Before the

New York Public Service Commission

Case No. 07-E-0523

CONSOLIDATED EDISON COMPANY OF NEW YORK

Direct Testimony of

Dr. Alan Rosenberg

On Behalf of

The City of New York
and the Metropolitan Transportation Authority

September 2007
Project 8812

BRUBAKER & ASSOCIATES, INC.
ST. LOUIS, MO 63141-2000

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INTRODUCTION/SUMMARY

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A My name is Dr. Alan Rosenberg. My business address is 1215 Fern Ridge Parkway, Suite 208; St. Louis, MO 63141-2000.

Q WHAT IS YOUR OCCUPATION AND BY WHOM ARE YOU EMPLOYED?

A I am a consultant in the field of public utility regulation with Brubaker & Associates, Inc. (BAI), energy, economic and regulatory consultants. My qualifications are attached as Appendix A.

Q ON WHOSE BEHALF ARE YOU TESTIFYING?

A I have been retained by the City of New York (City) and the Metropolitan Transportation Authority (MTA) to review certain aspects of Consolidated Edison Company of New York's (Con Edison or the Company) filing to raise electric rates, which is the subject of this proceeding.

Q WHY IS THIS RATE APPLICATION IMPORTANT FOR THE CITY?

A Over 99% of the City's needs are served under NYPA's PASNY No. 4 Delivery Service. This service delivers the power from NYPA the last few miles of its journey

to the schools, courts, police precincts, homeless shelters, parks, government offices, libraries, and cultural institutions in the five boroughs. Con Edison, with apparent disregard for rate moderation, has relied upon a faulty cost study to propose a $149 million, or 52.3%, increase for the NYPA class as a whole in Rate Year 1 alone. Roughly, $30 million of the Rate Year 1 increase is associated with an interclass revenue neutral shift that purportedly is intended to bring the NYPA class to cost of service. This proposed "subsidy elimination" is the latest in a series of revenue shifts designed to eliminate a biased subsidy that, based on Con Edison's proposed cost of service methodology, appears to never go away.

Con Edison's three-year rate proposal, if approved, would add $250 million in costs to the City and its agencies over the next three years. An increase of this magnitude would burden the City and all of its residents.

Q WHY IS THIS RATE APPLICATION IMPORTANT FOR THE MTA?

A MTA is a public benefit corporation of the State of New York created in 1965 and has the responsibility for developing and implementing a unified mass transportation policy for The City of New York and Dutchess, Nassau, Orange, Putnam, Rockland, Suffolk and Westchester Counties. MTA carries out these responsibilities directly and though its subsidiaries and affiliates, including the New York City Transit Authority, Metro-North Commuter Railroad, Long Island Rail Road and the Triborough Bridge and Tunnel Authority.

MTA is one of the largest single users of electricity in the Con Edison delivery area. MTA estimates that Con Edison's three-year rate proposal, if approved, will add over $194 million in costs to MTA over the next three years. An increase in Con

Edison's rates of this magnitude could translate into additional service cuts, increases in fares, or both.

Q CON EDISON CHARACTERIZES ITS REQUESTED RATE INCREASES AS 11.5% IN THE FIRST YEAR, 3.2% IN THE SECOND YEAR AND 3.7% IN THE THIRD YEAR. YOU PAINT A PICTURE OF A MUCH MORE DRASTIC INCREASE. WHY DOES CON EDISON PORTRAY THE INCREASES AS SO MUCH LESS?

A Con Edison has portrayed the increases in terms of total service, including the cost of commodity.[1] However, that is misleading and certainly not as relevant or as informative as focusing on the requested increase in terms of delivery. I say that for two reasons. First, no one really knows what commodity costs will do over the next three years. But even more important, this case is not about commodity costs. Electricity supply is either purchased from a third-party Energy Service Company (ESCO) or purchased from Con Edison on essentially a pass-through basis. The requested increase before the Commission at this time is predicated on a change *in the Con Edison delivery rates*. It is the delivery service that is at the core of this proceeding, and that is how the proposed increase should be evaluated. Con Edison's inclusion of commodity costs in the denominator of its calculation simply masks the enormity of the increase it is asking the Commission to approve.

Q HOW IS YOUR TESTIMONY ORGANIZED?

A My evidence is organized into four sections. Section I of my testimony addresses some of the questionable assumptions or inputs incorporated into the embedded cost

[1] Con Edison's portrayed rate increase includes the impact of a $51 million or 2% increase in the Monthly Adjustment Clause (MAC), which pertains to the cost of supply as opposed to delivery costs.

of service study (ECOS) filed by the Con Edison Electric Rate Panel (ERP). I explain why these assumptions or data calculations cannot be relied upon. I also present alternative positions that, in my opinion, are much more supportable than the ERP's inputs. Finally, I demonstrate the volatility of the ECOS by showing that using even a few more reasonable, alternative allocation factors has a quantum impact on the individual class rates of return in the ECOS.

Section II of my testimony includes my recommendation for the allocation of any increase in delivery rates that may be awarded to Con Edison. Specifically, based on the unreliable nature of the ECOS, as detailed in Section I, as well as the wide disparity between the cost elements inherent in the historic cost of service study, I strongly recommend that the Con Edison ECOS not be used to allocate revenues in this proceeding. Given the flawed cost study and the astronomical rate increases that Con Edison is seeking over the next three years, the Commission should allocate any increase in a uniform, across-the-board fashion to all classes (i.e., each class would receive an equal percent increase on its current T&D revenue). However, *arguendo*, the New York Public Service Commission (PSC) does choose to use the filed ECOS as a guide, for the reasons set forth herein a 20% tolerance band should be applied.

In Section II, I confine my analysis to the portion of the overall increase that should be assigned or allocated to NYPA, EDDS and Con Edison customers as a whole. I do not take any position on the distribution of the increase among the individual customer classes which make up the Con Edison customer base.

Section III of my testimony shows why the Company's proposal to more than double the NYC street lighting Facilities Charge should be rejected. I explain why that Facilities Charge should not be changed.

In Section IV of my testimony I set forth certain principles for effective real-time pricing and recommend that the Commission initiate a collaborative to address whether Con Edison's existing or proposed rate design is consistent with expanded real-time pricing.

SECTION I – FLAWS IN THE CON EDISON COST OF SERVICE STUDY

Q HAVE YOU REVIEWED THE COST OF SERVICE STUDY AS FILED BY THE ELECTRIC RATE PANEL (ERP) IN THIS CASE?

A Yes. This was submitted as Exhibit ERP-1, an embedded cost of service study based on calendar year 2005. I will refer to this as the "test year."

Q DO YOU RECOMMEND ITS ADOPTION?

A No, I do not. The ECOS is flawed in several respects. First, the ECOS includes a number of arbitrary or questionable assumptions that should be rejected. Moreover, when more reasonable assumptions are substituted, the results of the ECOS change in a very material way. Because of these flaws, I strongly recommend that the Commission not use the ECOS as the basis for interclass revenue allocation in this case. Instead, the revenue requirement should be allocated to all classes equally on a net-of-fuel basis. Second, the study reflects an unreasonable and incorrectly functionalized amount of working capital in the test year. Finally, the spread of Administrative & General (A&G) expense across the various functions (transmission, distribution, metering, etc.) appears out of proportion to direct Operations & Maintenance (O&M) expense.

Assuming, *arguendo*, that the Commission decides to use the ECOS as a guide for interclass revenue allocation, the flaws that I highlight herein compel the use

of an expanded tolerance band before revenues are reallocated. The use of an expanded tolerance band also is supported by the enormous difference between the revenue requirement of the test year and the claimed revenue requirement of the rate year ending March 2009 (let alone Rate Years 2 and 3, subsequent to 2009). Thus, if the Commission decides to use the filed ECOS as a guide for interclass revenue allocation, my recommendation is that a tolerance band of 20% be used, rather than the 10% figure advocated by the ERP.

Untenable Assumptions in the ECOS

Q WHAT UNTENABLE ASSUMPTIONS HAVE YOU UNCOVERED IN THE ECOS SUBMITTED BY CON EDISON IN THE CURRENT CASE?

A First, for purposes of allocating transmission plant, the Company used an average of a four-hour window, averaged over five days, or a total of 20 hours. In my opinion, it should have used a four-hour window for a single day (or even a single peak hour).

Second, for purposes of allocating high tension plant, the Company used the higher of summer or winter demands for some classes, but not for others. Moreover, by breaking up the NYPA class into 14 subclasses for purposes of calculating this allocator, but only subdividing other rate classes into at most two subclasses, the NYPA class is deprived of diversity benefits that other classes are able to achieve.

Third, the Company did not attribute any portion of line transformers to the number of customers but, instead, classified them only as demand-related. This is contrary to conventional practice as well as illogical.

Fourth, the Company used a somewhat arbitrary mix of different demand allocation factors for the purpose of measuring class responsibility for low tension lines and conductors.

I address each of these untenable ECOS assumptions in more detail below. The sum of the flawed assumptions, however, clearly demonstrates that the ECOS should not be relied upon to allocate revenues in this proceeding.

Q WHAT IS THE FIRST FLAWED DECISION THE COMPANY MADE IN THE ECOS WHICH AFFECTS THE RESULT OF THE STUDY?

A The Transmission allocation factor, summer system peak demand is based on the highest five-day, four-hour average, or a total of 20 hours. The demand during the highest of those 20 hours was 13,059 MW. However, the demand during the lowest of those 20 hours was only 11,763 MW, or only 90% of that peak hour. Of course, the more that peaks are averaged, the more that the price signal is diluted from the "pure peak." This dilution compromises cost causation signals, which can lead to misleading ECOS results.

Q WERE YOU ABLE TO DERIVE CLASS RESPONSIBILITIES FOR THE PEAK HOUR, JULY 27, AT HOUR 5 PM?

A No. The Company said individual daily peak demand data was unavailable. The Company also stated that the class data was unavailable for the highest four monthly summer peaks. However, I could derive class data for the highest five-day single-hour (5 PM) peak. I would also note that in 2005, three out of the four summer peaks were achieved at hour ending 5 PM. Exhibit AR-1, Schedule 1 shows that using a five-day one-hour average for the transmission allocator produces a lower cost responsibility for the NYPA class than the Company methodology.

Q PLEASE EXPLAIN THE SECOND FLAWED DECISION MADE BY THE ERP.

A The second flawed decision by the ERP was to use the individual customer demands of each subclass of NYPA in the calculation of class non-coincident demands. Class non-coincident demands are used in the allocation factor for the High Tension distribution system.

Q WHAT IS A CLASS NON-COINCIDENT DEMAND FACTOR AND WHY IS IT USED?

A Perhaps a good explanation was provided by Con Edison itself in response to the City's Question No. 88.

> As a practical matter, there are three categories of demands that are used for cost allocations: individual customer maximum demand (ICMD), which corresponds to billing demand, **class non-coincident peak demand (NCP), which is the total class peak demand, coincident within the class** but non-coincident with the system peak, and system peak demand, which is the maximum coincident demand for the entire system.
>
> The principal [sic] involved in selecting the appropriate allocation factors is diversity of demand. At the delivery point to the customer, the system is designed to meet the customer's ICMD. However, as one proceeds upstream from the customer, diversity of demand is reflected in system designs, and equipment is designed to meet class NCPs. (Emphasis added.)

Diversity of demand is the phenomenon that allows utility planners to design and build the facilities that serve a large number of customers to take advantage of the fact that not all customers achieve their peak demand simultaneously. Diversity is the flip side of coincidence. In other words, Transmission plant takes the most advantage of diversity, the High Tension less so, and the Low Tension is able to take the least advantage of diversity.

Q DID THE ERP CALCULATE THE NON-COINCIDENT DEMAND FOR THE NYPA CLASS AS A WHOLE?

A No. Instead, it broke the NYPA class, which appears as a single class (column) in the ECOS, into 14 subclasses, and treated each of those subclasses as an individual class, thus denying the NYPA class the benefit of diversity that was afforded to the other classes in this calculation. This error results in an overstatement of NYPA's non-coincident demand, and an overallocation of cost responsibility to the NYPA class in the ECOS.

Q DID YOU OBSERVE SOME OTHER QUESTIONABLE PRACTICES IN THE CALCULATION OF THE D04 ALLOCATION FACTOR?

A Yes. For some classes Con Edison uses the higher of summer or winter demands while for other classes it uses only the summer demands.

Q WHY IS THIS UNACCEPTABLE?

A Typically, a non-coincident demand allocator is calculated as the highest demand of each class, whenever that demand may occur. Occasionally, you may see that demand confined to a more narrow time window or season if there is ample diversity involved in the planning and the cost analyst wants to more closely approximate a coincident demand. However, I cannot recall an instance (other than Con Edison) where a cost analyst used the absolute maximum (whenever it may occur) for some classes, but only use a circumscribed time frame for other classes.

Q IS THERE ANY OTHER UNCERTAINTY INHERENT IN THE D04 ALLOCATION FACTOR?

A Yes. Con Edison defines the High Tension system (a much more common terminology is Primary Distribution system) as those facilities operating between 2 kV and 69 kV. This is an extraordinarily broad voltage level. In my experience, facilities that operate at 69 kV are usually considered transmission facilities.

Q COULD YOU DERIVE AN ALTERNATIVE D04 ALLOCATION FACTOR THAT TREATS ALL CLASSES IN THE STUDY ON A CONSISTENT BASIS?

A Yes. The results of this alternative D04 allocator are shown on Exhibit AR-1, Schedule 2. As shown on this Schedule, adjusting Con Edison's proposed allocation methods for the flaws mentioned above reduces NYPA's allocated share of total high tension distribution costs from 14.189% to 12.802%.

Q WHAT IS THE THIRD FLAWED PRACTICE THAT YOU FOUND IN THE ERP STUDY?

A The ERP did not calculate any customer component of line transformers, Account 368. This error is clearly at odds with the NARUC Electric Cost Allocation Manual, which states that transformers should also be classified into demand and customer components using a minimum system study.

> Distribution plant Accounts 364 through 370 involve demand **and customer** costs. (NARUC, Electric Utility Cost Allocation Manual, page 90, emphasis added.)

Even Con Edison concedes that there is a customer component to transformers. In response to NYC Question 264, the Company replied, in part:

> As to part a of this question, <u>the addition of</u> distribution lines and <u>transformers may be necessary to extend service to new customers</u>

> which Con Edison has an obligation to serve, and those costs could not be avoided by demand management. (Emphasis added.)

Q COULD YOU DETERMINE A REASONABLE CUSTOMER COMPONENT FOR LINE TRANSFORMERS?

A Yes. Using a minimum size transformer (50 kVa for underground and 7.5 kVa for overhead), I estimate that the customer component of line transformers would be 13.7%.

Q IS THERE ANY CORROBORATION THAT THE 13.7% CLASSIFICATION YOU USED FOR LINE TRANSFORMERS RESULTS IN A REASONABLE ALLOCATION OF THIS ASSET CLASS?

A Yes. I compared the implied allocation of 2005 year-end plant value for line transformers (Account 368) across the five boroughs plus Westchester resulting from my revised allocation with the actual plant values in each of those six boroughs (including Westchester). In other words, I took a weighted average allocation, giving a 13.7% weighting to a C02 allocation factor, and an 86.3% weighting to a D09 allocation factor. The results were as follows:

TABLE 1

Results of Incorporating a 13.7% Customer Component in the Allocation of Account 368

Borough	(Million) Implied Allocation	Actual Balance
Queens	$298.1	$358.4
Bronx	166.7	156.7
Manhattan	599.6	623.5
Brooklyn	335.9	294.8
Staten Island	82.5	59.7
Westchester	209.3	199.2
Total	$1,692.2	$1,692.2

Performing a regression analysis between those two sets of figures yields an R squared (Pearson Coefficient) of 97.11%, indicating that my derived allocation is very reasonable. (A Pearson Coefficient of 100% would be a perfect correlation.) Moreover, my approach is consistent with standard cost allocation practice, as set forth by NARUC. The ERP's approach is not.

Q WHAT IS THE EFFECT ON THE ECOS RESULTS OF CHANGING THE LINE TRANSFORMER WEIGHTING TO INCLUDE CUSTOMER COSTS?

A This adjustment reduces Con Edison's claimed revenue deficiency for the NYPA class by $2.6 million.

Q PLEASE EXPLAIN THE FOURTH FLAWED ASSUMPTION YOU IDENTIFIED IN CON EDISON'S COST STUDY.

A As I explained above, the Company used the same measure of demand to apportion both overhead and underground conduit. That measure of demand is actually a

weighting of two different measures of demand. The first measure is the greater of either the summer or the winter individual customer maximum demand (ICMD), with each customer considered in isolation. Thus, for this measure of demand, it is immaterial how a class is subdivided. The second measure of demand is the class non-coincident demand (CNCD) that I mentioned in my discussion of the D04 allocator. The second measure views the class as a whole and thus implicitly assumes that the entire class jointly uses each of the elements of the distribution system. For this measure, the planner needs only to look at when the class as a whole peaks to design the system, rather than when individual members of the class hit their peaks.

Q HOW DOES CON EDISON WEIGHT THOSE TWO MEASURES OF DEMAND?

A For most classes it gives the two measures equal weight, i.e., it weights them 50/50. However, it makes an exception for two classes, SC 1 and SC 7, for which it assigns the ICMD only a 25% weighting, while it assigns the CNCD a 75% weighting. It does this because Con Edison believes these two classes[2] have more diversity than other classes.

Q ARE THERE ANY QUANTITATIVE ANALYSES OR STUDIES THAT WOULD SUPPORT THE 50/50 WEIGHTING FOR ALL BUT TWO CLASSES?

A No. Con Edison has not provided any study or analysis to support using a 50/50 ICMD/CNCD weighting for all but two classes.

[2] The Exhibit ERP-1 narrative refers to three classes that use a 75% weighting for non-coincident demands, but this is an error.

Q ARE THERE ANY QUANTITATIVE ANALYSES OR STUDIES THAT WOULD SUPPORT THE 25/75 ICMD/CNCD WEIGHTING FOR THE SC 1 AND SC 7 CLASSES?

A No. In response to Question No. 204 from the City, attached as Exhibit AR-1, Schedule 3, the Company states that it does not have any specific study of the diversity of individual residential customer loads in multiple dwellings. Thus, Con Edison has not supplied any study or analysis to support using a 25/75 ICMD/CNCD weighting.

Q WHAT PROBLEMS DO YOU SEE WITH THE COMPANY'S USE OF A 50/50 WEIGHTING TO DEVELOP THE DEMAND ALLOCATOR FOR OVERHEAD AND UNDERGROUND CONDUIT?

A First, the 50/50 weighting of both demand measures for most classes is not only arbitrary, but it assumes far more diversity benefits for a distribution system than most utilities believe is warranted. In fact, when the Commission conducted a generic proceeding on the proper rate design for standby service for customers with on-site generation, the New York utilities took the position that there were relatively small diversity benefits to be had in designing the distribution system, especially the secondary voltage distribution system, such as the low tension system. As the Joint Statement of Position of the New York State Electric Companies Regarding Standby Service Issues, *which included Con Edison*, expressed it:

> A second category of such costs, which includes ***much of the distribution system***, is for customer-specific facilities and/or individual feeders on the delivery system. Those portions of the distribution system and some portion of the transmission system are ***designed to meet the expected maximum requirements for individual customers and individual parts of the delivery system***. In this regard, ***notions of coincidence*** of a customer's peak load with the system peak load ***are relatively unimportant***. Rather, the distribution

> and transmission plant that is serving the customer is highly correlated with the customer's expected maximum requirements. (September 18, 2000, page 8, emphasis added.)

Second, the ERP method assumes that there are the same diversity benefits in the overhead system as in the underground system. That does not seem reasonable. Typically, radial (overhead) systems exhibit very little diversity.

Q HAVE YOU DEVELOPED AN ALTERNATIVE LOW TENSION UNDERGROUND DEMAND ALLOCATOR?

A To recognize that there is not a lot of diversity consideration involved in building the low tension system, I accorded the ICMD more weight than the CNCD, rather than weighting them equally as the Company had. Consequently, I decided that a conservative weighting would be 60% for the ICMD and 40% for the CNCD.

Q HOW DID YOU HANDLE THE TWO CLASSES FOR WHOM CON EDISON DEEMED TO HAVE MORE DIVERSITY BENEFITS THAN THE OTHER CLASSES?

A For those two classes, I reversed the percentages and weighted the ICMD only 40% and gave a 60% weighting to the CNCD of those classes, i.e., I reversed the percentages. Thus, I too have reflected the greater diversity of individual customer loads in multiple dwellings. The development of the alternative D08 and D09 allocators is shown in Exhibit AR-1, Schedule 4.

Q PLEASE SUMMARIZE THE REVISIONS YOU HAVE MADE TO EXHIBIT ERP-1 TO SHOW THE IMPACT OF YOUR MORE REASONABLE ECOS ASSUMPTIONS.

A I have made the following revisions to the ECOS filed in Exhibit ERP-1:

- Treated the NYPA customers as a single class and took the higher of summer or winter demand for all classes, not just some classes for purposes of deriving the High Tension allocator (D04).

- Classified line transformer costs as 13.7% customer related and 86.3% demand related.

- Gave slightly more weight to individual customer demands than to integrated non-coincident class demands when allocating the demand-related component of the low tension distribution plant.

The only change I did not incorporate into my study is my proposed revision to use a single hour for the D03 (transmission) allocator. Instead, I retained the ERP's choice of demand time frame based on the fact that the Company was unable to provide daily as opposed to five-day average hourly class demands.

Q WHAT ARE THE RESULTS OF THE ALTERNATIVE STUDY?

A The results of the alternative study appear in Exhibit AR-1, Schedule 5, and the implication on the cost of serving NYPA is summarized in Table 2 below.

TABLE 2

Comparison of Con Edison Cost of Service Study with Alternative Study

	Indicated Deficiency ($000)	
NYPA Class	**Filed Study**	**Alternative Study**
At a 10% Tolerance Band	$30,202	$6,836
At a 15% Tolerance Band	$21,807	None
At a 20% Tolerance Band	$13,412	None

Notice that by making my corrections to the ECOS allocation factors, the NYPA deficiency is very small within a 10% tolerance band and nonexistent at 15% and 20% tolerance levels.

Questionable Use of Identical Demand Allocation Factors

Q LET US TURN TO THE NEXT ARBITRARY DECISION USED BY THE ERP IN THE ECOS, NAMELY TO USE THE SAME DEMAND ALLOCATOR FOR UNDERGROUND AS FOR OVERHEAD PLANT. WHY DO YOU CONSIDER THAT A QUESTIONABLE ASSUMPTION?

A The problem is that there is apparently a mix of customers in each customer class, some overhead and some underground. However, the mix is not the same. One class will have a different proportion of its members' load served by overhead lines than another. Indeed, the overhead and underground service allocation factors are different for each class. Consequently, barring some incredible coincidence (that has not been demonstrated here), one would expect the overhead and underground demand allocators to be different for each class.

Q DOES THE STUDY COMPORT WITH CON EDISON'S OWN STUDY THAT IT SUBMITTED IN PREVIOUS CASES?

A No, there is no consistency. In the ECOS from the prior case, the Company did use the same allocator for both overhead demand as well as underground demand when allocating the demand related component of Low Tension distribution plant. However, in a prior case Con Edison submitted an ECOS that used different factors for assigning responsibility for overhead plant versus those used for allocating underground plant.

In my opinion, it makes more sense to use different factors because different customer classes should not bear equal responsibility for overhead versus underground plant. Some classes have a relatively larger portion of their customers served from overhead lines than other classes. Each class has customers who are

served by overhead service and those who are just served with underground service. Obviously, those served exclusively with underground service should not be allocated overhead costs.

In the current study, the customer allocators for the Low Tension system are different (as between overhead and underground), but the demand allocation factor for underground lines is *exactly equal* to the demand allocation factor for overhead plant. Clearly, the Company is using an expedient here, instead of trying to find a more accurate allocation factor.

Q IS THERE ANY EVIDENCE THAT THIS EXPEDIENT OF USING THE SAME DEMAND ALLOCATOR FOR OVERHEAD AS FOR UNDERGROUND PLANT LEADS TO AN UNTENABLE RESULT?

A Yes. I analyzed Con Edison's implicit allocation of overhead plant compared to actual plant balances. First, I looked at how Con Edison broke out Plant Account 365, Overhead Conductors, into High-Tension, Low Tension – Demand related, and Low Tension Customer related components. Next, using the breakout of both kilowatthour sales and customers by borough (for purposes of this exercise only I treated Westchester as a sixth borough), I developed demand and customer allocation factors to allocate demand and customer related plant across boroughs as well as classes. For example, 21.82% of SC 1 usage is in Queens, and the SC 1 class represents (according to Con Edison) 37.82% of the Overhead Low Tension demand allocator (D08). I multiplied 0.2182 times 0.3782 to derive a factor of 8.255% for the Queens SC 1 DO8 factor. By doing this for all classes and for all boroughs and summing over each class, I was able to derive a D08 factor by borough. Because Con Edison also functionalizes a portion of its overhead conduit (Account 365) as

High Tension, I likewise developed a borough-wide D04 allocation factor. In an analogous fashion, by using customer counts, I derived an Overhead Low Tension customer allocator (CO2) for each borough. I then took each of the High Tension, Low Tension Demand, and Low Tension Customer components (again according to Con Edison) and allocated each of those "pots" across the six boroughs and then took the sum of those three "pots" for each borough.

Q WHAT DID YOU DO NEXT IN YOUR ANALYSIS?

A I compared the results of that implied allocation with the actual year ending (2005) plant balances for Account 365, which was supplied by Con Edison in response to the City's Question 123d.

Q HOW DID THE CON EDISON IMPLIED ALLOCATION COMPARE WITH ACTUAL YEAR END BALANCES?

A Not very well. For example, Manhattan only had less than fourteen *thousand* ($14,000) of overhead conduit in actual plant balances. The implied allocation of Account 365 to Manhattan in the ECOS, however, was over $181 *million*.

Q WOULD YOU AGREE THAT YOUR ANALYSIS TACITLY ASSUMES THAT THE AVERAGE CUSTOMER FROM ANY PARTICULAR CLASS IN ONE BOROUGH EXHIBITS A LOAD FACTOR (AND SIZE) SIMILAR TO THAT OF THE AVERAGE CUSTOMER IN ANOTHER BOROUGH?

A Yes, it does. However, that is not very different from the assumptions inherent in the derivation of demand and customer allocation factors in Con Edison's analysis. In any case, the disparities between the implied allocation and the actual plant balances

are so large that it is patently obvious that Con Edison's expedient to force the demand allocation factor for overhead to equal the allocation factor for underground, is contrived and should be rejected.

Q HAVE YOU DEVELOPED AN ALTERNATIVE DEMAND ALLOCATION FACTOR FOR OVERHEAD DISTRIBUTION PLANT?

A No, I have not because we simply do not have the demands for each class segregated by underground and overhead. Moreover, the task is further complicated by the fact that some customers who are served by overhead lines also make use of underground facilities that feed into these overhead lines. Nevertheless, I have demonstrated that Con Edison's decision to use the same demand allocation factor for both overhead and underground low tension plant clearly is an unsupportable, inaccurate expedient and this error is another reason why the ECOS should not be relied on.

Unreasonable Working Capital

Q WHY DO YOU CONSIDER THE AMOUNT OF WORKING CAPITAL IN THE ECOS TO BE UNREASONABLE?

A In the Company study filed in the previous case, the amount of working capital (a component of rate base) was $339 million. In the study filed in this case, the working capital shown is over $1.2 billion, or almost 4 times as much. On its face, this appears unreasonable.

Q WHAT IS WORKING CAPITAL?

A Working capital represents the capital put up by investors to make up for the fact that the Company has to pay out for expenses before it can recover those expenses from the ratepayers. In other words, the payment by the utility may lead the expense item, or it may lag the expense item. The revenue, of course, will almost always lag since the customer normally pays its bill after service is rendered. Thus, many utilities conduct what are called lead-lag studies in order to determine the proper working capital amount.

Q IN WHAT WAY DOES WORKING CAPITAL AFFECT THE ECOS?

A The working capital assigned to NYPA is $143 million, or about 50% of its current revenue. This would seem to imply that Con Edison must pay its expenses for serving NYPA more than six months before it receives the corresponding revenue. This too seems unreasonable. (I say *more* than six months because a portion of that revenue is for depreciation or other non-cash expenses.)

Q IS THE PERCENT ALLOCATION OF WORKING CAPITAL TO CURRENT REVENUES AS HIGH FOR THE OTHER CLASSES AS IT IS FOR NYPA?

A No. Table 3 below shows that on a cumulative basis the total Con Edison customer base is allocated a disproportionate lower amount of working capital. This implies that the non-NYPA classes have a considerably lower implied lag than the NYPA class. Although I am not privy to the Con Edison/NYPA payment history, it is hard for me to accept the proposition that NYPA's payments to Con Edison are significantly slower than payments from the non-NYPA classes.

TABLE 3

Allocated Working Capital Amount to Total Current Revenue ($1,000)

	Allocated Working Capital	Total Revenues	Percent of Allocated Working Capital to Total Revenues
Total Con Edison Customers	$1,081,038	$6,343,562	17.0%
NYPA Customers	$143,270	$307,838	46.5%
EDDS Customers	$8,140	$21,080	38.6%
Total System	$1,232,448	$6,672,480	18.5%

Q WHAT APPEARS TO BE THE PROBLEM WITH THE WAY THE COMPANY HAS FUNCTIONALIZED WORKING CAPITAL IN THE ECOS?

A The major problem I identified is that the Company is only assigning $7.9 million or less than 1% to the procurement category. Such a small allocation to procurement seems unreasonable since Con Edison's annual commodity expense totals over $3.3 billion. Con Edison's proposed functionalization also appears to ignore the time lag that exists between the payments that Con Edison makes to the New York Independent System Operator (NYISO) for power purchases and Con Edison's recovery of those costs through the collection of revenues from its retail customers.

Q HAVE YOU IDENTIFIED ANY PROBLEMS WITH THE TOTAL DOLLAR AMOUNT ASSOCIATED WITH WORKING CAPITAL?

A Yes. One significant item appears to be an intangible item termed *"excess rate base over capitalization"* (ERBOC) that amounts to almost $800 million. Clearly, this is a nebulous item that, even assuming it were a legitimate rate base item, would be almost impossible to accurately allocate to any particular class.

Q WHY DO YOU CLAIM THIS IS A "NEBULOUS" RATE BASE ITEM?

A As noted by Con Edison in response to discovery:

> The excess rate base over capitalization adjustment is *virtually impossible to project* as it would involve not only a multitude of calculations but also a *multitude of variables which would make the estimate not likely to be accurate*. (Company response to NYPA Interrogatory No. 43, emphasis added.)

Q HAVE YOU REFLECTED ANY MODIFICATIONS TO THE COMPANY AMOUNT OR FUNCTIONALIZATION OR ALLOCATION OF WORKING CAPITAL IN YOUR ALTERNATIVE ECOS?

A No. For purposes of my analysis, and to facilitate comparisons to the ECOS filed by the ERP, I have left the Company working capital calculations unchanged. Nevertheless, the concerns I have raised clearly cast additional doubt on the accuracy of the ECOS.

Anomalous O&M Results

Q DID YOU NOTICE ANY ANOMALOUS O&M RESULTS IN THE COMPANY CALCULATIONS?

A Yes. The majority of the O&M expenses (excluding fuel and purchased power) are more or less readily functionalized because they are booked directly to a FERC uniform general ledger account number that pertains to a particular service, such as transmission or overhead lines. However, even these amounts, which have been directly booked, have to be further functionalized between transmission, high tension, low tension etc. Moreover, there is $220 million of Administrative and General expense that must ultimately be functionalized to specific categories as well.

Normally, one would expect the A&G expense to be proportionally functionalized in accordance with booked O&M expenses.

Q WAS THAT THE CASE WITH THE FILED ECOS?

A No. When I compared the functionalization of A&G expense to the functionalization of direct O&M expense I found the following relationships.

TABLE 4

Ratio of A&G Expense to Direct O&M Expense

Function	Con Edison Proposed Ratio of A&G Expense to Direct O&M	Proportional Ratio of A&G Expense to Direct O&M
Procurement	7.5%	29.8%
Transmission	39.8%	29.8%
High Tension	38.4%	29.8%
Underground Transformers	23.0%	29.8%
Meter Service Provider	13.5%	29.8%
Meter Installation	6.6%	29.8%

I find the disparate results shown in Table 4 to be unacceptable. First, Con Edison's proposed method for functionalizing A&G expense in the ECOS allocates a disproportionally higher amount of A&G expense to the Transmission and High Tension categories. This method of functionalizing A&G expense is not consistent with accepted practice, and the Company has not demonstrated why certain cost categories should be given a larger share of A&G expense items than others. As I

noted earlier, the accepted practice is to assign A&G expenses proportionately to direct O&M expense items.

When revenue credits were also factored in, the Con Edison ECOS results were even more peculiar. For example, Table 3 of the ECOS shows the sum of net O&M expense allocated to Meter Installation, Meter Ownership, and Utility Metering to be negative.

Q HAVE YOU REFLECTED ANY MODIFICATIONS TO THE COMPANY FUNCTIONALIZATION OF O&M EXPENSE IN YOUR ALTERNATIVE COST OF SERVICE STUDY?

A No, I have not. As of the time my testimony was being prepared, the Company had not sent the proper backup data required to make this adjustment. Nevertheless, this misallocation of A&G expense casts further doubt on the accuracy of the ECOS, and casts further doubt on the study's results.

SECTION II – RECOMMENDATION ON THE DISTRIBUTION OF AN INCREASE TO DELIVERY RATES

Q HOW HAS CON EDISON PROPOSED TO DISTRIBUTE THE INCREASE IN DELIVERY RATES BETWEEN CON EDISON, NYPA AND EDDS?

A As explained by the ERP on pages 42-44 of its testimony, Con Edison's ERP has proposed a multi-step process. First, it proposes to realign current revenue responsibility among the classes so as to bring those three classes within a plus or minus 10% bandwidth around the system average rate of return, which is 9.03%. According to the filed ECOS, the Con Edison class is already within 4% of the system

average rate of return according to the study, but the NYPA and EDDS classes are not. Thus, the ERP is proposing a realignment of:

NYPA	plus $30.2 million
EDDS	minus $0.1 million
Con Edison	minus $30.1 million

Then, the ERP proposes spreading the T&D related revenue increase, excluding GRT, to the classes in proportion to the revenue derived after the "realignment." Finally, the increase to the three classes was calculated as the algebraic sum of the realignment plus the proportional distribution of the T&D (excluding GRT) increase.

Q HAVE YOU ATTEMPTED TO REPLICATE CON EDISON'S PROPOSED DISTRIBUTION OF THE INCREASE?

A Yes. I followed the ERP's narrative description of the methodology for distributing the increase. My calculations are detailed on Exhibit AR-1, Schedule 6. As shown there, I calculate that even under the Company algorithm, the NYPA increase in Rate Year 1 would be $148.9 million, and not the $156.9 million alleged by the ERP.

Q WHAT ARE THE RESULTS OF THE REVENUE ALLOCATION ALGORITHM PROPOSED BY CON EDISON?

A The result of Con Edison's proposal is that the NYPA delivery class is being asked to pay over 50% more for the same service that it is paying for now, and approximately 1.4 times the average increase that is being allocated to the remaining customers. I should emphasize that this is just the first year increase of Con Edison's proposed

three-year rate plan. At the end of RY3 under the Company proposal, the rates that Con Edison charges to NYPA would be 78.4% greater than the rates that just went into effect in April 2007.

Q ARE THERE FURTHER REASONS FOR NOT RELYING SO HEAVILY ON THE ECOS TO ESTABLISH THE INTERCLASS REVENUE ALLOCATION IN THIS PROCEEDING?

A Yes. I already have outlined a number of problems with the ECOS that are so serious that they compel that the ECOS not be relied on to allocate revenues in this proceeding. In addition, the vast disparity between the investment and costs reflected in the ECOS test year on the one hand, and the investment and costs reflected in the requested rate year should cause the Commission to not rely on the ECOS. Table 5 below illustrates these disparities.

TABLE 5

Contrast of ECOS Test Year with Rate Year

Description	ECOS	Rate Year
Return at Current Rates	9.03%	3.17%
Rate Base	$ 9.5 Billion	$ 13.3 Billion
Operation and Maintenance	$ 880 Million	$ 1,716 Million

The magnitude of the differences between the test year and rate year are striking and should cause the Commission to question whether the results of the ECOS have any bearing on the proper allocation of costs in the rate year. It should also be noted that if the ERBOC were eliminated from both the ECOS and Rate Year representations, the disparities shown in Table 5 would be even greater.

Q PLEASE DESCRIBE THE PROBLEM.

A The historic year reflected in the ECOS is calendar year 2005, which ended 2¼ years prior to the start of the rate year, and is 3¼ years removed from the conclusion of the rate year. As a result, the cost structure of the two periods differs dramatically, as evidenced in Table 5. Given these huge differences, the relevance of the 2005 cost study is increasingly dubious. For example, the functionality of these large incremental investments and the resultant allocation among the various customer classes, are likely to have a significant impact on the cost study results. Because of this, the ECOS should not be used to allocate revenues in this proceeding.

Q WHAT IS YOUR INTERCLASS REVENUE ALLOCATION RECOMMENDATION?

A The ECOS should not be relied upon as the basis for determining the interclass revenue allocation in this rate case. I have demonstrated that the ECOS used here is inconsistent with previous cost studies employed by Con Edison, and that casts doubt over the current results. In addition, I have demonstrated that my corrections to just some of the errors have significant implications on the alleged “deficiency” of the NYPA class. Finally, the magnitude of the different level of plant investment between the historic year and the rate year casts serious doubt on the reliability of the ECOS results. Given all of these problems, as well as the sheer magnitude of the requested increase and the impact on economic development, the most prudent course of action, and my recommendation, is that the Commission allocate any increase in a uniform across-the-board fashion to all classes, i.e., each class would receive an equal percent increase on its current net-of-fuel T&D revenue.

Q ASSUME, HYPOTHETICALLY, THAT THE COMMISSION REJECTS THE NOTION OF AN ACROSS-THE-BOARD UNIFORM INCREASE. WHAT ALTERNATIVE RECOMMENDATIONS WOULD YOU MAKE TO DISTRIBUTE THE INCREASE AMONG THE CLASSES?

A In that case, I recommend that whichever ECOS is used in this case, the tolerance bandwidth be expanded to 20% above parity and to 20% below parity. This broader bandwidth is necessary to recognize two factors:

1. The diminished relevance of the test year (2002) cost of service study to the future rate year (12 months ended March 31, 2006); and

2. Con Edison's use of assumptions and expedients in the ECOS that, at best, are of questionable rigor and, in my opinion, seriously flawed.

I also would recommend that any adjustment for deficiency be phased in over three years. In fact, the ERP has stated that it would be amenable to phasing in the reduction of the revenue deficiency over the term of the Rate Plan in order to moderate the increase to the NYPA class.

Q HAS THE COMMISSION PREVIOUSLY USED A 10% TOLERANCE BANDWIDTH AROUND PARITY TO GUIDE THE DISTRIBUTION OF THE INCREASE?

A It has on occasion, but not exclusively and not absolutely. The Commission has also used bandwidths wider than 10%. Moreover, the Commission, like almost every other regulatory board, has also recognized the need for moderation in allocating increases. Thus, regulators typically will temper the indications of a cost service study in recognition of the regulatory principle that rates should not change drastically. The use of a broader tolerance band is particularly appropriate here, where the ECOS that may be relied upon is so fraught with problems.

Q CAN YOU EXPLAIN HOW YOU WOULD PROPOSE SPREADING AN INCREASE EMPLOYING A ±20% TOLERANCE BANDWIDTH?

A Yes. Also to make the results more comparable to the ERP proposal, I am using for purposes of illustration the Company's requested increase and the ERP's filed ECOS, although I obviously am endorsing neither of the Company proposals. As noted earlier, I have only developed a distribution of the increase between 1) the NYPA class; 2) the EDDS class and 3) the remaining customers, or what the ERP terms "Con Edison customers."

The mechanics of developing the increase would be analogous to that used by the ERP with two exceptions:

1. I would employ a 20% tolerance band to calculate the surplus or deficiency; and

2. The "realignment" would eliminate one-third of the surplus or deficiency in each of Rate Year 1, Rate Year 2 and Rate Year 3.

Q HAVE YOU PREPARED A COMPARISON OF THE ERP'S PROPOSED INTERCLASS SPREAD OF THE REQUESTED INCREASE WITH THE METHODS YOU RECOMMEND?

A Yes. Exhibit AR-1, Schedule 7 shows the computation of the increase to the Con Edison, NYPA and EDDS classes that employs a 20% tolerance band, with the surpluses and deficiencies eliminated over three years.

SECTION III – CON EDISON'S UNSUPPORTED REQUEST FOR A 113% INCREASE IN THE FACILITIES CHARGE FOR NEW YORK CITY STREET LIGHTING CLASS

Q WHAT IS CON EDISON'S PROPOSAL FOR A MONTHLY FACILITIES CHARGE FOR EACH NEW YORK CITY STREET LIGHT?

A Con Edison is proposing to increase the monthly facilities charge from the current $5.86 per month, to $12.51 per month. That is more than a 113% increase. Moreover, that is just for Rate Year 1. Presumably, Con Edison would increase it even further in RY 2 and RY 3.

Q HOW DID THE ERP DERIVE ITS PROPOSED FACILITIES CHARGE FOR THE CITY STREET LIGHTING TARIFF?

A The ERP performed a study that purported to show that a cost-based rate for the facilities charge should be $9.14 per month per facility based on the ECOS filed. (That study was supplied in response to NYC Question No. 195, and is replicated as Appendix B to this testimony.) However, it then escalated that figure by another 37%.

Q DO YOU BELIEVE THAT A $12.51 PER MONTH FACILITIES CHARGE IS JUSTIFIED BASED ON APPROPRIATE RATE DESIGN PRINCIPLES?

A No. The plant in-service for NYC Street Lighting in the ECOS is only 21% more than it was in the previous cost of service study, or approximately the same increment as plant in-service for the entire system.

Q DO YOU AGREE THAT THE $9.14 PER MONTH IS ACCEPTABLE FOR A COST BASED FACILITIES CHARGE?

A No. In the first place, the questionable allocations that plague the cost study as a whole also taint the study for street lighting. On the face of it, a 56% increase in the facilities charge (from the present $5.86 per month to $9.14) is unreasonable. Remember that the $5.86 was a cost based rate calculated by Con Edison itself. The number of street lights in the City is not growing to any appreciable extent. The only "facilities" that Con Edison has in regard to these facilities are the wires that lead from the distribution line to the base of the lamppost.

Q WHAT DO YOU BELIEVE IS CAUSING THIS ANOMALY?

A It appears that the cost figures for determining the increase in the Facilities Charge are based on 2005 costs. According to the testimony of City witness Steven Galgano in the last rate case, **an average of 3,645 facility points were out-of-service annually during the period 2000-2004.** The problem was so bad that the Commission approved a settlement agreement in the last case that included a number of incentive provisions designed to improve street lighting service, including a requirement that the thousands of out-of-service, or no-current, facility points had to be restored to service by May 1, 2005.

Q WHAT IS THE RELEVANCE OF CON EDISON'S HISTORICAL PERFORMANCE REGARDING OUT-OF-SERVICE STREET LIGHTS?

A The no-current incentive provisions caused Con Edison to fix an abnormal number of out-of-service facility points during 2004 and 2005. Mr. Galgano testifies that 15,500 out-of-service facility points were fixed in 2005, more than double what appears to be

the norm. Clearly, the utility incurred extraordinary streetlight-related costs in 2005 and the 2005 costs that Con Edison used to determine the Facilities Charge are in no way representative of "normal" costs. Moreover, my understanding is that a recurring stray voltage problem has triggered a surge in spending in recent years. As these problems are addressed, it would be reasonable to expect that expenses would recede to more normal levels. Accordingly, I conclude that 2005 was an aberration in terms of street lighting expenses and should not be the basis for any determination to increase the Facilities Charge in this proceeding.

Q IS THERE ANY RELIABLE COST BASIS FOR DETERMINING WHETHER THE FACILITIES CHARGE SHOULD BE INCREASED AT ALL?

A No, and my recommendation is that it remain unchanged until "normal" costs can be developed. As noted earlier, during the period 2000-2004 there were almost 4,000 facility points each year that were without service. Con Edison's performance in this regard was so bad that the Commission had to step in. This long-term underperformance was followed by several years of accelerated spending. Under these circumstances, there is no way to determine what "normal" costs are, and I recommend that the Facilities Charge remain unchanged until normalized cost information is presented and analyzed.

Q ARE THERE OTHER REASONS TO DENY CON EDISON'S REQUESTED INCREASE TO THE FACILITIES CHARGE?

A Yes. There are approximately 180,000 street lighting facility points. Con Edison's proposed Facilities Charge of $12.51/month would generate more than $27 million of revenues, or approximately $14.4 million more than the current charge does.

However, the proposed Facilities Charge is based overstated 2005 costs. In his testimony in this case, Mr. Galgano from DOT testifies that the number of Facility Point repairs in 2005 was approximately 15,500, but that the 7,700 repairs in 2006 and 2007 (projected) are more representative of a normal year. If Con Edison is allowed to more than double the Facilities Charge, it will obtain a windfall in that the revenues per repair will be more than twice what can be justified based on historical information. Put another way, Con Edison proposes to charge the City twice as much as it did in 2005 for approximately half the level of service. In any event, this inexplicable change in the revenues per repair reinforces my recommendation that the Facilities Charge not be increased in this proceeding.

Q ARE THERE OTHER AREAS OF THE COMPANY'S PRESENTATION THAT CONCERN YOU?

A Yes. First, the rate of return target which the Company used for its analysis should be reduced to no more than 8.13%, or 90% of the rate of return assumed by Con Edison. This would not only represent a more reasonable rate of return, but it would also place this charge more in line with the balance of the NYPA class. Secondly, I would remove the $687,670 of non-specified "Miscellaneous" expenses that Con Edison assigned to NYC street lighting. Thirdly, I note that Con Edison included 43% of A&G expenses in its analysis. I believe this too is unreasonable, and would urge that this be capped at 30%. Finally, the working capital allowance used for the calculations should represent no more than one-eighth (1/8) the total O&M directly assigned to street lighting. In sum, the proposed Facilities Charge is based on faulty cost data and unjustified assumptions and should not be changed in this proceeding.

SECTION IV – REAL TIME PRICING

Q WHAT IS REAL TIME PRICING?

A Real time pricing (RTP) is setting prices (that is, rates), particularly the rates for electricity supply, which are collected through the MSC and to some extent the MAC for Con Edison. RTP rates are set on a short-term basis based on the day-ahead hourly rates in the NYISO-administered wholesale energy market to more accurately reflect current market conditions. RTP tariffs can either be voluntary or mandatory. The latter was exemplified in the Commission's Mandatory Hourly Pricing (MHP) Order as made applicable to those customers with a load greater than 1500 kW. Con Edison in its filing herein proposes to extend the MHP program to reach users above 1000 kW and ultimately to those over 500 kW (Customer Operations Panel at pp. 11-19). In other instances, as with Con Edison's Rider M, voluntary exposure to RTP has been permitted by the Commission.

Q WHY IS RTP OF SUCH IMPORTANCE?

A The cost of electricity, more than any other product, varies greatly depending upon when it is used. That is due to two primary reasons. The first is that electricity cannot be stored -- it must be produced at almost the exact time simultaneously with the customer's use. This means that when customers use a lot of electricity, it becomes very scarce and hence the price tends to rise sharply. The second reason is that there are various fuels used to produce electricity – nuclear, coal, gas and oil. These fuels vary greatly in the unit price per kilowatt hour generated. The cost can even vary from one plant to another – even if they are burning the same fuel. Thus, one cannot say that a rate is truly cost based – at least as cost based as it could possibly

be – unless the price reflects the changing cost from day to day, and even from hour to hour.

Q WHAT ARE THE ADVANTAGES OF A REAL TIME PRICING FORMAT?

A RTP incorporates all the advantages of a cost based rate. First, it is more equitable because users will pay their fair share of the costs – that is, they will pay the costs imposed upon Con Edison for purchasing its electricity, not more and not less. Second, because consumers will be getting a more accurate picture of the cost of electricity, it will enable them to make more intelligent and informed decisions on how – and when – they use electricity. This should encourage customers to engage in efficient, effective and economic Demand Side Management (DSM). Third, seeing the actual prices, and how they change from hour to hour, should encourage load shifting from periods of very high price (typically when loads are high) to periods of lower price.

This load shifting should prove very beneficial. First, it saves the particular customer, on the RTP rate, money. Second, by shifting demand, the load factor of the entire City can be improved. As the Commission has stated, "RTP allows customers to see and respond to …high prices. If a sufficient number of customers…do so, the price spikes can be mitigated [and] the benefit of the reduction is realized not only by the customers that conserved, but also by all other customers…." Order in Proceeding on Motion of the Commission Regarding Expedited Implementation of Mandatory Hourly Pricing for Commodity Service, Case 03-E-0641 at p. 2 (April 30, 2003). This should save all customers who purchase their electricity in Zone J money, by lowering congestion, (Con Edison must import much of its electricity from upstate and there is often transmission congestion

wheeling this power into the City) and by reducing the usage required of the least efficient and costliest in-City power plants. Third, by depressing the peak demand, it should take the stress off Con Edison's infrastructure, thus improving reliability and possibly delaying the cost of expensive reinforcements, enlargements and replacements.

Q WHY IS THE CITY SO INTERESTED IN RTP?

A Mayor Bloomberg has issued in PlaNYC 2030 a comprehensive energy strategy that is designed to significantly reduce the City's energy footprint. More effective Demand Side Management is an integral part of PlaNYC. RTP is an excellent DSM tool. Because the advantages of RTP are so pronounced, the City is a strong advocate of this rate design.

Q WHAT ARE THE BASICS OF AN EFFECTIVE AND VIABLE RTP PROGRAM?

A First, participants must have the proper advanced interval metering in place. Second, participants must have ready access to real time prices, providing an incentive to move away from peak demand periods that are characterized by the highest prices. Third, the rate design must be sound, and billing must be timely and easy to understand.

Q ARE THERE ANY ADDITIONAL PREREQUISITES FOR A VOLUNTARY RTP PROGRAM?

A Yes. Customers must be educated so that they will understand how RTP rates work and be aware of the benefits that can be gained from participation, both to them and to everyone else. Furthermore, if some customers go on an RTP rate, while other customers remain on a conventional rate, care must be taken that the MSC / MAC mechanism does not over or under collect from either group of customers.

Q ARE THERE POTENTIAL ISSUES WITH CON EDISON'S RATE DESIGN THAT COULD HAMPER DEVELOPMENT OF A VIABLE RTP PROGRAM?

A Being on RTP should not mean that a customer is disadvantaged as compared to a customer on a conventional service rate. As was noted by the U.S. Department of Energy in its recent comprehensive study of Demand Response: "…the primary driver of [RTP] participation is likely the expectation of lower average prices than under a standard tariff" [emphasis in original], Benefits of Demand Response in Electricity Markets and Recommendations for Achieving Them, U.S. Department of Energy, at fn. 29, p.18 (February 2006). Given the overall complexity and the potential implications of reconfiguring the elements of the MSC and MAC, great care should be taken to ensure that RTP tariff rates are just and reasonable, and fairly reconciled with conventional service rates.

Q WHAT IS YOUR RECOMMENDATION TO DEAL WITH THIS ISSUE?

A I recommend that within 60 days of the Order in this case, the Company be directed to convene a working collaborative, facilitated by appropriate members of the Staff, and including interested stakeholders, to further investigate this issue and draft a Report for submission to the PSC with specific recommendations to ameliorate any potential rate design disincentives to wider participation in RTP.

Q DOES THIS CONCLUDE YOUR TESTIMONY AT THIS TIME?

A Yes.

Qualifications of Alan Rosenberg

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A Alan Rosenberg. My business address is 1215 Fern Ridge Parkway, Suite 208, St. Louis, Missouri 63141.

Q WHAT IS YOUR OCCUPATION?

A I am a consultant in the field of public utility regulation and am a principal with the firm of Brubaker & Associates, Inc. (BAI), energy, economic and regulatory consultants.

Q PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A I was awarded a Bachelor of Science Degree from the City College of New York in 1964 and a Doctorate of Philosophy in Mathematics from Brown University in 1969. Subsequently, I held an Assistant Professorship of Mathematics at Wesleyan University in Connecticut. In the summer of 1975, I was a Visiting Fellow at Yale University. From July 1975 through January 1981, I was Assistant Controller and Project Manager for a division of National Steel Products Company. My responsibilities there included supervision of management accounting, cost accounting and data processing functions. I was also responsible for internal control, general ledger systems, working capital levels, budget preparation, cash flow forecasts and capital expenditure analysis.

I have published in major academic journals and am a member of the International Association for Energy Economics. I was an invited speaker at the NARUC Introductory Regulatory Training Program and a panelist at a conference on LDC and Pipeline Ratemaking sponsored by the Institute of Gas Technology. I have presented a paper on stranded costs at the 21st Annual International Conference of

the International Association for Energy Economics. I have had two papers on transmission congestion pricing published in The Electricity Journal. I am also a Certified Energy Procurement Professional by the Association of Energy Engineers.

In January 1982, I joined the firm of Drazen-Brubaker & Associates, Inc., the predecessor of Brubaker & Associates. Since that time, I have presented expert testimony on the subjects of industry restructuring, open access transmission, marginal and embedded class cost of service studies, prudence and used and useful issues, electric and gas rate design, revenue requirements, natural gas transportation issues, demand-side management, and forecasting.

I have previously testified before the Federal Energy Regulatory Commission as well as the public service commissions of Arizona, Connecticut, Delaware, Florida, Idaho, Illinois, Iowa, Massachusetts, Michigan, Montana, New Jersey, New Mexico, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, Vermont, Virginia, Wyoming and the Provinces of Alberta, British Columbia, New Brunswick, Nova Scotia, and Saskatchewan in Canada. I have also testified before the Michigan Senate Technology and Energy Committee.

In addition to our main office in St. Louis, the firm also has branch offices in Phoenix, Arizona; Corpus Christi, Texas; and Plano, Texas.

Appendix B
Alan Rosenberg

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
STREET LIGHTING EMBEDDED COST ANALYSIS
NEW YORK CITY STREET LIGHTING FACILITIES COST
BASED ON 2005 ELECTRIC EMBEDDED COST-OF-SERVICE STUDY

NYC STREET LIGHTING - NYPA

	DESCRIPTION	AMOUNT
1	REQUIRED REVENUE - NYC STREET LIGHTING[1]	$23,522,303
2	NUMBER OF STREET LIGHTING FACLITIES	214,380
3	ANNUAL STREET LIGHTING EMBEDDED COST	$110
4	MONTHLY STREET LIGHTING EMBEDDED COST	$9.14

Note 1: Required revenue calculated at the total system rate of return of 9.03%.

Consolidated Edison Company of New York, Inc.

Five-Day One-Hour Average for Transmission Factor

Line	Service Class	Five-Day One-Hour Average kW for D03 Transmission Allocator kW [1] (1)	Alternative D03 Allocation Factor [2] (2)	ERP D03 Allocation Factor (3)
1	SC#1	3,679,630	29.533%	29.815%
2	SC#2	584,877	4.694%	4.610%
3	SC#4 - NTD	453,239	3.638%	3.583%
4	SC#4 - TOD	1,069,219	8.582%	8.510%
5	SC#5 - Conv	111	0.001%	0.001%
6	SC#5 - TOD	23,623	0.190%	0.189%
7	SC#6	96	0.001%	0.001%
8	SC#7	27,697	0.222%	0.221%
9	SC#8 - NTD	399,645	3.208%	3.246%
10	SC#8 - TOD	35,777	0.287%	0.291%
11	SC#9 - NTD	3,555,434	28.536%	28.330%
12	SC#9 - TOD	753,754	6.050%	6.009%
13	SC#12 - NTD	24,221	0.194%	0.197%
14	SC#12 - TOD	31,874	0.256%	0.261%
15	SC#13 - TOD	3,479	0.028%	0.028%
16	Total Con Ed	10,642,673	85.419%	85.291%
17	EDDS	123,810	0.994%	0.997%
18	NYPA	1,692,861	13.587%	13.713%
19	Total System	12,459,343	100.000%	100.000%

Source:

[1] Adjusted Demand at Generation Station is developed using the Summer 2005 half-hour demand data provided by Con Edison in response to NYC #85 & #86.

[2] Percentage derived from Column (1)

Consolidated Edison Company of New York, Inc.

Development of Alternative D04 Allocation Factor

Line	Service Class	Max of Summer/Winter 4-HR Adj at Gen Sta KW [1] (1)	Alternative D04 Allocation Factor [2] (2)	ERP D04 Allocation Factor (3)
1	SC#1	4,344,966	32.408%	32.146%
2	SC#2	606,709	4.525%	4.489%
3	SC#4 - NTD	455,615	3.398%	3.371%
4	SC#4 - TOD	1,080,349	8.058%	7.993%
5	SC#5 - Conv	194	0.001%	0.001%
6	SC#5 - TOD	24,698	0.184%	0.183%
7	SC#6	2,571	0.019%	0.019%
8	SC#7	77,166	0.576%	0.269%
9	SC#8 - NTD	457,086	3.409%	3.382%
10	SC#8 - TOD	40,297	0.301%	0.298%
11	SC#9 - NTD	3,592,740	26.797%	26.580%
12	SC#9 - TOD	759,132	5.662%	5.616%
13	SC#12 - NTD	48,076	0.359%	0.211%
14	SC#12 - TOD	68,030	0.507%	0.263%
15	SC#13 - TOD	5,244	0.039%	0.039%
16	Total Con Ed	11,562,873	86.244%	84.859%
17	EDDS	127,937	0.954%	0.951%
18	NYPA	1,716,402	12.802%	14.189%
19	Total System	13,407,212	100.000%	100.000%

Source:

[1] For the Total Con Edison and NYPA Class', the Max of the Summer/Winter 2005 4-Hr Adjusted Demand at Generation Station is pulled directly from column 5 of Exhibit ERP-2, Workpaper 3. For the NYPA and EDDS Classes, the 4-Hr Adjusted Demand at Generation Station is developed using the half-hour demand data provided by Con Edison in response to NYC #85 & #86.

[2] Percentage derived from Column (1)

Company Name: Con Edison
Case Description: Electric Rate Filing
Case: 07-E-0523

Response to NYC Interrogatories – Set NYC8
Date of Response: 08/01/2007
Responding Witness: Rate Panel

Question No. :204
On page 9 of the ECOS, in discussion of D08 and D09, it states that a special adjustment to this allocator is made for SC 1 and SC 7. It then states that "D08 and D09 were developed using a 75% weighting of the non-coincident demands and 25% of the billing demands for these three classes." a. What weightings were given to the classes for whom no special adjustment was made? b. Please provide all workpapers, studies or analysis supporting the 75%/25% weighting. c. When the narrative says "these three classes," which class is included besides SC 1 and SC 7? d. Please provide or identify the workpaper supporting the development of the D08/D09 allocator.

Response:

a) 50%/50%

b) The 75%/25% weighting is done to adjust the 50%/50% weighting in order to reflect the diversity of individual residential customer loads in multiple dwellings in New York City. While the Company does not have a specific study of the diversity of individual residential customer loads in multiple dwellings, we would note that the Company periodically reviews census data in conjunction with residential customer counts to obtain an estimate of residential dwelling units in multiple dwellings. For example, the 2000 census indicates that approximately 70% of New York City residential dwelling units are located in buildings containing three or more dwelling units.

c) The reference to three classes is a typo; there are two classes (SC1 and SC7).

d) Please see Company response to Staff 67.

Consolidated Edison Company of New York, Inc.

Development of Alternative D08 and D09 Allocation Factors

Line	Service Class	Non-Coincident 4-HR Adj Low Tension Demand KW [1] (1)	Allocation Percent (2)	Max of Summer/ Winter Customer KW [2] (3)	Allocation Percent (4)	Non-Coincident Weighting (5)	Customer Weighting (6)	Weighted Average [3] (7)	Alternative D08 & D09 Allocation Factor Adj. to Equal 100% [4] (8)	ERP D08 & D09 Allocation Factor (9)
1	SC#1	4,123,373	34.978%	8,375,876	47.380%	60.000%	40.000%	39.939%	40.971%	37.824%
2	SC#2	575,767	4.884%	992,990	5.617%	40.000%	60.000%	5.324%	5.462%	5.720%
3	SC#4 - NTD	428,203	3.632%	447,097	2.529%	40.000%	60.000%	2.970%	3.047%	3.192%
4	SC#4 - TOD	941,467	7.986%	991,782	5.610%	40.000%	60.000%	6.561%	6.730%	7.049%
5	SC#5 - Conv	184	0.002%	262	0.001%	40.000%	60.000%	0.002%	0.002%	0.002%
6	SC#5 - TOD	3,794	0.032%	5,283	0.030%	40.000%	60.000%	0.031%	0.032%	0.033%
7	SC#6	2,440	0.021%	2,440	0.014%	40.000%	60.000%	0.017%	0.017%	0.018%
8	SC#7	73,231	0.621%	144,938	0.820%	60.000%	40.000%	0.701%	0.719%	0.665%
9	SC#8 - NTD	433,775	3.680%	458,347	2.593%	40.000%	60.000%	3.027%	3.106%	3.253%
10	SC#8 - TOD	38,242	0.324%	41,070	0.232%	40.000%	60.000%	0.269%	0.276%	0.289%
11	SC#9 - NTD	3,391,405	28.769%	4,101,012	23.198%	40.000%	60.000%	25.426%	26.084%	27.320%
12	SC#9 - TOD	582,517	4.941%	635,628	3.596%	40.000%	60.000%	4.134%	4.241%	4.442%
13	SC#12 - NTD	45,624	0.387%	50,759	0.287%	40.000%	60.000%	0.327%	0.336%	0.351%
14	SC#12 - TOD	64,560	0.548%	68,064	0.385%	40.000%	60.000%	0.450%	0.462%	0.484%
15	SC#13 - TOD	0	0.000%	0	0.000%	40.000%	60.000%	0.000%	0.000%	0.000%
16	Total Con Ed	10,704,581	90.805%	16,315,548	92.292%			89.177%	91.483%	90.641%
17	EDDS	70,286	0.596%	83,170	0.470%	40.000%	60.000%	0.521%	0.534%	0.561%
18	NYPA	1,013,674	8.599%	1,279,470	7.238%	40.000%	60.000%	7.782%	7.983%	8.798%
19	Total System	11,788,541	100.000%	17,678,188	100.000%			97.480%	100.000%	100.000%

Notes:

[1] See Workpaper for Schedule 3, Column 5

[2] Exhibit ERP-2, Workpaper 3, Column 8

[3] (Column 2 * Column 5) + (Column 4 * Column 6)

[4] Allocation percentage of Column (8)

REQUIRED REVENUE

	RATE OF RETURN STATEMENT	TOTAL SYSTEM (1)	TOTAL CON ED (2)	TOTAL NYPA (3)	TOTAL EDDS (4)	RESIDENTIAL & RELIGIOUS SC #1 (5)	GENERAL SMALL SC #2 (6)	COMM'L REDISTRIB. NTD-SC #4 (7)	COMM'L REDISTRIB. TOD-SC #4 (8)	ELECTRIC TRACTION NTD-SC #5 (9)	ELECTRIC TRACTION TOD-SC #5 (10)
1	TOTAL OPERATING REVENUES	3,108,901,716	2,794,222,964	293,801,040	20,877,712	1,176,156,581	197,848,049	94,463,466	216,827,847	31,654	3,903,686
2											
3	OPERATING EXPENSES										
4	OPERATION & MAINTENANCE	880,165,959	799,844,642	75,633,554	4,687,763	418,971,817	58,476,976	21,406,839	45,749,679	13,683	817,648
5	DEPRECIATION & AMORTIZATION	377,785,726	335,529,935	39,899,960	2,355,831	149,004,892	23,569,585	10,560,346	22,414,579	8,487	384,754
6	PROPERTY TAXES	632,271,075	556,424,157	71,453,329	4,393,588	235,172,106	36,581,634	19,053,803	41,312,157	13,331	720,029
7	PAYROLL & MISC. TAXES	35,271,181	31,773,797	3,295,830	201,554	15,981,735	2,352,281	891,259	1,912,303	616	34,342
8	STATE INCOME TAX	69,547,374	63,279,107	5,698,274	569,993	19,305,264	4,578,959	2,637,470	6,729,320	(756)	126,431
9	FEDERAL INCOME TAX	252,443,704	232,289,070	17,903,393	2,251,241	64,537,019	16,611,272	10,198,298	26,788,664	(4,699)	519,513
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11	TOTAL OPERATING EXPENSES	2,247,485,020	2,019,140,709	213,884,341	14,459,970	902,972,834	142,170,707	64,748,015	144,906,703	30,662	2,602,717
12											
13	UTILITY OPERATING INCOME	861,416,696	775,082,255	79,916,699	6,417,742	273,183,747	55,677,342	29,715,451	71,921,143	992	1,300,969
14											
15	UTILITY RATE BASE	9,537,880,724	8,442,878,424	1,033,744,177	61,258,123	3,677,308,828	583,291,087	276,597,168	588,168,029	216,619	9,768,180
16											
17	RATE OF RETURN (%)	9.03%	9.18%	7.73%	10.48%	7.43%	9.55%	10.74%	12.23%	0.46%	13.32%
18											
19	INDEX	1.00	1.02	0.86	1.16	0.82	1.06	1.19	1.35	0.05	1.47
20											
21	DEVIATION	0.00	0.15	-1.30	1.45	-1.60	0.51	1.71	3.20	-8.57	4.29
22											
23	TOLERANCE BAND +10%	9.93%									
24	TOLERANCE BAND -10%	8.13%									
25											
26	REVENUE SURPLUS	67,616,916	0	0	552,084	0	0	3,719,576	22,434,104	0	549,740
27	REVENUE DEFICIENCY	55,283,674	0	6,835,656	0	42,780,583	0	0	0	27,635	0
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REQUIRED REVENUE

		ST. LTG. & SIGNAL SC #6 (11)	RES. & REL. SPACE HTG. SC #7 (12)	MULTI-DW. REDISTRIB. NTD-SC #8 (13)	MULTI-DW. REDISTRIB. TOD-SC #8 (14)	GENERAL LARGE NTD-SC #9 (15)	GENERAL LARGE TOD-SC #9 (16)	MULTI-DW. SPACE HTG. NTD-SC #12 (17)	MULTI-DW. SPACE HTG. TOD-SC #12 (18)	BULK POWER TOD-SC #13 (19)	STEAM DEPT. ELECTRIC FACILITIES (20)
	RATE OF RETURN STATEMENT										
1	TOTAL OPERATING REVENUES	1,230,234	12,491,354	84,240,706	6,933,737	813,072,490	160,454,619	6,675,809	9,635,716	613,098	9,643,919
2											
3	OPERATING EXPENSES										
4	OPERATION & MAINTENANCE	419,620	4,737,978	20,904,502	1,724,087	189,950,212	32,032,619	1,982,359	2,514,638	141,984	0
5	DEPRECIATION & AMORTIZATION	182,678	2,064,412	10,415,340	859,978	94,373,938	15,505,578	1,018,540	1,281,960	68,093	3,816,776
6	PROPERTY TAXES	282,498	3,448,979	18,745,466	1,576,318	164,904,052	28,508,792	1,823,017	2,351,402	127,960	1,802,612
7	PAYROLL & MISC. TAXES	16,139	184,340	869,370	72,218	7,936,287	1,331,592	81,859	103,514	5,942	0
8	STATE INCOME TAX	15,608	47,222	1,952,817	157,138	21,814,192	5,419,992	78,650	184,769	16,716	215,313
9	FEDERAL INCOME TAX	(24,224)	(100,954)	7,217,200	584,381	82,708,161	21,871,373	203,827	635,814	67,404	476,021
10											
11	TOTAL OPERATING EXPENSES	892,319	10,381,978	60,104,695	4,974,120	561,686,842	104,669,946	5,188,251	7,072,097	428,100	6,310,722
12											
13	UTILITY OPERATING INCOME	337,915	2,109,376	24,136,011	1,959,617	251,385,648	55,784,673	1,487,558	2,563,619	184,998	3,333,197
14											
15	UTILITY RATE BASE	4,530,003	53,152,892	272,653,695	22,711,059	2,443,062,462	404,701,576	27,065,477	34,549,757	1,727,740	43,373,852
16											
17	RATE OF RETURN (%)	7.46%	3.97%	8.85%	8.63%	10.29%	13.78%	5.50%	7.42%	10.71%	7.68%
18											
19	INDEX	0.83	0.44	0.98	0.96	1.14	1.53	0.61	0.82	1.19	0.85
20											
21	DEVIATION	-1.57	-5.06	-0.18	-0.40	1.26	4.75	-3.54	-1.61	1.68	-1.35
22											
23	TOLERANCE BAND +10%										
24	TOLERANCE BAND -10%										
25											
26	REVENUE SURPLUS	0	0	0	0	14,428,438	25,910,767	0	0	22,208	0
27	REVENUE DEFICIENCY	50,397	3,677,492	0	0	0	0	1,184,909	407,012	0	319,990

Consolidated Edison Company of New York, Inc.

ConEd's Proposed Rate Year Increases over Next Three Years
Based on 10% Tolerance Band
(Dollar Amounts in Thousands)

Line	Description	Total System (1)	Total ConEd (2)	Total NYPA (3)	Total EDDS (4)
1	Current Rate Revenue	$3,002,453	$2,697,624	$284,605	$20,224
2	Revenue Surplus / (Deficiency) @ 10% Tolerance Band	$0	$30,073	($30,202)	$129
3	Realigned Revenue	$3,002,453	$2,667,551	$314,807	$20,095
4	Rate Year 1 Increase in Proportion to Realigned Revenue	$1,132,900	$1,006,533	$118,785	$7,582
5	Rate Year 1 Increase	$1,132,900	$976,460	$148,987	$7,453
6	% Increase over Previous Prevailing Rate	37.7%	36.2%	52.3%	36.9%
7	Revenue at End of Year 1	$4,135,353	$3,674,084	$433,592	$27,677
8	Rate Year 2 Increase in Proportion to Realigned Revenue	$325,700	$289,370	$34,150	$2,180
9	% Increase over Previous Prevailing Rate	7.9%	7.9%	7.9%	7.9%
10	Revenue at End of Year 2	$4,461,053	$3,963,454	$467,741	$29,857
11	Rate Year 3 Increase in Proportion to Realigned Revenue	$380,900	$338,413	$39,937	$2,549
12	Rate Year 3 Increase	8.5%	8.5%	8.5%	8.5%
13	Revenue at End of Year 3	$4,841,953	$4,301,868	$507,679	$32,406
14	Total Three-Year Increase	$1,839,500	$1,604,244	$223,074	$12,182
15	Percent Increase Over Current	61.3%	59.5%	78.4%	60.2%

Consolidated Edison Company of New York, Inc.

Proposed Rate Year Increases over Next Three Years
Based on 20% Tolerance Band
(Dollar Amounts in Thousands)

Line	Description	Total System (1)	Total ConEd (2)	Total NYPA (3)	Total EDDS (4)
1	**Revenue Surplus / (Deficiency) @ 20% Tolerance Band**	**$0**	**$13,412**	**($13,412)**	**$0**
2	Current Rate Revenue	$3,002,453	$2,697,624	$284,605	$20,224
3	1/3 of Surplus / Deficiency	$0	$4,471	($4,471)	$0
4	Realigned Revenue	$3,002,453	$2,693,153	$289,076	$20,224
5	Rate Year 1 Increase in Proportion to Realigned Revenue	$1,132,900	$1,016,194	$109,075	$7,631
6	Rate Year 1 Increase	$1,132,900	$1,011,723	$113,546	$7,631
7	Revenue at End of Year 1	$4,135,353	$3,709,347	$398,151	$27,855
8	1/3 of Surplus / Deficiency	$0	$4,471	($4,471)	$0
9	Realigned Revenue	$4,135,353	$3,704,876	$402,622	$27,855
10	Rate Year 2 Increase in Proportion to Realigned Revenue	$325,700	$291,796	$31,710	$2,194
11	Rate Year 2 Increase	$325,700	$287,325	$36,181	$2,194
12	Revenue at End of Year 2	$4,461,053	$3,996,672	$434,332	$30,049
13	1/3 of Surplus / Deficiency	$0	$4,471	($4,471)	$0
14	Realigned Revenue	$4,461,053	$3,992,201	$438,803	$30,049
15	Rate Year 3 Increase in Proportion to Realigned Revenue	$380,900	$340,868	$37,466	$2,566
16	Rate Year 3 Increase	$380,900	$336,397	$41,937	$2,566
17	Revenue at End of Year 3	$4,841,953	$4,333,069	$476,269	$32,615
18	Total Three-Year Increase	$1,839,500	$1,635,445	$191,664	$12,391
19	Percent Increase Over Current	61.3%	60.6%	67.3%	61.3%