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# Herbert E. Hirschfeld, P.E.

Technical Consulting Specializing in Energy Management, Cogeneration & Submetering

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M. J. May

February 7, 2005

New York State Public Service Commission  
3 Empire State Plaza  
Albany NY 12223

Attn: Ms. Jaclyn A. Brilling - Secretary to the Commission

**RE: Notice Soliciting Comments - Case 05-M-0090 regarding System Benefits Charge III**

Dear Ms. Brilling:

In response to the above reference Notice, I am offering comments with regards to the System Benefits Charge (SBC) Program.

My credentials include being a Technical Consultant to the U.S. Department of Energy, NYSERDA, and Con Edison as well as the private sector (specifically large residential buildings) since 1974.

While the current process of utilizing NYSERDA to administer the SBC program is not perfect, based on my experience, it is the most practical vehicle for administering this valuable program.

The SBC program has stimulated greater emphasis on energy conservation, specifically electrical submetering and cogeneration implementations in large residential buildings, and therefore should be continued.

The effectiveness of the SBC program would be improved by the removal of implementation barriers which often are the direct result of regulations and policies imposed by such New York State regulatory agencies as DHCR, and the PSC. I am enclosing two copies of a recent publication I authored which provides some specific examples.

I would also like to suggest that the SBC program place a greater emphasis on the Research and Development aspects which by the name NYSERDA actually identifies its mission. I would suggest greater allocation of funding to R&D groups at NYSERDA particularly the R&D Buildings which probably directly impacts the majority of New York rate payers and provides a greater number of energy efficiency solutions for use by these rate payers.

I would be happy to discuss this matter in greater detail, if it would be helpful to the process. Thank you for your consideration of my comments.

Sincerely,



Herbert E. Hirschfeld, P.E.

ENERGY  
RESOURCES

FEB 11 2005

AND THE  
ENVIRONMENT



By Herbert E. Hirschfeld –  
New York, USA

# SUBMETERING AND COGENERATION FACE A COMMON FOE

***New York State (NYS) has had difficulty relying on the integrity of its existing supply and grid network to meet the ever-increasing electrical demands imposed by its energy consumers. This problem is magnified in the New York City metropolitan area, where the existing infrastructure is insufficient to bring in additional power from outside sources. Major users of electricity in this region include the vast number of large multi-family residential developments, many of which were built as master metered buildings in order to minimise initial construction costs.***

New York State has recognised this problem and has developed programmes through its energy agency, New York State Energy Research and Development Authority (NYSERDA) to promote conservation and assist in the development of on-site generation. However, the barriers to the implementation of these conservation measures continue to limit the effectiveness of these programmes, and to minimise their widespread implementation within the multi-family residential sector.

The implementation of both electrical submetering and cogeneration is of particular value to the large, multi-family residential building sector. Both these technologies offer sound solutions to master metered residential buildings which need to reduce their operating costs.

In order to promote the implementation of electrical submetering and cogeneration, NYSERDA offers both technical assistance and substantial financial incentives to residential buildings to evaluate and subsequently install these types of system, using Comprehensive Energy Management (CEM) and Combined Heat Power (CHP) programmes. New York State also encourages many of its directly metered residential buildings to convert to master metering by making them eligible to participate in CEM and CHP programmes.

These buildings also benefit from the bulk purchasing power and discounted utility rates available only to master metered buildings. As an example, master metered residential buildings in the Con Edison territory pay approximately 25% less for electricity than directly metered residential customers.

Cogeneration requires that the building be master metered in order to have the apartment sector electric load available to the cogeneration equipment. Limiting the cogeneration equipment to satisfying only the building common area electric loads (monitored via the utility house meter) typically limits the available electric load to approximately 25% of the total building load, which may drastically

reduce the economic viability of implementing cogeneration in a directly metered building.

Any barrier to an electrical submetering retrofit in a master metered building, or which limits the ability of a directly metered building to convert to master metering, then becomes a barrier to cogeneration.

Master metered buildings consume approximately 20% more electricity than either directly metered or submetered buildings, because the apartment residents are not financially accountable for the electricity they consume. The charge to individual apartments is typically based on apartment size, and there is no correlation between usage and cost. Building owners or co-operatives have two options - available to change this process and to transfer the financial accountability to the apartment residents - by converting to either submetering or direct metering.

The advantages of submetering over direct metering include:

1. Submetering is usually a less expensive retrofit than a direct metering conversion.
2. The building may receive a substantial financial incentive from NYSERDA, which is only available for submetering.
3. The building maintains its utility bulk rate as a master metered building.
4. Under submetering the building residents are able to participate in other New York State programmes such as Load Curtailment and Time Sensitive Pricing, both of which can generate revenues for participants or reduce the billable utility costs.
5. The building maintains the ability to implement cogeneration. Only in master metered buildings is the apartment sector electric load available for the cogeneration equipment.

The advantages of direct metering over submetering are:

1. The building transfers the responsibility of billing and collection to the utility.
2. The utility has the ability to disconnect for non-payment, whereas under submetering the building cannot disconnect residents for non-payment.
3. The building does not require Public Service Commission (PSC) approval, as the responsibility for overseeing the metering process lies with the utility.

As the barriers to submetering become what seems to be insurmountable, building owners and board members may be forced to choose between direct metering and cogeneration, as both technologies combined are typically not compatible or cost effective. It is therefore in the best interests of both submetering equipment manufacturers and cogeneration equipment manufacturers to work together in order to overcome these barriers.

A major source of the existing barriers stems from some of the rules and regulations imposed by the New York State PSC. Ironically, the PSC has jurisdiction over NYSERDA and has delegated this agency to manage over \$150 million annually,

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February 28, 2005  
Jaclyn A. Brillling, Secretary  
New York State Public Service Commission  
3 Empire State Plaza  
Albany, NY 12223-1350

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Philip W. Brickner, M.D.  
Director, Tuberculosis Studies  
Department of Community Medicine  
Professor of Clinical Medicine  
New York Medical College

Dear Ms. Brillling:

Subject: Case: 05-M-0090—In the Matter of System Benefits Charge III

Questions have been posed concerning the continuation of the System Benefit Charge (SBC) program as considered in the referenced case, above. While we are not in a position to comment on all of the questions, we believe that value is being achieved through these programs. We offer our comments in support of continuation of SBC where we have input to share, as follows:

**Saint Vincents**  
Hospital and Medical Center

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New York, NY 10011  
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Question 1: To what extent have the goals and objectives established by the Commission been achieved?



Academic  
Medical Center  
of New York  
Medical College

In our work at St. Vincent's Hospital—Manhattan in the Department of Community Medicine, we have been seeking ways to provide preventative healthcare to the underserved poor, many of whom are homeless. When the epidemic of tuberculosis hit the United States in the late 1980s to early 1990s, New York State and specifically New York City were at the epicenter. We recognized this TB resurgence during our work in homeless shelters and wondered how we might apply the air cleansing technology of ultraviolet germicidal irradiation (UVGI) in these congregate spaces to reduce the transmission of this airborne disease. The result was the launch of the largest field trial of UVGI effectiveness ever attempted, the Tuberculosis Ultraviolet Shelter Study (TUSS). A multidisciplinary team of medical doctors, research scientists, lighting specialists, ventilation engineers and UV manufacturers came together to conduct the study, improve commercially available UV equipment and document the findings in peer reviewed publications. Our core team consists of colleagues at St. Vincent's Hospital—Manhattan, scientists and physicians at the Harvard School of Public Health, and UV manufacturers in New York State and elsewhere. Our publications are now being cited in international publications<sup>1</sup>, CDC Guidelines for TB Control in Healthcare Facilities<sup>2</sup> and by NIOSH<sup>3</sup>.

We have worked with New York State UVGI manufacturer to improve the efficiency of their products. This has been achieved by improving the optical

<sup>1</sup> CIE. (2003). "CIE 155:2003 Ultraviolet Air Disinfection." *CIE Technical Report*, 1-64.  
<sup>2</sup> CDC. (2005 [Draft]). "Guidelines for preventing the transmission of Mycobacterium tuberculosis in health-care settings, 2005." CDC, Atlanta.  
<sup>3</sup> NIOSH. (2004 [Draft]). "Engineering Controls for Tuberculosis: Upper-Air Ultraviolet Germicidal Irradiation." National Institute for Occupational Safety and Health, Cincinnati, OH.

