



March 4, 2005

Hon. Jaclyn A. Brillling, Secretary
NYS Public Service Commission
Three Empire State Plaza
Albany, NY 12223-1350

Re: Case 05-M-0090- In the Matter of the System Benefits Charge III.

Dear Secretary Brillling:

Enclosed please find an original and fifteen copies of the Initial Comments of Science Applications International Corporation (SAIC) in the above referenced proceedings.

Your office and all parties are being served initially by electronic mail with hard copy being provided today.

SAIC is the largest employee-owned research and engineering company in the United States, providing information technology, systems integration and eSolutions to commercial and government customers. SAIC engineers and scientists work to solve complex technical problems in national and homeland security, energy, the environment, space, telecommunications, health care and logistics. With annual revenues of nearly \$7 billion, SAIC and its subsidiaries have more than 45,000 employees at offices in more than 150 cities worldwide. SAIC has over ten staffed offices within New York State employing over 200 New York residents. SAIC provides a wide variety of technical services to NYSERDA for several Energy \$martSM programs.

SAIC appreciates the opportunity to provide these comments to the Public Service Commission regarding System Benefits Charge III. If you have any questions, please contact me at (518) 452-8800 x216

Sincerely,
Science Applications International Corporation

Ronald B. Slosberg
Assistant Vice President
Manager, Energy Solutions

Enc.

INTRODUCTION

On January 28, 2005, the Commission issued its Notice Soliciting Comments from interested parties with respect to certain questions regarding the Systems Benefit Charge (SBC) program. Science Applications International Corporation (SAIC) supports the Commission's deliberative efforts in reviewing the SBC program to determine how the program can more effectively foster competition and provide for a secure energy supply in the State of New York. To begin, SAIC would like to mention that overall, the SBC programs administered by NYSERDA have been very effective in creating or retaining jobs, increasing energy efficiency, and reducing our statewide dependence on fossil fuels.

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Question 1. To what extent have the goals and objectives established by the Commission been achieved?

The Commission established broad goals and objectives for the State's SBC funds, which are used to help meet the energy policy goals as established in the State Energy Plan. NYSERDA has been successful in promoting cost-effective energy efficiency improvements, in advancing markets for renewable energy, and in protecting the environment through emissions reductions (from both electric generators and vehicles). Other activities under SBC funding (e.g., the utility renewable energy portfolios) have also helped to meet the State's goals. However, achievement of the State's energy policy goals may be limited by the focus on electricity use in the majority of end-use, energy efficiency programs. To achieve these goals, we recommend the Commission expand funding to address efficiencies in all energy sources, particularly natural gas.

Question 2. Should the SBC program continue beyond its current expiration date of June 30, 2006? If so, for what duration should SBC be extended and at what funding level?

The New York State System Benefits Charge program has resulted in significant benefits to New York State utility customers, the environment, and our energy security. **Without reservation, we recommend that the SBC program continue beyond its current expiration date of June 30, 2006.** In our opinion, extending the program for six to eight years is appropriate. Furthermore, we recommend, without reservation, that the role of administering SBC programs remain the responsibility of the New York State Energy Research and Development Authority.

The SBC funding levels should be increased to enable New York State and NYSERDA to continue to provide and continually enhance energy efficiency, peak load, and market transformation programs. **We recommend that the electric SBC be increased nominally by 15% and that a SBC be placed on natural gas.** With this increase in SBC funding, NYSERDA could develop additional programs for natural gas and other key markets/technologies of increased emphasis.

Question 3. Have conditions changed since the establishment of the SBC that would necessitate a change on the overall goals and objectives of the SBC? If so, what changes are recommended?

Market conditions have changed, and in large part this has been the effect of the success of the existing public benefit programs. New York's programs have achieved a high degree of success in getting the market to actually install/build energy efficiency into several key market areas. These successes have been largely achieved through NYSERDA's programs that are offered to general markets, e.g. new buildings of all types, the commercial and industrial performance program, etc. However, it is believed that there are more selective markets, or submarkets that are being missed by New York's existing programs. One change would be to offer energy efficiency programs and services to these selected markets. (The response to Question 7 offers further insight to this subject.) Another area of emphasis that should be considered is to have the SBC program support more market transformation activities, as opposed to being largely focused on resource acquisition and technology development. Market transformation actions can be effectively applied to take advantage of specific market characteristics and needs. Lastly, additional emphasis should be placed on the integration of non-electric measures into more programs.

Question 4. If assuming continuation of the SBC, how should programs be prioritized to meet those goals and objectives?

Prioritization should be based primarily on the long-term societal benefits so that effects on the whole marketplace are considered. However, this would require that assumptions be made about the adoption of energy efficient practices and technologies over a longer time period. These assumptions must be judiciously applied, and sensitivity analysis is a key component of the prioritization.

Question 5. How might the SBC programs be adjusted given the Commission's order, issued September 24, 2004, regarding the Renewable Portfolio Standard (RPS Case No. 03-E-0188)?

We contend that the current path NYSERDA is pursuing to procure RPS requirements should prove effective for the near term. However, SAIC believes that certain SBC programs could be created to augment NYSERDA's centralized procurement role. For example, consideration should be given to a NYSERDA-managed Renewable Energy Outreach Program (REOP). This program would be responsible for educating and promoting renewable energy technologies in the voluntary market and should be directly linked to current NYSERDA Energy SmartSM Programs.

In summary, the current path NYSERDA is pursuing to procure RPS requirements should prove effective in reducing our dependence on fossil fuels. However, we contend that SBC resources should also be focused on making the voluntary market more aware of the options available in choosing to participate in the renewable energy market.

There are several processes and technologies that can be integrated with existing industries that support the RPS. Programs for energy efficiency should be expanded to include support for RPS-accepted projects. For example, electrical generation from site-produced bio-fuels could be integrated into the existing energy efficiency programs. Special additional financial incentives and special support for technical assistance should be considered in light of the RPS objectives.

Question 7. What specific program(s) should be eliminated, expanded or created?

Consideration should be given to adjusting the structure of existing or to creating new programs more specifically targeted to under-participating markets. Especially, *more targeted programs should be developed for the industrial sector and specific industries therein.*

Presently, New York's programs are largely organized around the type of services provided, i.e. FlexTech, or to general markets, i.e. New Construction, C&I Performance programs. One concern is that there are several markets, and even sub-markets, that are not participating in New York programs to their achievable potential because the existing programs are not tailored or marketed to these more specialized markets.

Specific markets and submarkets can especially be found in the industrial sector. For example, it is generally recognized that water and wastewater utilities take 3% of all total energy use and the market is characteristically very "close knit." Specific channels and targeted methods to reach and service this market can be very effective in redeeming energy impacts, but they must be delivered in a way that is compatible to the competing interests of this market to truly gain meaningful levels of participation.

The Wisconsin Focus on Energy program may offer a model for a more specific approach, especially for the industrial sector. First, the entire Focus program structure is segregated by end-user markets, e.g. industrial, commercial, schools, agricultural, residential. Within these end-user markets, then, specific targeted outreach and service efforts are provided. By far, the industrial program has proven to have a very high success rate and one of the highest benefit-to-cost ratios for the public benefit investment. One of the keys to the success of the industrial programs has been the targeting of specific industries with specific energy efficiency support services. The program has a series of tracks that serve specific energy intensive industries for that State including Pulp and Paper, Metalcasting, Water and Wastewater, etc.

Additionally, the effectiveness of energy efficiency programs has been enhanced by pursuing a combination of both resource acquisition and market transformation objectives. For example, Wisconsin has used training for energy management as a feedstock to gain participation in implementing energy efficiency in the commercial and industrial sectors. In California's Savings by Design program, training and design resources are offered to enhance designer's capabilities and skills for energy efficiency in new construction. *These types of targeted market transformation support efforts should be considered for expansion in the New York programs.*

Question 9. How can SBC funded programs be marketed more effectively?

NYSERDA has used independent consultants with engineering and architectural backgrounds as outreach and technical assistance contractors for several Energy \$martSM Programs. Functioning as a local contact for these programs, these personnel were able to increase the rate of program adoption through their connection with area building community and market constituents. The number of applicants participating in these programs demonstrates the success of this approach as does the resulting energy savings achieved by the programs. For example, the 2004 SBC program evaluation stated that the New Construction Program (NCP) has increased energy efficiency knowledge of more than 90% of participating building owners and engineers and architects, "between 40 to 60 percent of the largest architectural and engineering firms in New York State have participated in NCP."

This same approach of outreach and technical assistance support should be continued and perhaps expanded to reach out and provide service to smaller building owners/developers and to the industrial

marketplace. In addition to providing NYSERDA program information, these outreach and technical assistance providers spread throughout the state can better work with the local engineer or architect community reviewing projects and suggesting strategies that promote energy efficiency and sustainability that may have been overlooked or discounted due to unfamiliarity or reluctance to try what might be considered novel or new.

Additionally, local Outreach personnel with knowledge of the full spectrum of NYSERDA programs can also identify and address prospective projects that cross between multiple programs and ensure that project participants and NYSERDA program managers understand both the opportunities and limitations of NYSERDA involvement, thus precluding disappointment that can result from false expectations. Such disappointment can limit the acceptance of all NYSERDA programs by new participants.

Outreach and technical assistance support when combined with even minimal advertising can get NYSERDA's message of energy efficiency out to its targeted audience while providing NYSERDA with the flexibility of adjusting to local conditions and market changes. Such support also provides NYSERDA with a knowledgeable resource of market information about local building community needs.

Question 11. Is the current NYSERDA program evaluation process adequate? How might it be improved?

When NYSERDA was initially named the administrator of the SBC funds there was great pressure to make programs available to the public and to show results from the public's investment. Consequently, NYSERDA did not have sufficient time or resources to establish objective baseline market data prior to program design. To develop baseline data that would later be used for evaluation purposes, NYSERDA often relied on the program delivery contractors to gather baseline data. This practice put the onus of a primary evaluation function on the contractor delivering the program services. Aside from possible conflict of interest issues, adding this activity to the program delivery contractor often took away from their primary contract task (to encourage the implementation of energy efficient technologies). To increase the effectiveness of the evaluation process, the PSC needs to ensure that adequate resources are provided to NYSERDA to establish a solid and objective baseline to which future program results will be compared.

Question 12. Should SBC funds be extended to programs that encompass research and development into retail and/or wholesale electric market competitiveness issues, or transmission and/or distribution of the State's energy resources?

Today's energy infrastructure is no longer keeping up with the demands of a growing and changing economy. Shortcomings in capacity, reliability, security and power quality are costing New York businesses and consumers billions of dollars each year, and the potential consequences to the economy and national security are profound. Peak loads are growing faster than T&D capacity and have been for many years. New energy markets have increased the transaction volume and the corresponding transmission congestion. Outages are increasing and the pressure on regional transmission coordination is pushing the entire system much to close to the edge....with the increased threat of blackouts.

National and regional organizations are beginning to realize the significant opportunities for efficiency and reliability improvements that are possible by deploying a new generation of advanced technologies. By focusing on optimizing the entire system through real-time information, improved control

technologies, and better devices, investments in traditional T&D infrastructure can be reduced and/or deferred.

Many of these technologies have both local and regional benefits; benefits that potentially accrue to consumers, distribution system operators as well as transmission operators. Thus, it is important to involve a “systems benefit” approach to developing and demonstrating these new systems and technologies to maximize their impact and to understand their full benefit.

As an example, new embedded chips in “smart” equipment and appliances can potentially be sensitive to frequency changes of large interconnected power systems. By carefully programming these devices, one can imagine creating appliance/equipment behavior that would not only reduce energy and peak loads, with positive impacts on T&D constraints, but also provide dynamic behavior that could assist in broader systems operations such as cold start pickup and grid stability.

Other technologies which could be important to demonstrate are advanced sensors and monitors (for things like dynamic load forecasting and balancing), advanced transformers, power electronics, improved system models, improved control strategies (especially with an increase in distributed resources), and new materials such as composite conductors.

EPRI, DOE and other states are accelerating their R&D programs to address emerging T&D issues. Certain benefits to New York will come from these broad national efforts, but to maximize the value to New York, a State program should be undertaken to leverage these other efforts and focus benefits on specific and unique regional and state problems.

Question 13. Should the scope of the SBC program be expanded to include programs for natural gas customers?

Yes, the scope of the SBC program should be expanded to include programs for natural gas customers. Natural gas is an integral energy source and commonly adopted in most facilities across New York. Energy efficiency for electrical measures often influence natural gas use and the interaction of these energy sources should be fully considered to achieve the “most effective” energy solution. Natural gas efficiency can be easily accomplished by simply adding it to many of the electrical energy programs, e.g. new construction program, commercial and industrial performance program, etc. Other states have integrated approaches of electricity and natural gas, including Oregon and Wisconsin. Funding structures and amounts should be proportional to and similar to the electrical public benefits programs. An alternative could be considered where the natural gas providers voluntarily provide funding to be included in the NYSERDA programs.

a. What kinds of programs would benefit New York’s gas consumers?

A full suite of programs addressing water and space heating, cooling, industrial processes, alternative fuel vehicles, and combined heat and power (fuel cells, etc.) should be considered for inclusion. The programs would cover R&D on advanced technologies through applications/implementation of state-of-the-art energy-efficient gas-fired equipment. Technical assistance and incentives, similar to the electric SBC programs operations, should be used to encourage higher efficiency natural gas applications.

b. What classes of customers would be served most effectively by a natural gas SBC program?

Residential and commercial customers should be the primary targets. The industrial sector should also be targeted, however, focusing on key energy-impacting and economically important industries for New York that could help to maximize the program effectiveness.

c. How should a natural gas SBC program be funded and what annual level of funding might be considered reasonable? How might a natural gas SBC affect current electric SBC funding levels?

The SBC could be funded by charges on local [gas] distribution companies (LDC) that could be passed on to the ratepayer as an adder (percentage charge per MCF) to the tariff (volumetric charge). A reasonable annual funding level should be based on a percentage that is equivalent to the percentage used to fund the electric SBC. The electric SBC funding levels should be evaluated with respect to the types of programs that could benefit both gas and electric ratepayers. Where there is mutual benefit (e.g., fuel cells/cogeneration), the SBC for electric could be reduced. Similarly, for activities related to improving overall building performance (e.g., building envelope work, design/analytical tools) SBC for electric could be reduced. However, the overall funding (contributions from SBC electric and SBC gas) should not be diminished in these areas if an SBC program for natural gas customers was introduced.

d. What should be the initial duration of a natural gas SBC, and should that term coincide with the extension of an electric SBC, if the electric SBC is extended?

The term of a natural gas SBC should coincide with the extension of an electric SBC, assuming the electric SBC is extended. The initial term should be at least five years. There is much to be gained by addressing gas and electric in a common fashion, including administrative benefits, and programmatic benefits that would accrue to both electric and natural gas ratepayers.

e. How might a natural gas SBC be administered and evaluated and how should it differ from the administration of the electric SBC?

The SBC program should be administered by NYSERDA along the general lines of the electric SBC. Since this framework has proven successful, it makes sense to incorporate new gas SBC programs in this fashion. Where common programs are developed, it would make sense to administer them under a single program, to reduce administrative costs. Accounting structures would need to be established to ensure that the expenditure was properly allocated to the electric or gas SBC funding sources. The evaluation of these programs would need to take account of any interactive affects of programs addressing common end-users. However, this should prove no more difficult than evaluating individual NYSERDA programs funded by electric SBC funds that address common end-users. Clearly, advisors on the SBC gas programs should be drawn from the gas industry, as well as other sectors that have a stake in gas-fired technologies.