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March 4, 2005

Jaclyn A. Brillling, Secretary  
New York State Public Service Commission  
3 Empire State Plaza  
Albany, New York 12223-1350

**Re: Case 00-M-0900, Systems Benefit Charge III**

Ms. Brillling:

The Northeast Regional CHP Application Center (“NERAC”) submits this letter in response to the January 28, 2005 Notice Soliciting Comments in Case 00-M-0900, In the Matter of the System Benefit Charge III. NERAC is a consortium of several universities<sup>1</sup> seeking to promote and support the commercialization of combined heat and power (CHP) throughout the Northeastern United States through education, policy outreach and technical assistance. The question of whether to reauthorize New York State’s Systems Benefit Charge (“SBC”) is of compelling interest to us.

### **Introduction**

NERAC strongly supports reauthorization and continuation of the SBC program, in light of the program’s strong record of success in effectively sponsoring clean and efficient energy technologies, spurring innovation, sponsoring necessary research, and taking concrete steps to support the development of a vibrant and productive Combined Heat and

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<sup>1</sup> NERAC is co-directed by the Pace Law School Energy Project and the Center for Energy Efficiency and Renewable Energy at the University of Massachusetts-Amherst. Other university partners include the U.S. Department of Energy supported Industrial Assessment Centers at Syracuse University and Rutgers University.

Power (CHP) industry in New York. CHP provides many benefits to all New York ratepayers, and those benefits will increase in scope and scale as the technology develops. In general, NERAC advocates maintaining NYSEERDA's flexibility to promote innovation, research and practical demonstration of CHP technologies and practices. Its administration of the SBC has been highly successful, and we would support the continuation of the program in essentially its current format.

Promoting CHP is an established piece of national as well as New York energy policy. The U.S. Department of Energy has set a goal of doubling U.S. CHP capacity over 1998 levels, to 92 GW, by 2010, and identified CHP as a win-win enterprise with enormous potential for growth in almost every sector of the economy.<sup>2</sup> New York's *State Energy Plan* (SEP) also acknowledges the role of CHP and calls for "...the development and use of distributed generation and combined heat and power (CHP) technologies at customer sites with the goal of becoming a national leader in deployment of clean distributed generation technology."<sup>3</sup> NYSEERDA plays an important role in facilitating these goals in New York State, and by its example and leadership, throughout the region. The NYSEERDA program is, of its own accord, working independently toward the Roadmap's objectives, and breaking new ground in the administration of public benefit energy initiatives.

However, we do offer several suggestions for incremental improvement. In particular we support the addition of an "open season" mechanism to support the construction of beneficial CHP installations as they become ready for installation, outside of the PON structure that relies on scheduled disbursements through competitive solicitation. This suggestion would complement the current emphasis on cutting edge demonstration projects of exceptional efficiency with a more market oriented program emphasizing deployment of effective systems.

Additionally, in response to the Commission Staff's question number 13 posed in the Notice, NERAC supports the idea of expanding the scope of the SBC program into programs for natural gas customers, particularly considering the valuable contribution that gas fired CHP can make toward improving the overall energy efficiency of natural gas consumption.

## **Building Upon Success**

The SBC as administered by NYSEERDA has been a model for the region and the nation. This is true of many NYSEERDA programs, but in particular the DG-CHP Program deserves acclaim as a national leader. Until nascent DG-DHP technologies reach critical mass and are capable of being self-sustaining, NYSEERDA support usually makes the difference between a project being implemented or not, or allows a particularly efficient or novel approach to be tested and publicized. Even noting these successes, however, the program's work and usefulness are not complete, and reauthorization of the SBC is

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<sup>2</sup> See the National CHP Roadmap at <http://www.eere.energy.gov/de/pdfs/chproadmap.pdf>.

<sup>3</sup> June 2002 New York State Energy Plan, P. 1-40

required in order for New York to maintain its leadership in promoting energy efficiency and viable markets for new technologies, including CHP.

New York's leadership in innovative energy policy, CHP deployment, and efficiency investments, which is due in large measure to the SBC program, are important in a regional context. As we all were reminded during the recent blackout, energy flows freely across state borders. Moreover, technology more generally flows throughout the regional economy as well. As NYSERDA recognizes through its technology transfer efforts, lessons from other jurisdictions offer valuable possibilities to improve New York's energy future—and this flow is multilateral. Regional markets are often required for industries to develop the economies of scale that allow prices to fall and technological innovation to become fully adopted and commercially viable. However, the fruits of New York's leadership accrue primarily at home to ratepayers, taxpayers, and other economic interests.

CHP systems provide both electric and thermal energy (hot water, steam, refrigeration, etc.) on site, from one flame. Thus the overall efficiency of fuel consumed increases dramatically. CHP efficiencies typically range from 50% to 70%, compared to roughly 33% in conventional central station generation plants. Additionally, like all distributed generation, CHP systems avoid the line losses of transmitting energy from a central plant, which increases efficiency even further.

The wider adoption of CHP systems through New York's SBC program provides, and will provide, several types of benefits. These benefits may include, depending upon the specific installation, reduction of peak electric loads and prices, reduced wholesale electric prices, improved natural gas efficiency and conservation (with significant implications for reducing natural gas price spikes), improved overall efficiency of the electric system (i.e., by reducing line loading and associated increased transmission and distribution losses), and improved reliability, air quality and energy security. CHP and other DG systems also offer society the chance to offset distribution system upgrades at lower cost. Considering the array of benefits that CHP installations offer, the DG-CHP Program merits continued support.

NYSERDA's DG-CHP Program has accomplished several objectives that benefit the proliferation of CHP in New York. It has provided financial support through the PON process resulting in about 100 projects and more than 120 MW of electrical power—not to mention the thermal energy which the projects also provide. These installations comprise a variety of technologies, applications, and customer types—including but not limited to fuel cells, gas fired turbines, and reciprocating engines installed in schools, factories, and commercial buildings. The variety of project types provides a wealth of experience for comparison, replication, and further study of what systems work most effectively. The public benefits from the projects themselves, and also from the market transformation effect of examples that highlight the wide range of opportunities to employ heat recovery techniques. These factors assist the development of an independently viable CHP industry in New York, with its ancillary economic benefits including new jobs, increased tax revenue, technological leadership, lower energy costs and improved reliability.

In addition to direct project support, the DG-CHP Program's technology transfer efforts have provided critical support for efforts to commercialize CHP systems. Similar to the case of the demonstration projects, these efforts are important in regional context, but New York reaps the benefits first and most directly. A wide variety of publicly available studies, targeted workshops and technical training, the development of screening tools and best practices dissemination all work together to accelerate commercialization, and thus the realization of the benefits of a cleaner and more efficient energy sector.

NYSERDA's market development activities are the bridge between raw innovation and a newly vibrant and competitive energy industry. All of the pieces are important, but absent attention to the important role of markets and the private sector, there would be the risk that much of the experience gained would wither on the vine. NYSERDA's efforts in this regard are what make the DG-CHP Program sustainable as an economic development effort, and should be lauded. As companies build projects with NYSERDA assistance, both they and their competitors learn best practices for tailoring CHP applications, public awareness grows, and the industry steps closer to critical mass and ongoing viability. NYSERDA's DG-CHP Program thus forms a coherent whole, and this holistic aspect is what sets it apart from other clean energy funds. This successful formula should be preserved.

## **Recommendations**

NERAC supports continuing NYSERDA's flexibility to promote particular innovations in technology, efficiency, and other programs within a Commission-established framework. The following recommendations are offered as enhancements and marginal refinements of the successful approach implemented heretofore. If adopted, for purposes of program continuity, we suggest that these elements of the Energy Smart Program logically reside within the NYSERDA DG/CHP Program.

### **1. Additional funding should be provided for a standard offer program.**

In addition to the PON system of financing demonstration projects of particular innovation value, we also endorse the allocation of some funds to "open season" funding of CHP projects that meet established efficiency or other criteria. Such a program would complement the PON system. There is a need both for demonstration projects that push the limits of achievable efficiency<sup>4</sup>, and for increased numbers of systems constructed in order to build upon NYSERDA's market development successes. Creating a mechanism that is easier for end users to access, on timetables relating to their construction schedules (as opposed to an institutional funding and review cycle), will facilitate the realization of CHP's public benefits. Such a mechanism would enable many high quality systems that are amenable to standardization, necessary to help meet New York's immediate energy

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<sup>4</sup> NERAC endorses, for example, the efficiency and environmental performance thresholds established by the Commission for exemption from otherwise applicable standby rate tariffs. See *ORDER ESTABLISHING ELECTRIC STANDBY RATES*, issued and effective July 29, 2003, in Cases 02-E-0780 and 02-E-0781, P. 18-19; and *ORDER DIRECTING MODIFICATIONS TO STANDBY SERVICE TARIFFS*, Issued and Effective January 23, 2004, in Cases 02-E-0551, 02-E-0779, 02-E-0780, 02-E-0781, and 02-E-1108, P. 10.

needs, and contribute to the commercialization of a CHP industry. Again, given the already stretched resources of the current program delivery mechanism, we emphasize that this open season should be an addition to the PON program, and not come at its expense<sup>5</sup>.

**2. The Commission should adopt a System Benefits Charge to promote the efficient utilization of gas at end-use. CHP systems which replace inefficient boilers should be eligible for funding.**

In response to Question #13 in the Notice, NERAC strongly supports the establishment of a separate gas SBC. As the experience of the electric program has demonstrated, coordinated efforts to improve energy efficiency can have significant positive impacts economically as well as environmentally. The characteristics of the natural gas industry similarly suit it for an SBC program. The technology of gas use has improved in recent years, but room for improvement remains and best practices are not yet widely implemented throughout the system. Common ownership structures, particularly in the residential and commercial sectors, as in the electric system, reduce incentives for owners to invest in efficiency. Considering the rise of gas commodity prices, and prices that may be expected to remain high into the foreseeable future, a coordinated effort to improve the efficiency of gas consumption *prima facie* is appropriate.

Due to increasing use of natural gas to fire on-peak electric generation, improved gas efficiency has the effect of reducing electricity prices as well as gas prices, benefiting all energy consumers. Thus, some of the same rationales for the electric program are directly relevant to the gas proposal. However, this is only one example of the ways in which energy markets in New York are linked, and should be addressed with a coordinated suite of policies and programs. For several significant energy services—heating, cooling, and to a lesser extent cooking—gas and electricity are substitutes. The goal of New York state initiatives should be to maximize the overall efficiency of the energy system, taking into account the important fact that interventions in the gas system affect demand and prices in the electric system, and vice versa.

Of particular note are two “bridge” technologies that link gas and electricity markets, both of which should be eligible for support provided by a gas SBC. These are gas chilling and air conditioning that reduce summer peak electric demand and/or equalizes gas load, and CHP. Both of these types of systems are capable of using gas efficiently, and offset significant electric consumption. Because most peak summer cooling demand is served by electric air conditioners, gas chilling makes a significant contribution to shaving expensive and high emission peaks of electric demand. In the case of CHP, electricity is properly considered a by-product of heat production, with emphasis on efficient gas combustion and heat recovery. Thus support for the best gas fired CHP fits within a reasonable understanding of gas side system benefits. Particularly when an efficient gas CHP system replaces an aging and diesel boiler, benefits accrue to energy consumers, while also offering important reductions in air pollutant emissions.

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<sup>5</sup> One potential source of incremental funding would be the newly-established natural gas systems benefit charge.

The term of any gas SBC should run in tandem with the electric program and maximize opportunities for coordination for greatest positive net impact, and to minimize oversight and management costs.

## **Conclusion**

The Northeastern Combined Heat and Power Regional Application Center supports continuation of the SBC program as administered by NYSERDA, with the programmatic amendments discussed above.

Thank you for the opportunity to comment in this proceeding.

Sincerely,

Fred Zalcman