parties, and flag delays. In addition, NYSERDA should pursue opportunities to switch from paper to electronic sign-offs, reduce the extent of redundant data entry across databases, and consider hiring additional administrative staff to assist with project processing.
>
> In addition to these efforts, NYSERDA should pursue its plans to address project-processing delays more *comprehensively*, by developing a single database that would enable NYSERDA staff members to access relevant information for all NYSERDA programs.

Key Account Approach

***Conclusion*:** The key account management approach, when implemented as designed, appears to be an effective program outreach method. In contrast, key account management does not work well when IPE staff considers their role to be reactive, responding to issues as they arise. In some cases, staffs' "reactive" approach appears to be related to a lack of available time. Staff frequently reported that managing existing IPE responsibilities, as well as their program responsibilities associated with other NYSERDA programs, reduces the time available for staff to conduct outreach and interact with customers in support of project identification. Staff members' lack of time is exacerbated by paperwork processing approaches and multiple databases, and may indicate sub-optimal staffing levels, especially administrative staffing levels.

> ***Recommendation 1**:* Promote additional training and communication to staff on the key account management approach, emphasizing how to build relationships between NYSERDA and customers that become more sophisticated as trust is built, project savings are demonstrated, and awareness of efficiency opportunities increases. Discussions should review efforts – and their outcomes – to create interest in process projects among participant organizations with non-process projects.

Recommendation 2: NYSERDA should seek to improve paperwork-processing procedures and/or hire additional administrative staff in order to reduce IPE staffs' administrative burden, thereby increasing the amount of time available for staff to implement key account management as designed.

Targeting Firms

Conclusion: Targeting tier one (large kW) industrial firms appears to be an effective approach to securing large industrial IPE projects. In contrast, most IPE projects initiated by data centers have emerged from medium-sized data firms. Considering such factors as firms' hours of operation, capital plans, level of interest in energy efficiency and sustainability initiatives, and NAICS code classifications appear to provide enhanced methods to designate firms for prioritized outreach.

Recommendation: When targeting industrial firms, NYSERDA should continue to pursue tier one firms first. For data centers, NYSERDA should articulate and document its strategy for identifying facilities with the most potential and conducting research to identify program needs and barriers among those firms; it may decide that tier is not important for this sector. For both sectors, articulated strategies will support a subsequent assessment of strategy success and need for modification. When designating firms for prioritized outreach in either sector, NYSERDA should consider firms' hours of operation, capital plans, level of interest in energy efficiency and sustainability initiatives, square footage, and other relevant factors. Additionally, NYSERDA should augment lists which classify industrial customers using NAICS codes to include evidence of plant capacity constraints from the Survey of Plant Capacity Utilization. Firms classified under NAICS codes reporting high capacity utilization rates should be prioritized for targeted outreach concerning IPE process efficiency incentives.

Identifying the Population of Eligible Firms

Conclusion: Targeting good candidates is the second step in an outreach strategy whose first step is identifying the eligible population. NYSERDA lacks a comprehensive list of IPE-eligible industrial customers and must create such a list through market research. NYSERDA staff and its contractors are working to develop such a list.

Recommendation: NYSERDA might augment its current efforts by joining professional and trade associations serving industrial firms in addition to those its Focus Contractors have access to and seeking information from professionals involved in job placement activities, such as at the BOCES, colleges and universities, and the state employment office.

Process and Non-Process Projects

Conclusion: During wave-one interviews, staff contacts predicted that the highest energy saving IPE projects would be process efficiency projects. In contrast, the process team's analysis of IPE projects in all stages (installed, encumbered, and not yet encumbered) and listing EEPS as the funding source in NYSERDA's Buildings Portal database as of October 19, 2010, showed that *non-process projects* were projected to deliver both most of the largest kWh-saving IPE projects and the majority of overall program kWh savings (76 percent).

Recommendation 1: NYSERDA should continue to pursue process efficiency projects, but not at the expense of conducting program marketing towards enrollment of non-process projects. NYSERDA should continue to monitor the short- and long-term potential kWh savings gains of process versus non-process projects and structure IPE outreach strategies accordingly.

Recommendation 2: NYSERDA should continue to market NYSERDA incentives for non-process equipment upgrades to firms' facilities directors and executives. When working to secure process efficiency IPE projects, outreach staff should conduct targeted outreach to people in charge of production lines and revenue-generating projects, such as process engineers, as well as members of continuous

improvement teams and those in division- and C-level positions who can weigh the costs and benefits of making energy efficiency improvements that impact production capability.

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.

The **Industrial and Process Efficiency** Program (IPE), 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 and New Construction Program Opportunity Notices (PONs). NYSERDA offers customers access to IPE under these solicitations to provide simpler, one-stop-access by ratepayers and service providers. In addition to providing incentives for projects with net energy savings, IPE also has a performance-based incentive for projects that improve energy use per unit of production.[1]

This interim report documents the second wave of a process evaluation of IPE that seeks to assess the effectiveness of the program's outreach/marketing and operational processes, document program progress, and make recommendations for improvement. Research Into Action, Inc. completed the first of three waves in June 2010. The third wave of data collection is scheduled to begin in late spring 2011, with a final report due in fall 2011.

1.1 EVALUATION METHODOLOGY

To collect information for this second wave, the process evaluation team developed semi-structured interview guides for the four key groups involved in the program: program staff members, Technical Reviewers, Focus Contractors, and DOE-funded contractors. The NYSERDA evaluation manager reviewed and approved the interview guides prior to implementation. The process team conducted in-depth interviews with representatives of each of these four groups between August 19, 2010, and October 20, 2010.

[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.

1.1.1 Program Staff Sample

NYSERDA identified 11 NYSERDA staff members with assigned IPE responsibilities at the time of the research. All of the staff also administer other NYSERDA programs. Two of the 11 staff provide program oversight. Six staff manage over 90% of the program's projects. The three remaining staff currently have few assigned IPE projects and spend almost all their time on other NYSERDA programs. The process evaluation team spoke with each of the 11 staff members about their experiences with the program, the lessons they have learned, and their suggestions for program improvement.

1.1.2 Technical Reviewers Sample

Six firms had contracts with NYSERDA to serve as IPE project Technical Reviewers. The process evaluation team interviewed representatives from each of the six firms about their quality assurance and program implementation efforts.

1.1.3 Focus Contractor Sample

At the time of the evaluation, there were three firms working as Focus Contractors for the program. The process evaluation team interviewed representatives from each of the three about their outreach, customer support, and contact list development activities.

1.1.4 DOE Contractor sample

At the time of the evaluation, there were three key organizations receiving funding from the U.S. Department of Energy (DOE) to promote the IPE program by leveraging their current roles as advisors to their member organizations on energy-related issues. The process evaluation team interviewed representatives from each of the three organizations about their outreach and program support activities.

SECTION 2:

PROGRAM DESCRIPTION, EVOLUTION AND CURRENT STATUS

This section provides a brief description of the IPE program and changes to the program since the wave-one research.

2.1 PROGRAM DESCRIPTION

NYSERDA designed the IPE 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 IPE Projects May Enter

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

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 the NYSERDA website.

Applicants are eligible for incentives of up to $5,000,000 per facility, not to exceed 50% 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.[2] NYSERDA's Technical Reviewers create a project-specific M&V plan in collaboration with the applicant. NYSERDA pays 60% 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 require the following:

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

- A facility representative, or contractor acting on their behalf, submits an application.[3]
- 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 IPE incentive to gain energy efficiency in the projects they pursue.

As IPE 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.

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 Contractors include trade associations, universities, and other stakeholders who seek to leverage their current roles as advisors to their member organizations and clientele on energy-related issues to promote the IPE program and to further develop contact lists of potential customers.

2.2 RECENT CHANGES

Recent programmatic changes include:

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[3] Applications must be submitted either before or within 90 days after approval of the contract for the project. Applicants must allow NYSERDA to conduct a site visit before the project begins.

- The program recently increased natural gas savings goals from 1,081,940 MMBtu to 1,682,265 MMBtu.
- Incentives are now available for energy savings resulting from Operations & 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% of the project cost).
- Previously, if customers wished to include engineering costs within their summation of total project costs, they were required to use external contractors; the program now allows internal labor to account for up to 25 percent of project cost.

2.3 STATUS: EXPECTED SAVINGS

Program documentation specifies that the program is expected to save approximately 840 million kWh from projects completed between 2009 and 2013.[4] Although the program cycle extends through December 31, 2012, customers must enroll in the program by December 31, 2011. During the final year of the program cycle (2012), staff will focus on assisting customers with completion of project installation and approval processes. Interviewed program staff agreed unanimously that the savings goals associated with the IPE program and the timeline designated to achieve the goals are ambitious.

As of September of 2010, program staff reported having encumbered funds for IPE projects that, when competed, are expected by staff to generate approximately 100 million gross kWh savings annually; this equates to staff having encumbered funds for IPE projects at an average rate of 11 million (projected) gross kWh for each month between January and September of 2010. Program staff explained that, for each month in the October 2010 to December 2011 period, staff must secure projects equating to close to five times the average (projected) gross savings secured during the preceding nine months to meet program kWh savings goals.

Staff reported that the program includes the goal to generate 1,682,265 MMBtu natural gas savings. As of September 2010, staff reported having installed or encumbered 3 percent of IPE incentive funds for natural gas IPE projects that, when competed, are expected to generate 50,468 MMBtu gross natural gas savings.

Multiple staff contacts expressed doubts that the program would meet its kWh savings goals. According to one staff contact, the program is “not ramping up as fast as our ambitious expectations.” The contact attributed the program’s ambitious kWh savings goals to the fact that the goals were developed prior to the recent economic recession. This person further explained that the current economic conditions have made it more difficult for firms to secure capital and have prompted many industrial firms to scale back their operations. This person expressed the view that program performance should be considered within the context of these economic changes.

Government statistics describe an ongoing recession, marked by many firms scaling back their operations: during Q1 2008 and Q1 and Q2 2009, business investment dropped at annual rates of 24 percent, 50 percent, and 24 percent, respectively.[5] Data from the 2010 US Census indicate the value of private nonresidential construction put in place (seasonally adjusted annual rate) fell by 39 percent from October 2008 to July 2010.[6] However, as of Q1 of 2010 government statistics reveal that profits recovered 87 percent. Historically, such economic recoveries have

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[4] Excerpted from NYSERDA document titled: “Energy Efficiency Portfolio Standard (EEPS) Industrial & Process Efficiency Program Outreach, Education, and Marketing Plan” dated October 9, 2009. A final version of this document was approved by the Department of Public Service on March 1, 2010.

[5] Robert J. Samuelson, “Why CEOs Aren't Hiring,” *The Washington Post*, 26 July 2010.

[6] US Census Bureau website page - Construction Spending

typically resulted in large scale hiring and investment increases. However, historic patterns appear to be changing and increased investment and hiring have yet to occur.[7]

Similarly, economists have historically 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.[8] Although Q2 2010 results from the U.S. Census Bureau's *Quarterly Survey of Plant Capacity Utilization* reveal that industrial capacity utilization rates have increased steadily since Q2 2009 and that some industrial subsectors are currently using a high proportion of their existing capacity,[9] many of the firms may be awaiting a more favorable lending environment to move forward with major new capital capacity investments.

2.4 STATUS: ENROLLING LARGE PROJECTS

During wave-one 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. Based on an analysis of cases from a February 3, 2010 extract of 170 projects from the Buildings Portal database, the evaluation team supported staff's view regarding the relative importance of enrolling a higher proportion of process efficiency projects, as these projects saved on average three-and-a-half times the kWh savings of non-process projects.[10]

A similar analysis of all projects in NYSERDA's Buildings Portal database as of October 19, 2010 shows that, since February, the share of total projects comprised by process efficiency has increased by one-fifth, from 9% to 11%. On average, process projects enrolled as of October were projected to generate about two-and-a-half times the kWh savings of non-process projects. [11] The largest non-process project is projected to generate about 15% more savings of the largest process efficiency project (29,032 MWh versus 24,770 MWh). These findings are consistent with views expressed by staff during wave-two interviews, which noted large projected savings from *both* process efficiency and non-process industrial projects.

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[7] Samuelson op.cit.

[8] Elliot, Neal R., Shipley, Anna Monis, and McKinney, Vanessa. Trends in Industrial Investment Decision Making, *American Council for an Energy Efficient Economy* (ACEEE), September 2008. Internet source: American Council for an Energy-Efficient Economy website

[9] US Census Bureau website page with Quarterly Survey of Plant Capacity Utilization results

[10] 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, 6 of which (9 percent) were designated process efficiency projects and 61 were designated non-process projects. Savings for the 6 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).

[11] Source: The February 3, 2010 extract of 170 projects described in the previous footnote, compared with a similarly defined October 19, 2010 extract of 453 projects. Analysis was limited to the cases containing kWh saving information (67 and 287, respectively). In the October extract, subsequently updated by IPE staff to correct the miscategorization of one very large process project, 33 projects (11 percent of 287) were designated as process, saving an average of 1,941.1 MWh. The 254 non-process projects generated average savings of 794.5 MWh.

As shown in Table 2-2, as of October 2010, non-process projects are projected to deliver 76 percent – and process efficiency projects are projected to deliver 24 percent – of total program kWh savings to date.[12] These findings suggest that NYSERDA should continue to pursue process efficiency projects, but not at the expense of conducting program marketing towards enrollment of non-process projects, since non-process projects are projected to deliver both the largest proportion of kWh savings and most of the largest kWh-saving IPE projects.

Table 2-2: Projected Annual Gross kWh Savings and Percentage of Total Projected Program kWh Savings by Measure Category, as of October 19, 2010 (N=287)

Measure Category	Projected Annual kWh Savings	Percentage of Total Projected Program kWh Savings
Non-Process Equipment Upgrades		
Industrial Non-Process Equipment Upgrades	196,197,543	73.8%
Data Center Non-Process Equipment Upgrades	5,610,728	2.1%
Non-Process Equipment Upgrades (Subtotal)	*201,808,271*	*75.9%*
Process Efficiency Improvements		
Industrial Process Efficiency Improvements	39,107,833	14.7%
Data Center Process Efficiency Improvements	24,949,136	9.4%
Process Efficiency Improvements (Subtotal)	*64,056,969*	*24.1%*
GRAND TOTAL	**265,865,240**	**100%**

[12] Source: The October 19, 2010 extract, revised to correct an error, described in the previous footnote.

SECTION 3:

PROGRAM SUCCESSES: OUTREACH AND TECHNICAL SUPPORT

This wave-two research has found program successes relating to outreach and technical support services.

3.1 IPE STAFF OUTREACH

IPE staff's program outreach consists primarily of a key account management approach – providing proactive assistance and a single point of contact for firms with the largest potential energy savings. During wave-two interviews, program staff generally agreed that the key account management approach has demonstrated success in securing large and/or multiple IPE projects with firms. Staff said customers appreciated having a single point of contact, instead of the previous approach, which required industrial firms to work with several NYSERDA project managers for various projects. According to one program staff contact, "The largest IPE projects are coming from large customers, so our strategy of working closely with the large customers [the key account approach] is a good one."

While the approach works well for developing large and additional projects with customers with whom NYSERDA has established a relationship, staff report the approach itself does not address the challenge of attracting new customers to the program. 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 Intervenors (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. In general, program staff, Technical Reviewers, and Focus Contractors considered these outreach approaches successful.

The key account management successes have been with what program staff characterizes as "tier one" industrial firms – the firms NYSERDA's market research has identified as the firms in the state with the largest kW demand.[13]

In contrast to the approach taken with industrial customers, program staff working with data centers do not distinguish between tier one (large) and tier two (medium) firms in their activities. Noting that the majority of data center IPE projects were initiated by medium-sized data center firms, one staff contact questioned the efficacy of targeting large data center firms. Regarding the lack of IPE 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."

3.2 TECHNICAL REVIEWER PROGRAM SUPPORT

In general, Technical Reviewers reported that they possessed the technical expertise necessary to complete IPE quality assurance and implementation responsibilities, consistent with the program staff's unanimous report that the quality of technical assistance provided by the Technical Reviewers is high. Additionally, the Technical Reviewers unanimously reported excellent support from NYSERDA program staff.

[13] IPE customer contact lists are divided into three "tiers" based on each firms' energy use. Tier one accounts are typically above 2 MW, tier two accounts are typically between 500kW-2MW, and tier three accounts are typically below 500 kW.

3.3 FOCUS CONTRACTOR OUTREACH

Program staff contacts said that Focus Contractors targeting the industrial sector support the program by conducting outreach to tier-one industrial firms that have not yet been targeted by IPE staff, and providing a single point of contact for those firms that engage with the program. Staff reported that Focus Contractors conduct 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 is a lower priority.

Consistent with program staff's approach to data center outreach, Focus Contractors working with data centers do not distinguish between tier one and tier two firms in their outreach activities. Instead, the 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.

Like NYSERDA Project Managers, Focus Contractors also 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. In general, Focus Contractors considered these activities successful.

Regarding Focus Contractor outreach, one Focus Contractor contact commented, "It's going very well; both we and NYSERDA are excited about our level of engagement and the amount of traction we've been getting." Similarly, program staff unanimously reported satisfaction with the activities of the Focus Contractors. 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."

3.4 DOE CONTRACTOR OUTREACH

The IPE program received a $900,000 grant from DOE for additional program outreach. NYSERDA signed contracts with trade associations, universities, and other stakeholders to leverage their current roles as advisors to their member organizations on energy-related issues to promote the IPE program. The three primary organizations that are coordinating work funded by the DOE grant are Couch White, LLP (a legal firm and general counsel to MI), MACNY, and Antares Group (an engineering and development firm).

MI conducts program outreach to its member base through its law firm: Couch White. Couch White presents program information to MI's member base via email, conventional mail and during informational sessions held at MI's quarterly and annual meetings. MI is unique among the three primary organizations coordinating work funded by the DOE grant, in that it passes the DOE grant funding along to MI members that participate in IPE, rather than retaining it.

MACNY conducts outreach to its member base through phone conversations, in-person conversations, email blasts, conventional mailings, and member events. IPE staff noted that, among the three organizations, MACNY has worked most closely with NYSERDA to coordinate its outreach efforts. For example, MACNY attended the first annual meeting with Focus Contractors to discuss coordinated outreach. Additionally, MACNY frequently includes NYSERDA Key Account Managers and/or Focus Contractors in its meetings with customers.

In addition to providing program outreach, Antares Group acts as 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.

Additionally, Antares staff reported ongoing 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 IPE 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, the contacts noted that the remaining DOE funds supporting the outreach is limited.

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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 that 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-one 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-one interviews revealed that most of the contractors were unaware that the program provides incentives for process efficiency improvements. Consequently, the contractors were not leveraging IPE process efficiency incentives to market their goods and services.

SECTION 4:

NEW AND ONGOING PROGRAM DEVELOPMENT ISSUES

This section addresses issues facing the program, both issues newly identified through the wave-two research and issues identified in wave one that continue to challenge the program.

4.1 COORDINATION WITH OTHER UTILITY PROGRAMS

According to program staff members, all six investor-owned utilities that intersect with NYSERDA's service territory were approved to offer large industrial and/or data center programs that overlapped with the NYSERDA IPE program.[17]

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. One Technical Reviewer suggested that the competing utility program represents the single greatest obstacle to NYSERDA achieving program savings goals.

Staff described collegial relationships with the competing utility 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 recently 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 will send applications to NYSERDA offices, and NYSERDA and ConEdison staff will jointly review customer applications to determine which organization's program is most advantageous for customers. As of October 15, the joint program marketing materials had been disseminated, but the details concerning processing the applications and managing customers had not been finalized.

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 and enhancing NYSERDA's ability to compete with the utility incentive programs. 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 competing utilities.

4.2 TARGET MARKET IDENTIFICATION AND KEY ACCOUNT LISTS

Program staff reported that the need to piece customer information together from a variety of sources poses a challenge to targeted outreach; 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 both wave-one and wave-two 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 one, 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

[17]NY Public Service document: 07-M-0548: Energy Efficiency Portfolio Standard

temporary lifting of the proportional incentive requirement briefly resolved this issue. Now that the proportional incentive requirement is again in place, having the ability to determine a firm's level of SBC payment is again an important issue for NYSERDA.

In *Interim Findings Interim Report Wave One*, the process team suggested that NYSERDA request that the Department of Public Service (DPS) require utilities to establish information-sharing arrangements with NYSERDA.[18] During wave-two interviews, staff reported that NYSERDA and DPS are currently "trying to find a resolution."

During wave-one interviews, program staff reported developing a list of industrial customers for targeted outreach; it is this list that groups the firms into three tiers based on energy use. The list includes, as available, information about whether the firm pays into the SBC and contact information, typically for facilities staff, who typically oversee non-process equipment upgrades. The list is more sparsely populated with information on process engineers or executive-level staff who are more likely to oversee production process decisions. The industrial participants interviewed in wave-one – largely facilities staff – recommended that NYSERDA market the process efficiency incentives to firms' process engineers.

Program staff members reported that the industrial firm contact list is difficult to keep up to date and, even in cases when an individual is still employed by a given firm, the contact may not be the ideal person to approach about the program.

Focus Contractors described working to improve the list of industrial customers by adding prospective firms to the list, verifying the firms' kWh and KW usage, classifying the firms by their NAICS code, updating employee contact information, and adding contact information for additional employees, such as process engineers and chief financial officers. Focus Contractors reported that, when possible, they independently track 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.

Program staff explained that Focus Contractors' vetting of the tiered list provided a basis for NYSERDA's designation of key accounts. Staff noted that, despite these improvements, the tiered list has yet to fully capture the industrial market.

As noted, Focus Contractors targeting data center firms do not distinguish between tier one and tier two firms in their outreach activities. Wave-one 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." At the time of the process team's wave-one interviews, program staff members reported they had identified approximately 25 data center firms for targeted program outreach, which staff considered "20 percent complete." During wave-two interviews, staff members reported that the data center contact list was "30 percent complete."

4.3 PROGRAM MARKETING MATERIALS

During both wave-one and wave-two 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 proved to lack sufficient detail. Staff members reported that the program had

[18] See *Interim Findings Interim Report Wave One*, October 11, 2010.

hired a team of marketing professionals to improve program-marketing materials, with the expectation that they would complete their work by the end of 2010. Staff anticipate the revised materials will include information on the availability of natural gas incentives.

Contacts said upcoming marketing strategies would include a media campaign to raise awareness of NYSERDA and IPE; the campaign will be part of broader NYSERDA marketing effort. During both wave-one and wave-two interviews, program staff questioned the efficacy of mass marketing campaigns targeting the industrial sector; one contact suggested the funds would be better spent on additional program staff. One interviewed DOE Contractor questioned the overall value of marketing and collateral materials targeting the industrial sector, regardless of their content. The DOE Contractor expressed the opinion that marketing materials targeting the industrial sector are of limited value, because enrollment into the program occurs via relationship building and discussing specific projects with potential customers. Certainly, NYSERDA recognizes the value of relationships in promoting industrial energy efficiency, as evidenced by the program's use of a key account management approach and of Focus Contractors

During wave-one interviews, several program contacts suggested augmenting NYSERDA's mass-marketing campaign with campaigns targeted to specific industrial subsectors. According to one contact, "Each industry thinks it is unique. Therefore, case studies and marketing materials geared towards specific industries work better than general materials." During wave-two interviews, one program staff contact reported that the program is currently developing targeted mail and/or email campaigns for dissemination during 2011. The contact further noted that the program is currently working to combine various industrial customer contact lists to facilitate distribution of program marketing materials. To further expand NYSERDA's "electronic reach," one staff contact suggested that NYSERDA should increase its use of social media websites, such as Facebook and Twitter.

Staff contacts noted that, due to NYSERDA's lengthy approval processes and the frequent programmatic and marketing changes to the program, it is challenging to keep the IPE website up to date. Staff contacts characterized the IPE website as "mostly accurate," and expected NYSERDA to complete a comprehensive update by the end of 2010.

Staff contacts suggested that the IPE 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.

4.4 PROJECT ADMINISTRATIVE PROCESSES

4.4.1 Status Tracking of Outreach and Projects

According to program documentation, following receipt of customer project applications, NYSERDA staff 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-one and wave-two interviews, multiple IPE program staff and contractors described as "lengthy" the time between customers' submitting project applications and being issued a PO. During wave two, one Focus Contractor elaborated that, following customers' submission of project applications, the applications frequently remain unassigned to IPE staff for extended periods. The contact described the need to frequently alert NYSERDA about the existence of submitted applications in order to initiate application review processes. Many of the delays appear to be related to problems with paperwork processing and possibly understaffing.

4.4.2 Approval Processes and Project "Hand-Offs"

During wave-one interviews, program staff noted, "too many hand-offs," with paperwork that sits in queues waiting for staff's approval. To expedite and streamline paperwork processing, program staff members suggested: improving internal project management by switching from paper to electronic sign-

offs; reducing redundant data entry; developing a system to monitor each project more closely and flag delays for follow-up by the appropriate party or parties; providing customers with project status updates more frequently; and developing a single database that would enable NYSERDA staff members to access relevant information for all NYSERDA programs.

During wave-two interviews, staff reported minimal progress on expediting paperwork processing and consolidating program data into a single database. As a result, program staff and Focus Contractor contacts attributed continued project delays to NYSERDA's paperwork processing procedures and the need for staff to access multiple databases to obtain project information. Furthermore, contacts reported that, in some cases, IPE participants have revoked projects due to the length of NYSERDA's approval processes. Moreover, contacts cautioned that the project delays deter customer enrollment by fostering customers' perception that IPE participation is lengthy and cumbersome.

4.4.3 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 IPE 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."

Program staff also 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.

4.4.4 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 has not resulted in a single database. Instead, staff report that relevant data continues to reside in several databases, making access difficult.

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.

Staff reported minimal progress on consolidating the databases and reducing redundant data entry. Staff noted that NYSERDA is working with two separate consultants to expedite paperwork processing and to

consolidate program data into a single database. One staff attributed the minimal progress on both of these fronts to competing initiatives at NYSERDA that are frequently assigned a higher priority.

4.4.5 Coordination between NYSERDA and Focus Contractors

Like IPE staff, Focus Contractors must also access multiple data sources to complete their program responsibilities. Focus Contractors use *salesforce.com*, a Customer Relationship Management (CRM) software program, to prioritize, coordinate, and communicate with program staff about customer outreach. Using the *salesforce.com* interface, Focus Contractors and IPE staff track customer tier, annual kWh and gas usage, kWh and MMBtu savings potentials, and status of IPE staff and Focus Contractor outreach activities. To obtain updated customer project status information, Focus Contractors must also access an excel spreadsheet (a monthly snapshot exported from NYSERDA's Buildings Portal database).
Responsibility for projects is supposed to shift from Focus Contractors to IPE staff upon application submission. However, the lack of a consolidated database complicates this transition. Focus Contractors update the information in *salesforce.com*, while IPE staff track applications in the Buildings Portal database. Because *salesforce.com* is not synchronized with the Buildings Portal database, the status of submitted applications is only updated in *salesforce.com*.

As noted, to obtain updated customer project status information, Focus Contractors must access the monthly snapshot exported from NYSERDA's Buildings Portal database. Consequently, the post-application project status in *salesforce.com* is often incorrect, as characterized by one IPE contact. Therefore, the Focus Contractors, relying on *salesforce.com*, frequently lack accurate and complete information about the status of all projects their accounts are undertaking. Responses from Focus Contractors indicate that providing Focus Contractors with "real-time" access to updated customer project status information would likely aid both their customer outreach and their assistance with project installation and approval processes.

4.5 STAFFING LEVELS AND ACCOUNT MANAGEMENT RESPONSIBILITIES

During wave-two interviews, contacts discussed whether the current staffing levels were sufficient to meet program workload and whether or not they anticipated needing additional staff in the future.

4.5.1 IPE Program Staff

Many interviewed program staff, Focus Contractors and Technical Reviewer contacts reported that IPE staffing has not increased to keep up with increased customer participation levels. During wave-one interviews, staff contacts described spending more time on outreach than project management. In contrast, during wave-two interviews, staff contacts frequently reported that increased customer enrollment requires that they spend more time managing customers' projects than engaging in key account management and conducting other program outreach activities.

In particular, staff respondents from NYSERDA's New York City office reported a lack of time to engage in IPE program outreach activities. For example, one New York City-based contact reported, "I'm not sure about Albany, but the view from New York City is that we're often too busy to manage our key accounts." A second New York City-based staff contact described being reactive to requests from key accounts, as opposed to proactively developing relationships with the accounts, partly due to a lack of available time and partly due to the person's belief that customers will contact NYSERDA when they are ready to initiate a project.

Additionally, during wave-two interviews, one Technical Reviewer and one Focus Contractor attributed NYSERDA paperwork processing delays to IPE staffing shortages. IPE staff contacts agreed that additional IPE administrative staff are needed to increase the speed of paperwork processing. However, at the time of this research, IPE lacked a dedicated project coordinator. NYSERDA had assigned project coordinators from other programs to also support IPE, yet these staff members were also covering

vacation schedules. Subsequent to these interviews, NYSERDA hired and trained a IPE-dedicated project coordinator.

4.5.2 Focus Contractors

During wave-one 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-two interviews indicate that the role of Focus Contractors targeting industrial firms has shifted to providing outreach *primarily* to large tier one industrial and data center firms that have not yet been targeted by IPE staff, and *secondarily* to tier two customers.

When reflecting on the large savings goals associated with the program and the short timeline for achieving the goals, program staff 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.

One Focus Contractor stated that the amount budgeted for Focus Contractors' work may not be sufficient to extend through the duration of the three-year program cycle. The contact noted that, to support aggressive Focus Contractor outreach, NYSERDA had dispensed half of the program budget for Focus Contractors during the first year of the program cycle. The contact expressed concern that the current rate of dispensing the budget will not leave sufficient funds to support Focus Contractors' work during the third year of the cycle, in which Focus Contractors will no longer be marketing and will instead focus on assisting customers with project installation and approval processes. The contact emphasized the importance of being available to assist customers with each step of program participation, noting the "huge variety of things that can derail the process."

4.5.3 Technical Reviewers

Multiple IPE program staff reported a need to increase the number of Technical Reviewers to match increased customer participation levels. 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 IPE 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." Staff reported that they selected 9 qualified firms from the pool of 34 that will begin work for the program in 2011; staff had hoped to find more firms they judged as qualified.

Most Technical Review firms noted a substantial increase in IPE participation during the past year, yet did not report substantial backlogs, in some cases because they have expanded their staffs. Contacts noted that several factors can delay project review, including insufficient or missing information on project applications, delays in NYSERDA's initial review of applications or responses to application-specific questions raised by the reviewers, and, occasionally, late M&V approvals.

SECTION 5:

INTERIM CONCLUSIONS AND RECOMMENDATIONS

5.1 PROCESSING DELAYS

5.1.1 Conclusion

Both wave 1 and wave 2 research revealed frequent project processing delays, which in some cases resulted in projects that interviewed IPE staff and contractors described as having languished for months and in a few cases resulted in applicants terminating their projects. Project processing delays have the potential to damage the reputation of the IPE program, thereby dissuading industrial customers from risking the upfront investment and effort necessary to participate in the program.

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 IPE administrative staffing levels at the time of this research.

In addition to its impact on customers, the time required for IPE staff to navigate NYSERDA's current paperwork processing approach appears to reduce the amount of time available for staff to implement key account management as designed, discussed further in Section 6.2.

> **Recommendation:** To expedite paperwork processing *in the near term*, NYSERDA should immediately seek to develop a system to monitor each project more closely, identify needed next steps by the appropriate party or parties, and flag delays. In addition, NYSERDA should pursue opportunities to switch from paper to electronic sign-offs, reduce the extent of redundant data entry across databases, and consider hiring additional administrative staff to assist with project processing.
>
> In addition to these efforts, NYSERDA should pursue its plans to address project-processing delays more *comprehensively*, by developing a single database that would enable NYSERDA staff members to access relevant information for all NYSERDA programs.

5.2 KEY ACCOUNT APPROACH

5.2.1 Conclusion

The key account management approach, when implemented as designed, appears to be an effective program outreach method. In contrast, key account management does not work well when IPE staff consider their role to be reactive, responding to issues as they arise. In some cases, staffs' "reactive" approach appears to be related to a lack of available time. Staff frequently reported that managing existing IPE responsibilities, as well as their program responsibilities associated with other NYSERDA programs, reduces the time available for staff to conduct outreach and interact with customers in support of project identification. Staff members' lack of time is exacerbated by paperwork processing approaches and multiple databases, and may indicate sub-optimal staffing levels, especially administrative staffing levels.

> **Recommendation 1:** Promote additional training and communication to staff on the key account management approach, emphasizing how to build relationships between NYSERDA and customers that continue over time and become more sophisticated as trust is built, project savings are demonstrated, and understanding of opportunities to pursue energy efficiency increase. Discussions should review efforts – and their outcomes – to create interest in process projects among participant organizations with non-process projects.

Recommendation 2: NYSERDA should seek to improve paperwork-processing procedures and/or hire additional administrative staff in order to reduce IPE staffs' administrative burden, thereby increasing the amount of time available for staff to implement key account management as designed.

5.3 TARGETING FIRMS

5.3.1 Conclusion

Targeting tier one (large kW) industrial firms appears to be an effective approach to securing large industrial IPE projects. In contrast, most IPE projects initiated by data centers have emerged from medium-sized data firms. Considering such factors as firms' hours of operation, capital plans, level of interest in energy efficiency and sustainability initiatives, and NAICS code classifications appear to provide enhanced methods to designate firms for prioritized outreach.

Recommendation: When targeting industrial firms, NYSERDA should continue to pursue tier one firms first. For data centers, NYSERDA should articulate and document its strategy for identifying facilities with the most potential and conducting research to identify program needs and barriers among those firms; it may decide that tier is not important for this sector. For both sectors, articulated strategies will support a subsequent assessment of strategy success and need for modification.

When designating firms for prioritized outreach in either sector, NYSERDA should consider firms' hours of operation, capital plans, level of interest in energy efficiency and sustainability initiatives, square footage, and other relevant factors. Additionally, NYSERDA should augment lists which classify industrial customers using NAICS codes to include evidence of plant capacity constraints from the Survey of Plant Capacity Utilization, which provides quarterly information regarding capacity utilization rates, categorized by NAICS code. Firms classified under NAICS codes reporting high capacity utilization rates should be prioritized for targeted outreach concerning IPE process efficiency incentives. The Survey of Plant Capacity Utilization results are available electronically, at US Census Bureau website.[19]

5.4 IDENTIFYING THE POPULATION OF ELIGIBLE FIRMS

5.4.1 Conclusion

Targeting good candidates is the second step in an outreach strategy whose first step is identifying the eligible population. NYSERDA lacks a comprehensive list of IPE-eligible industrial customers and must create such a list through market research. NYSERDA staff and its contractors are working to develop such a list.

Recommendation: NYSERDA might augment its current efforts by joining professional and trade associations serving industrial firms in addition to those its Focus Contractors have access to and seeking information from professionals involved in job placement activities, such as at the BOCES, colleges and universities, and the state employment office.

[19] Historically, economists have 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).

5.5 PROCESS AND NON-PROCESS PROJECTS

5.5.1 Conclusion

During wave-one interviews, staff contacts predicted that the highest energy saving IPE projects would be process efficiency projects. In contrast, the process team's analysis of IPE projects in all stages (installed, encumbered, and not yet encumbered) and listing EEPS as the funding source in NYSERDA's Buildings Portal database as of October 19, 2010, showed that non-process projects were projected to deliver both most of the largest kWh-saving IPE projects and the majority of overall program kWh savings (76 percent). Considering the potential magnitude of savings associated with *both* the largest non-process *and* the largest process projects, both types of projects appear to contribute significantly toward meeting program goals and should be pursued.

> **Recommendation 1:** NYSERDA should continue to pursue process efficiency projects, but not at the expense of conducting program marketing towards enrollment of non-process projects. NYSERDA should continue to monitor the short- and long-term potential kWh savings gains of process versus non-process projects and structure IPE outreach strategies accordingly.

> **Recommendation 2:** NYSERDA should continue to market NYSERDA incentives for non-process equipment upgrades to firms' facilities directors and executives. When working to secure process efficiency IPE projects, outreach staff should conduct targeted outreach to people in charge of production lines and revenue-generating projects, such as process engineers, as well as members of continuous improvement teams and those in division- and C-level positions who can weigh the costs and benefits of making energy efficiency improvements that impact production capability.