Testimony
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PACE LAW SCHOOL
PACE UNIVERSITY

Daniel Rosenblum
Senior Attorney
Pace Energy Project

78 North Broadway
White Plains, NY 10603
914-422-4221/4180 Fax
e-mail:drosenblum@law.pace.edu

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Jaclyn A. Brilling
Secretary to the Commission
Public Service Commission
3 Empire State Plaza
Albany, NY 12223-1350

Re: Case 05-S-1376 – Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Consolidated Edison Company of New York, Inc. for Steam Service.

Dear Secretary Brilling:

Please find enclosed five copies of the direct testimony Christopher S. Young, as well as a summary of his testimony, on behalf of the Pace Energy Project.

Please advise if you require anything further or if you have any questions.

Thank you.

Very truly yours,

Daniel W. Rosenblum
Senior Attorney

Enclosures

cc: Administrative Law Judge Robert Garlin (By E-mail and Federal Express on 2/27/06)
Kevin Lang, Esq. (By E-mail and Federal Express on 2/27/06)
Active Parties List (By E-mail only)

Case 05-S-1376 - Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Consolidated Edison Company of New York, Inc. for Steam Service.

SUMMARY: Prefiled Testimony of Christopher S. Young

The testimony of Christopher S. Young addresses the SC-4 "Standby" tariff, and notes that the filed tariff does not follow recently established principles governing appropriate standby rate design. According to principles laid out in Opinion 01-4 issued October 26, 2001 in Case 99-E-1470, an appropriate standby rate should contain both as-used and contract demand charges, to recover both shared and local costs, respectively. The filed SC-4 tariff does not follow the established model. This failure is incorrect on its face, and may result in both an inappropriate cost recovery from certain steam customers and establish undesirable incentives for CHP operation and market penetration. The Commission should initiate an investigation of shared and local costs to result in the development of a steam standby tariff in accordance with its accepted principles.

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

Case 05-S-1376 - Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Consolidated Edison Company of New York, Inc. for Steam Service.

PREFILED TESTIMONY OF

CHRISTOPHER S. YOUNG

FEBRUARY 27, 2006

Q: What is your name, occupation and business address?

A: My name is Christopher S. Young. I am a Policy Specialist for the Pace Energy Project, based at the Pace University School of Law, located at 78 North Broadway, E-House, White Plains NY, 10603.

Q: Please summarize your relevant work experience.

A: As one of my responsibilities as Policy Specialist for the Pace Energy Project (the Energy Project), I monitor regulatory developments affecting Combined Heat and Power (CHP) throughout the Northeast, including New York State, and provide outreach and educational services where appropriate. Through grants from the U.S. Department of Energy (USDOE) and the New York State Energy Research and Development Authority (NYSERDA), the Energy Project co-administers the Northeast Regional Application Center (NERAC), one of eight such centers established nationally for the promotion of efficient and environmentally sound CHP applications. In this capacity I am broadly familiar with the economic, legal, regulatory and other forces affecting the market potential for CHP. Utility rate level and design are significant factors affecting this potential, and I am cognizant of both ratemaking principles in general and of specific utility rate structures in New York and throughout the region that affect development of CHP.

In addition to the duties supporting the NERAC, my current work includes a significant project designing a "Standby Rate Estimator" directed to consumers potentially subject to Con Edison's electric standby rates. Development of this analytical tool has entailed a detailed analysis of Con Edison's electric standby rates, both in terms of their structure and the rate levels in various service classes.

Also representing the Energy Project, I participated in the "Steam Collaborative" process that followed the previous steam rate proceeding (Case 03-S-1672) and was formed when the rate plan was adopted in 2004, in particular attending meetings of the Steam Business Development Task Force involved with scoping and drafting the Steam Business Development Plan ("BDP") that was filed on August 29, 2005. The Commission accepted the BDP and issued a further Order in response to its finding on December 5, 2005. I also monitored the integrated energy plans including steam, gas and electric utility services that were called for by the Public Service Commission in the same proceeding.

In addition to my work at the Energy Project, I have performed detailed standby rate analyses for private clients who are customers of upstate New York utilities. Prior to joining the Energy Project, I held a Consulting Associate position with The E Cubed Company, LLC, which intervened on behalf of several CHP developer clients in electric standby rate cases both in New York (including Con Edison's compliance Case No. 02-E-0781) and in Massachusetts.

Q: Please state your educational background.

A: I hold a B.A. with Honors from Vassar College in Science Technology and Society, and a Master of Arts in Law and Diplomacy from the Fletcher School, where I specialized in Development Economics and Resource Policy.

Q: What is the purpose and intent of your testimony?

A: I will describe in general and structural terms the existing and proposed Con Edison steam tariffs, as well as the ramifications of the proposed tariffs. I will then offer a procedural recommendation for moving towards steam standby rates that are in closer alignment to principles articulated by Commission on the electric side. Any standby

tariff that the Commission approves for Con Edison's steam business should reflect the cost causation of customers utilizing alternative sources of thermal energy, without imposing an undue or unjustified burden on or disincentive against the use of onsite CHP energy systems. Such systems provide both electric and thermal energy to an end use customer at higher overall efficiency than central station energy generators, and thus provide a wide variety of public environmental and economic benefits that should be acknowledged and should not be unduly discouraged through rate design.

Q: How will your testimony be organized?

A: I plan to discuss a number of subjects, in this order: 1) a summary of the Commission's most recent pronouncements on standby rate design as articulated in its generic order on standby rate design for electric utilities, and as applied in utility compliance proceedings; 2) the existing steam tariff, the proposed SC-4 rate structure and associated issues; 3) public policy reasons supporting implementation of a standby steam tariff that is more in line with the Commission's guidelines for electric standby design elements; and 4) my recommendation for how the Commission can move forward on development of a more appropriate steam standby tariff.

I. Commission's General Order on Standby Rate Design

Q: Has the Commission recently established general principles of standby rate design?

A: Yes. In Opinion 01-4 issued October 26, 2001 in Case 99-E-1470, the Commission set forth a number of ratemaking principles to guide the development of utility specific electric standby tariffs for New York's investor-owned utilities. This order and the attached Guidelines for the Design of Standby Service Rates stands as the

Commission's most current and comprehensive articulation of principles of standby rate design and application.

Q: What are the key features of Opinion 01-4 and the principles it established?

A: In general, Opinion 01-4 addresses issues of revenue neutrality, cost causation, and cost recovery. One of the key insights it articulates, which set the structure for and guided the development of standby electric rates throughout New York, involves the difference between facilities that are "local" and "shared." Local facilities are "those that are closer to a customer's site and were put in place mostly to serve the individual customer," while "delivery system facilities located further from customer sites" are considered shared.[1] The Order goes on to say that costs that are shared by all the customers in a rate class should be recovered through a different mechanism than costs that are local to customers in that class. More specifically, the local costs should be recovered through a charge that is keyed to the potential demand a customer may impose on the delivery system, while the shared costs should be recovered through a charge reflecting the actual demand imposed. Pages 7 - 10 and Appendix A of the Order discuss this principle in detail.

Q: Did the Commission articulate a reason for establishing separate charges for recovery of "local" and "shared" costs?

A: Yes. The Commission stated, "costs associated with these shared facilities ought to be recovered in a manner that recognizes the customers' overall coincidence of the service classification, through as-used demand charges."[2] This is a reasonable application of the principle of cost causation; essentially it expresses the notion that

[1] Opinion 01-4, p. 8

[2] Opinion 01-4, p. 8

rate design should reflect both the magnitude of costs and the nature of how the costs are incurred..

Q: What are the ramifications of this "shared versus local" principle?

A: This principle led the Commission to establish two distinct types of demand charges, plus a customer charge, to recover delivery costs from standby electric customers. These charges are the contract demand charge, and the daily as-used demand charge. The contract demand charge, which is relatively stable and set at a level representing the customer's maximum potential demand, recovers the local costs. The daily as-used demand charge, which varies with the customer's actual peak electric demand on each peak day,[3] recovers the shared costs.

Q: How were the facilities and charges allocated as local (contract demand) versus shared (as-used demand)?

A: The allocations were set out in utility-specific compliance proceedings established in accordance with Opinion 01-4 of Case 99-E-1470. The results of the Consolidated Edison and Orange and Rockland Utilities compliance proceeding are illustrative of how the allocation between local versus shared facilities can differ from utility to utility depending on the unique physical characteristics of the delivery system. Appendix A of the July 29, 2003 Order in that proceeding[4] is titled "Local vs. Shared Allocation January 23, 2003 For Con Edison Standby Service" and Appendix B is titled "Local vs. Shared Allocation January 23, 2003 For O&R Standby Service." Each appendix consists of a simple table that lays out the split between contract

[3] "Peak" in this rate occurs between 8 a.m. and 10 p.m. on weekdays, divided into overlapping Periods one and two.

[4] Commission's Order Establishing Electric Standby Rates issued July 29, 2003 in Case Nos. 02-E-0780 and 02-E-0781.

demand and as-used demand for secondary, primary, and higher service level customers for secondary, primary, substation and transmission related costs. These tables are reproduced in Appendix A of this prefiled testimony.

In the case of Con Edison's system, only 75% of secondary customers' secondary distribution cost is allocated to contract demand, whereas in O&R's system 100% of the same costs are allocated to contract demand. The split of secondary costs is 75%/25% (contract/as-used demand) in Con Edison, and 100%/0% in O&R for secondary customers. For these customers, the splits are 25%/75% and 50%/50% respectively for primary system costs. For substation and transmission costs, the splits are 0%/100% in both utilities. For primary and higher level customers; the ratios are equivalent in both utilities.

Q: Is it apparent what methodology was used to arrive at this Con Edison/Orange and Rockland allocation?

A: According to the July 29 Order (p. 7), this categorization was arrived at in settlement discussions and accepted by the Commission. The order does not explicitly indicate what methodology was used; nor does the order sanction any particular methodology or methodologies for future use. The important point is that whether or not a foolproof methodology is available, some determination between shared and local costs can be made, and was deemed to comport with the guidelines specified in Opinion 01-4.

Q: Does Opinion 01-4 give further guidance on this allocation issue?

A: That opinion also references coincident demand. On page 14 of the Opinion, the Commission states:

> We must also expressly reject the Utilities' position that the costs incurred to provide standby delivery service are the same as the costs

> incurred to provide delivery service to full service customers. That argument implies, wrongly, that standby customers would all contribute to a service classification's peak load in the same way as full service customers, who place steady demand on the system. The Utilities argue facilely that there is no evidence in this proceeding to the contrary. However, it would defy logic to assume that the far more occasional demand of standby customers could occur with such simultaneity as to approximate the coincident peak demands of full service customers.

Thus, the Commission endorsed not only the approach of looking at contribution to peak load, but also the common sense notion that the true allocation of system costs simply must lie somewhere between 100% and 0%. As a final point, in addressing the concern of parties who sought concrete allocation guidelines, the Commission made a comment that is both consistent with the earlier quotation and directly applicable to the steam case at hand:

> DPCS and PACE maintain that the Commission should provide explicit guidelines for distinguishing between "local" and "shared" facilities. Although the concerns of these parties are legitimate, no standard set of principles appears possible at this time, given likely differences among utilities in cost studies, facilities, customer classes, and other pertinent considerations.

There is no apparent reason why the system-specific examination directed for electric utilities is not also appropriate for steam utilities.

Q: Did the Commission address whether a distinct rate design for standby customers should be recognized in rate design?

A: Yes; the Commission stated, "...the unique usage characteristics of standby customers, by virtue of these customers' intermittent and more random reliance on the delivery system, will be recognized through rate design."[5] The intermittent nature of standby customers' demands upon the system, and the lack of demand

[5] Opinion 01-4, p. 7

simultaneity, are reasonable arguments for a distinct rate design. The Commission rejected the view that volumetric rates are an appropriate basis for recovering delivery service costs,[6] and also rejected the view that standby customers should be charged on the basis of potential peak demand with no recognition given to the implications for self-generation.[7] Instead, in support of the rate Guidelines, it stated "the compromise moves sharply closer to economically efficient rates."[8]

II. Steam Tariff

Q: Is there currently a steam "standby" tariff?

A: Yes, SC-4, which is labeled "Back-Up/Supplementary Service," essentially is a standby tariff for steam customers who use, in the terms of the tariff, "another energy source for the same purpose [as steam] at any time during the months of November through April."

Q: What are the features of this tariff?

A: It consists primarily of a Contract Demand Charge assessed per 1,000 pounds per hour in each billing month, and a Usage Charge assessed per 1,000 pounds of steam in each monthly billing period. Each of these is separated into on peak and off peak charges, depending upon when the customer uses the service.

Q: Are these the only charges in the SC-4 rate?

A: No. Customers subject to this rate are also assessed a monthly Customer Charge, an Interconnection Charge, the Fuel Adjustment, and the Increase in Rates and Charges described in General Information Section VIII.

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[6] Opinion 01-4, p. 12

[7] Opinion 01-4, p. 10

[8] Opinion 01-4, p. 13

Q: Does the company's November 2, 2005 filing propose to modify the SC-4 rate?

A: The rate levels in each of the major cost components increase by percentage factors ranging from 28.8% to 57%. However, the basic rate design does not change.

Q: Does the current or proposed SC-4 steam standby tariff follow the principles established in the electric cases?

A: Only in part. The SC-4 rate does not include an as-used demand component. It consists primarily of the contract demand charge and a usage charge, plus a customer charge fixed for every customer on either Rate I or Rate II. This structure does not appear to reflect any effort to distinguish shared from local costs, and effectively assumes that all costs of the steam delivery system are "local."

Q: What policy and equity issues are associated with the SC-4 rate design?

A: The rate does not follow basic principles of equity and cost causation because it saddles standby steam customers with responsibility for recovery of system costs whether they "use" this service or not. Some costs to keep the system "standing by" may be reasonably assessed to customers on this rate class, but the SC-4 rate does not appear to be based on a rigorous allocation of costs based on principles of cost causation.

Q: Is there any reason why the Commission's decision on the electric side to separate certain costs as shared versus local cannot be applied to the steam system?

A: No. While a precise delineation of shared versus local steam system assets would require a systematic accounting, and is perhaps as much art as science, as a general matter the steam system exhibits attributes that can be classified as either shared or local.

In the same way that the electric system comprises wires and other system elements to carry electrical energy from generators to end users, the steam system is primarily a network of pipes that carry steam from production facilities to buildings. Some of these elements, or portions of them, are "shared" by all users, and some are local to those users.

Even on the electric side, where this localized/shared precedent was developed, there was a great deal of difficulty and uncertainty in establishing precisely which costs and system components are shared, and which are local. Without a formal accounting, it would strain credibility for anyone to assert with certainty exactly which steam system components are shared and which are local. But that fact did not, and does not, preclude a similar effort to make a determination for the steam utility.

Q: What of the fact that the steam utility was never unbundled into separate energy and delivery services, as occurred on the electric side?

A: This fact in itself could either simplify or complicate the problem of cost allocation. Assuming that the Usage Charge fully and solely collects costs incurred in the production of steam energy, then the delivery charges effectively remain to be recovered through demand charges. In that case, the only task would be to disaggregate the SC-4 contract demand charge into appropriate as-used and contract demand components. However, if the Company recovers some of its production related costs through the contract demand charge, more complicated allocation issues must be resolved. .

Q: Does the SC-4 tariff provide incentives for owners of alternate thermal energy sources to operate in any particular way?

A: No, in fact the SC-4 misses the opportunity to provide an important incentive. Once an SC-4 customer has paid its contract demand charge, that customer no longer has any incentive to produce its own thermal energy at any particular time. This could lead to an unfortunate unintended consequence. If the steam system is constrained by peak demands in certain hours, those customers who possess an ability to offset steam demand in those constrained hours through operation of on-site CHP have no incentive to run and thus provide a public benefit. In the case of a thermal and electric CHP installation, if the owner operates the system primarily to avoid high priced on peak electricity in the afternoon, he or she may still rely fully on the steam system early in winter mornings and the proposed tariff does nothing to discourage this.

Q: Are there other issues about the SC-4 tariff that the Commission should consider?

A: There are also questions about the vagueness of the applicability standards. Special Provision A attempts to set forth the criteria under which a steam customer becomes subject to this tariff, but it is unnecessarily broad and vague. That provision reads, in part:

> "... The Company will supply steam back-up/supplementary service under either of the following conditions: (a) where the Customer utilizes one or more energy sources other than steam purchased from Con Edison's steam system for any purpose, and the customer receives service from Con Edison's steam system for that purpose when the other energy source is/are not used; and, (b) where the customer utilizes a combination of Con Edison's steam system and one or more other sources of energy for the same purpose contemporaneously."

The language "any purpose" and "same purpose," for example, might encompass solar hot water heating of any size; a heating and cooling customer who

might use non-steam chilling on a warm day in late March; or a customer who places a cup of coffee hot from the microwave underneath his radiator to supplement its heat. Obviously Con Edison does not *intend* the last example to place a steam customer onto SC-4, but the language does not specifically preclude it. Vague applicability language is poor public policy and creates uncertainty that is harmful to the development of a CHP market.

III. Public Policy Rationale

Q: Should steam standby rates be cost based?

A: Yes. Designing rates that are based principally on costs is the preeminent goal and challenge. By the same token there can be an inherent tension between economic efficiency, equity and other public policy objectives. Pursuit of economic efficiency needs to be tempered where it unduly impacts upon other public policy goals, such as those that are served by CHP.

Q: Is there a relationship between utility standby rates and CHP development?

A: Electric standby rates and the SC-4 steam rate under discussion do affect CHP development because they are mechanisms that can force customers utilizing CHP technology to pay utility tariffs that differ in both structure and amount from tariffs they would pay without CHP. Individual customers and developers consider utility rates in their financial analyses of CHP, and on a macro scale the structures and levels of utility rates are important factors affecting the market penetration of CHP in various markets.

Even when they are developed according to rational and accepted principles, utility rates can carry unintended incentives that either promote or thwart non-utility

energy sources including CHP. The goal is to design rate structures that recover costs fairly and do not unnecessarily create disincentives to investments that may provide public benefits. When rates are imposed *without* due regard to appropriate principles the risk of unintended consequences is even greater.

Q: Is there a risk that the SC-4 tariff creates an unwarranted disincentive to CHP installations?

A: Unfortunately, there is. The fundamental characteristic of CHP is that it provides a portion of the customer's thermal and electric needs. Although the applicability criteria are vague it appears that CHP users will be subject to this rate, and thus pay a Contract Demand Charge in addition to a Usage Charge. Since the tariff does not attempt to disaggregate shared from local delivery costs, an unjustified portion of shared system costs are likely to be borne by customers using CHP. Not only would this violate the principles of ratemaking fairness, the additional, unavoidable charge to CHP users would unjustifiably weaken the financial case for CHP installation and potentially dissuade otherwise good candidates for CHP from following through with an installation.

Q: Please tell us some of the benefits of CHP in New York City.

A: The NERAC supports greater adoption of CHP technologies in New York City for a number of reasons. Most generally, electric generation with onsite recovery and use of what would otherwise be wasted heat is an efficient way to use fuel. The overall efficiency of well-designed CHP systems can exceed 80%, compared to roughly 55% for state-of-the art central station electric only generation. This efficiency advantage provides important environmental and economic benefits to the public at large. Additionally, studies have shown that efficient use of natural gas in CHP applications

can reduce market prices for natural gas. The same is true for electric prices—CHP can offset the most expensive peak hour electric prices, reduce line loading, and help reduce the wholesale price of power. Many of these benefits are the same that Ronald Bozgo of Con Edison references in his testimony about the value of the steam system's cooling capability, which offsets summer electric demand. CHP also offers important reliability, security, power quality and other benefits in New York City's dense and energy constrained environment.

Q: Do any categories of end user offer particular opportunities to achieve these benefits?

A: Yes. According to a recent report sponsored by NYSERDA,[9] the bulk of remaining CHP potential in the downstate region lies in the commercial sector. This sector includes many office buildings that also can or do take steam service.

IV. Recommendations

Q: What would you recommend in order to address the risk that the SC-4 rate is creating disincentives to CHP?

A: An appropriate first step, assuming the Commission adopts our overall approach to this issue, would be for the Commission to extend the general applicability of the principles it articulated for electricity standby rate design to the development of standby steam rates. Based on these general principles, the Commission should initiate a separate proceeding charged with establishing a modified steam standby tariff which, in the first instance, investigates which of the steam system production and delivery costs are shared, and which are local. Such an investigation could be based upon engineering criteria, analysis of coincident versus non-coincident

[9] Combined Heat and Power Market Potential for New York State, October 2002.

demands, or other information and analyses deemed relevant by the Commission. Following this, a proper allocation of these costs through a combination of as-used and other demand charges could be accomplished.

Eventually the feasibility and advisability of a separate rate classification for back-up and supplemental customers should be considered. The first step toward that separate goal would be for the Commission to direct Consolidated Edison to collect the necessary data to make a determination as to whether such a further refinement is warranted.

As part of any inquiry or order on this matter, the applicability standards of the SC-4 tariff should be clarified.

Q: Does this conclude your testimony?

A: Yes it does.

Appendix A: Reproductions of Appendices A and B of Order Establishing Electric Standby Rates issued July 29, 2003 in Case Nos. 02-E-0780 and 02-E-0781

Appendix A
Local vs. Shared Allocation
January 23, 2003
For Con Edison Standby Service

Standby Service Rate Design Percent of Contract Demand / Percent of As-Used Demand			
	Secondary Customers	Primary Customers	138 kV & Above Customers
Secondary	75% / 25%		
Primary	25% / 75%	75% / 25%	100% / 0% *
Substation	0% / 100%	50% / 50%	100% / 0% *
Transmission	0% / 100%	0% / 100%	25% / 75%

* Includes only 138 kV facilities for "138 kV & Above" Customers

Appendix B
Local vs. Shared Allocation
For O&R Standby Service
January 30, 2003

Standby Service Rate Design Percent of Contract Demand / Percent of As-Used Demand				
	Secondary Customers	Primary Customers	Substation Customers	Transmission Customers
Secondary	100% / 0%			
Primary	50% / 50%	75% / 25%		
Substation	0% / 100%	50% / 50%	75% / 25%	
Transmission	0% / 100%	0% / 100%	25% / 75%	25% / 75%