

BEFORE THE
STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

In the Matter of

CASE 13-E-0030

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.

Electric Rates

May 31, 2013

Prepared Testimony on Behalf of
Consumer Power Advocates

CATHERINE LUTHIN
Principal
Luthin Associates
535 Main Street
Allenhurst, New Jersey 07711

1 **Q. Please state your name and business address**

2 A. My name is Catherine Luthin, and my business address is 535 Main
3 Street, Allenhurst, New Jersey 07711.

4

5 **Q. What is your educational background and experience?**

6 A. I am Principal and Founder of Luthin Associates, an energy
7 management consulting firm established in 1994. I have a Master of
8 Business Administration degree and a Bachelor of Science degree in

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1 Marketing from Fairleigh Dickinson University. Over the past decade,
2 Luthin Associates has advised and represented the interests of public
3 utilities, non-profit and corporate entities on issues ranging from utility
4 deregulation to strategic energy planning and management. I am a
5 member of Mayor Bloomberg's New York City Energy Policy Task
6 Force, which developed a comprehensive plan for New York City's
7 energy and infrastructure. In addition, I am a member of BOMA NY's
8 Energy Committee, the Association of Energy Engineer's Certified
9 Energy Procurement Board, and I am the Energy Policy Chairperson
10 for the Association of Energy Engineer's Council on Women and
11 Environmental Leadership. I formerly co-chaired the Con Edison
12 Steam Business Development Group.

13

14 I serve as the Executive Director of Consumer Power Advocates
15 (CPA), an association of large, non-profit institutions whose primary
16 goal is to decrease the cost of energy by focusing on regulatory
17 decisions and programs which impact energy consumers in New York

18 City. Member organizations include:

- 19 • Columbia University Medical Center
- 20 • Fordham University
- 21 • Mount Sinai Medical Center
- 22 • Memorial Sloan-Kettering

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- 1 • Beth Israel Medical Center
- 2 • St. Luke's – Roosevelt Hospital Center
- 3 • New York Eye and Ear Infirmary
- 4 • Montefiore Medical Center
- 5 • NYU Langone Medical Center
- 6 • New York University
- 7 • New York Presbyterian Hospital

8 CPA members are typically high load factor customers, most of whom
9 receive their electric service under Con Edison's SC-9 Rate II Time of
10 Day (TOD) rate.

11

12 CPA has represented its members at the New York State Legislature,
13 New York Independent System Operator (NYISO), New York State
14 Public Service Commission and the Federal Energy Regulatory
15 Commission (FERC) since 2002. I have filed testimony before
16 proceedings of the Energy Committee of the New York State
17 Assembly, proceedings of FERC, and proceedings of the New York
18 City Council.

19

20 **Q. Have you previously testified before the New York State Public**
21 **Service Commission?**

22 A. I have presented testimony in Case No. 04-E-0572, Con Edison
23 Electric Rates; Case No. 06-G-1332, Con Edison Gas Rates; Case No.

1 07-E-0523, Con Edison Electric Rates; Case No. 08-E-0539, Con
2 Edison Electric Rates; Case No. 09-E-0428, Con Edison Electric
3 Rates; and Case No. 09-G-0795, Con Edison Gas Rates.

4

5 **Q. What is the purpose of your testimony?**

6 A. I will demonstrate that the Biomedical Business Incentive Rate (BIR)
7 is an important aspect of the economic recovery of the region and
8 propose enhancements to that important program.

9 Next, I will discuss billing errors and propose a mechanism to
10 encourage Con Edison to improve billing accuracy.

11 Finally, I will discuss the Company's proposal regarding the Reliability
12 Performance Mechanism (RPM).

13

14 **Biomedical BIR**

15 **Q. What do you propose for the BIR program?**

16 A. I propose that the current set-aside in the BIR for non-profit,
17 biomedical research customers be expanded to 70 megawatts and that
18 the overall limit of 50 MW be increased to 70 MW as well. On behalf of CPA
19 members, I would like to thank the Commission for its past support of the
20 Biomedical BIR set-aside. The inclusion of the Biomedical BIR set aside was

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1 an important consideration for CPA in the last several Joint Proposals. Many
2 biomedical facilities – both CPA members and others – have benefitted from
3 the program, and it has contributed significant job and economic growth to
4 the City of New York.

5
6 The strong economic impact of this sector provides one of the major
7 growth engines in the New York City metropolitan area. Supporting
8 the growth and expansion of this sector will positively affect the
9 economics of the Con Edison service territory and Con Edison. I will
10 discuss the economic position of non-profit institutions in New York
11 City and demonstrate the enormous impact such institutions have on
12 New York's overall economy. I will demonstrate the impact that a sub-
13 sector of this customer class – non-profit biomedical research
14 institutions – contributes significantly to the economic growth of the
15 NYC region. I will describe how the cost of electricity can be a limiting
16 factor in the development of both this and its parent sectors, i.e.,
17 healthcare and higher education.

18

19 **Q. What is the history of the Biomedical Business Incentive Rate?**

20 A. "Biomedical Research" is defined in Con Edison's tariff Rider J –
21 BIR as, "research and development on use of cellular and molecular

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1 processes with a goal of creating products and solving health-related
2 problems. Biomedical research includes research within the following
3 disciplines: bioscience, biomedical and biological engineering,
4 genomics, translational medicine, and biopharmacology (direct
5 application of research to development of drug treatments).”
6 Translational medicine is defined (in Con Edison Rider J tariff leaf 202)
7 as “application of research findings to commercially viable product
8 development and to treatments that are directly applicable to human
9 diseases”.

10

11 A special set-aside was made for the non-profit biomedical sector
12 because, prior to 2001, it was excluded from most economic
13 development programs. This resulted from qualifications that required
14 participation in some form of tax abatement program which excluded
15 non-profits. Awareness was also growing that the biomedical industry,
16 as well as the hospital and higher education sectors developing it,
17 formed a prime revenue generation and jobs sector in New York. Our
18 testimony will make this point clearer elsewhere in my testimony.

19

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1 Beginning on April 1, 2001, an 8 MW BIR award was made available to
2 non-profit institutions utilizing laboratory space for biomedical research,
3 with the limitation that the entire BIR program would not exceed 50
4 MW (Rider J, Rule A.2.b.iii). In 2006, an additional 12 MW set-aside
5 for non-profit bio-medical use was phased in over a two-year period.
6 In 2010, another 20 MW set-aside for New York City facilities plus 3
7 MW for Westchester County projects was approved. Currently there is
8 a total set-aside of 43 MW available to non-profit biomedical research
9 institutions.

10

11 The first awards went to six projects that included: a Neurological
12 Institute, a biomed business incubator, cancer research and children's
13 medicine.¹ By 2005, these projects totaled more than 8 MW. Over 14
14 MW for three projects were awarded in 2006. They included
15 translational and traditional research related to Cancer, Microbial
16 Pathogenesis, Medicine, Cardiovascular Biology, Neuroscience,
17 Epithelial Cell Biology, Genetics, Computational Biology, Immunology,
18 Human Oncology, and Pathogenesis, among others.

19

¹ Email from Deborah Patterson, of Con Edison, October 24, 2005.

1 In response to CPA interrogatories Set 4, number 38, Con Edison
2 notified us that out of the 23 additional MW set-aside for nonprofit
3 biomedical research, 15 MW (including 3 for Westchester)² remained
4 available. Since then, Con Edison has received a six (6) MW
5 application for a new cancer research center at Mt. Sinai's Center for
6 Science and Medicine. It is expected to be added to the Biomedical
7 BIR, subject to the approval of Con Edison. Thereafter, the remaining
8 available set-aside will be about 9 MW, (including 3 MW for projects in
9 Westchester).

10

11 **Q. What is the future of the Biomedical BIR?**

12 A. A recent survey of CPA members indicated that eleven new
13 biomedical projects are in the planning stage and are expected to be
14 completed by 2017. As summarized in the table below, these projects
15 are expected to create about 27 MW of peak load.³

16

² See CPA interrogatories Set 7, numbers 72 and 75.

³ Estimated Peak Load is based on the Rider Y table *Engineering Design Values Used in Calculating Peak Demands* reduced by 25% to account for coincident factors; or, actual customer estimates in ReCharge New York applications.

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Biomedical BIR: Potential New Projects						
School	Type of Facility	Date Opened	Estimated Peak Load	Area	Estimated Permanent Jobs	kW/Job
Hospital	Outpatient Research	2017	9,000	750,000	1,270	7.1
Hospital	Surgical Research	2015	2,500	230,000	250	10.0
Hospital	Research Laboratories	2014	1,500	93,000	60	25.0
Hospital	Radiation Oncology Research Center	2015	200	19,000	10	20.0
Medical School	Simulation Research Center	2016	119	10,600	17	7.1
Hospital	Research Space	N/A	450	40,000	64	7.1
Hospital	Clinical Research	N/A	34	3,000	5	7.1
Hospital	Neuroscience Research Center	2015	3,000	350,000	551	5.4
Hospital	Neuroscience, Cardio-vascular, Cancer Research Center	2016	10,000	800,000	440	22.7
Hospital	Research space	2014	146	13,000	21	7.1
Hospital	MIR Research Facility	2014	90	8,000	13	7.1
	Total		27,039	2,316,600	2,700	10.0

1

2

3 Note that the 27 MW of estimated peak load significantly exceeds the
 4 15 MW of remaining potential biomedical BIR load (not including the 6
 5 MW allocation for the Mt. Sinai project and the 3 MW allocation for
 6 Westchester). At a minimum, about 21 MW will be required, bringing
 7 the total Biomed BIR set-aside required to meet future projects to at
 8 least 61 MW (plus 3 MW for Westchester). That will exceed both the
 9 40 MW set-aside and the 50 MW total limits for the program.

10

11 **Q. Why Should the Non-Profit Hospital and Higher Education**
 12 **Sector Continue to Receive BIR?**

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1 A. All of the projects supported under the biomedical BIR have been
2 developed by non-profit hospitals or universities. In brief, BIR helps
3 those sectors maintain and expand job and economic growth, while
4 mitigating some of the rising operating costs and falling revenue that
5 are limiting their ability to continue that development. Therefore, much
6 of my testimony will address the financial impacts these sectors have
7 on the New York economy.

8

9 The impact of higher education and healthcare sectors on investment
10 and job growth in New York was dramatically exhibited during the
11 recent Recharge NY program. Those two sectors committed to a
12 disproportionately higher level of capital investment and achieved more
13 new jobs than commercial applicants.

14 Based on data published by NYPA, the first 595 MW of approved
15 allocations across the State, which represents 80% of the total MW
16 awarded (744 MW) to date, was awarded to 81 recipients in NYC. The
17 81 NYC recipients included 19 non-profit colleges and hospitals.
18 Those facilities received 39 MW of Recharge NY power. As part of the
19 application process, these 19 institutions committed to more than \$8.2
20 billion in capital investment through 2017, averaging \$432 million per

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1 customer. This compares to a commitment of only \$4.0 billion by the
2 other 62 NYC recipients, who average only \$64.3 million in investment
3 per customer. The 19 NYC institutional facilities also committed to
4 117,000 jobs (6,000 per customer) over this period, compared to
5 65,000 for the remaining 82 recipients (about 1,000 per customer).⁴

6
7 Job growth and capital investment in the higher education and
8 healthcare sectors also surpass that of the financial services sector,
9 the traditional growth sector of New York City, and other sectors as
10 well. From September 2011 to September 2012, the finance,
11 insurance, and real estate sector saw a plunge in 2,890 jobs, from
12 438,516, about a .7% decrease. By comparison, the healthcare sector
13 added 10,000 jobs, achieving a total of 604,469, a .16% increase in 12
14 months from September 2011 to September 2012.⁵ Regarding job
15 growth in higher education, according to a Crain's New York 2011
16 study in conjunction with the NYS Department of Labor, jobs in higher

⁴ *Memorandum to the Trustees from the President and Chief Executive Officer - Subject: Power Allocation under the Recharge New York Program*, New York Power Authority, April 24, 2012.

⁵ NYC Economic Development Corporation, <http://www.nycedc.com/economic-data/september-2012-economic-snapshot>.

1 education in the City grew to 96,200, from the 74,600 seen in 2000, a
2 22% increase.⁶

3

4 **Q. Please describe how CPA members in particular are**
5 **participating in that growth.**

6 A. Among its current membership, CPA has both major universities and
7 medical centers, including 8 of the 15 largest regional health
8 organizations in NYC. In terms of operating expenses, the latter
9 represent 5 of the 6 largest, and 6 of our members are among New
10 York City's 18 largest employers.⁷ Many of the CPA members have
11 annual budgets in excess of \$1 billion. Collectively, CPA's members
12 incur over \$22 billion in annual expenditures.⁸ Clearly, the economic
13 and social impacts of such institutions are enormous.

14

15 CPA members have dedicated over 6.2 million square feet of facility
16 space to biomedical Research. This is 19% of the total area of those

⁶ A Tale of Two Sectors, Crain's Stats and the City 2011. <http://mycrains.craainsnewyork.com/stats-and-the-city/2011/education/a-tale-of-two-sectors>.

⁷ Data for hospital rankings is derived from, Crain's New York Business, "2012 Book of Lists" March 22, 2013.

⁸ Source is from Luthin Associates' CPA member surveys.

1 institutions.⁹ Based on CPA research and information published by
2 NYPA, we have determined that, over the next 3 years, our member
3 institutions plan to spend over \$6 billion¹⁰ on new construction projects.
4 Included in this figure are eleven new biomedical projects that will add
5 about 2,700 jobs, 2.3 million square feet, and 27 MW of load in the Con
6 Edison territory.

7

8 **Q. What positive impacts do you see from assisting the**
9 **biomedical research community through a higher BIR set-aside?**

10 A. Collectively, the CPA members represent a substantial opportunity
11 for maintaining or creating new jobs in New York City. Many of our
12 members maintain leadership positions in the fields of bioscience and
13 biomedical research – fields the NYC Economic Development
14 Corporation is developing by promoting NYC as a location for world-
15 class research. Assisting the economic viability and growth of such
16 non-profit institutions is essential to meeting New York's economic and
17 job growth objectives.

18

⁹ Ibid. CPA Surveys.

¹⁰ *Memorandum to the Trustees From the president and Chief Executive Officer Subject: Power Allocation Under the Recharge New York Program*, New York Power Authority, April 24, 2012 and BIR Potential Projects chart on page 8.

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1 Even though these institutions do not pay income or sales taxes, they
2 do pay property taxes, and their many well-paid employees pay both
3 income and sales taxes, contributing substantially to the tax revenue of
4 the City and State.

5

6 Universities are significant economic growth engines and bring money
7 into the region because they are generating revenue, to a large extent,
8 from students who attend the universities but live outside the region.¹¹

9

10 It is a misconception to believe that because hospitals do not relocate,
11 their bio-medical research affiliates will not relocate. The contribution
12 of reduced energy rates has a two prong effect on this industry. It
13 bolsters the economic strength of the institutions which will contribute
14 positively to the co-development of local biomedical research. Also,
15 the reduced energy costs for the biomedical research centers helps to
16 make the case to stay in New York City. Without the benefit of reduced
17 energy costs, the institutions may be less inclined to cultivate
18 biomedical research and the potential new research may decide to

¹¹ David, Greg, "Textbook answer to good jobs for NY," Crain's New York Business, August 20-26, 2007.

1 locate where operating costs are cheaper. This if further impacted by
2 cutbacks in the pharmaceutical industry's research budgets and
3 intense completion for research grant funding.

4

5 A recent story about a joint research venture between Mt. Sinai and
6 Rensselaer Polytechnic Institute¹² sited these research grant obstacles
7 as the motivation for a collaboration that will seek joint funding for
8 research grants. These institutions are continuing to look for unique
9 approaches to funding to stay on top of their major funding sources.
10 This makes having a geographic core of strong research institutions a
11 vital part of the economic strength of New York City.

12

13 **Q. What is the wage impact of the Non-Profit Biomedical**
14 **Research Sector on New York City?**

15 A. Wages for biomed and pharmaceutical jobs are relatively high. In
16 2012, research and development jobs paid an average of \$100,780
17 while medicine and pharmaceutical manufacturing paid an average of

¹² *Mount Sinai, RPI Ink Deal*, Crains New York, Crain's health Pulse, May 23, 2013.

1 \$92,030.¹³ According to Crain's New York Business, citing a report by
2 the Center for an Urban Future, about 35% of New Yorkers over the
3 age of 18 have low wage jobs, earning less than \$26,818 annually.
4 The growth of low wage jobs signifies the growing polarization of the
5 City's job market.¹⁴ It can be deduced from these studies that low pay
6 in the New York City economy is caused by the disproportionate
7 growth of the low-paying retail and service sectors, and by introducing
8 more high paying biomedical jobs in the health and education fields
9 into the NYC economy, the gap between polarized wages can be
10 reduced.

11

12 **Q. Does investment in biomedical research have a multiplier effect**
13 **on jobs and New York City's economy?**

14 A. It indeed does. In 2010, The Associated Medical Schools of New
15 York (AMSNY) commissioned a report by Tripp Umbach, a nationally
16 recognized economic and marketing consulting firm. It found that New

¹³ Bureau of Labor Statistics, Occupational Employment and Wages: Bio Med. May 2012
<http://www.bls.gov/oes/current/oes291051.htm>.

¹⁴ Crain's New York Business, *New High Point for Low-Wage Jobs*. April 11, 2013.
<http://www.craigslist.com/article/20130411/ECONOMY/130419961#.UWgajxiD0fA.e>
mail.

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1 York City receives an economic return of \$7.50 for each dollar invested
2 in academic research and development.¹⁵

3 A similar multiplier effect occurs with jobs. According to a study
4 performed by Ernst & Young, biomed has an employment multiplier of
5 2.9. In other words, each job created in biomed generates an
6 additional 2.9 jobs, resulting from biomed firms' purchases and
7 consumer spending of biomed employees. The same study estimated
8 a revenue multiplier of 2.3 for induced and indirect spending by
9 biomedical companies.¹⁶

10 Because there is broad consensus that university research is a long-
11 term investment in the future, the federal government supports 60
12 percent of the research performed at universities, according to data
13 from 2011 calculated by the Association of American Universities.¹⁷

14 This sector depends a great deal on research grants. According to a
15 survey published in the New York Academy of Medicine, it is estimated
16 that, "every million dollars of federal research funding generates

¹⁵ Columbia University Medical Center Press Release, New York's Medical Schools Urge Congress to Preserve NIH Funding for Scientific Research. January 2, 2013. http://www.eurekalert.org/pub_releases/2012-12/cumc-nym120312.php.

¹⁶ The Economic Contributions of the Biotechnology Industry to the U.S. Economy. Prepared for the Biotechnology Industry Organization. Ernst and Young. May 2000.

¹⁷ University Research: The Role of Federal Funding. Association of American Universities. 2011.

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1 approximately 12 FTE jobs directly and an additional 7.74 FTE as a
2 result of the indirect and induced spending impacts for a total of almost
3 20 jobs.”¹⁸ These jobs include both direct and indirect hires from
4 overhead grant funds.

5
6 It should be noted, however, that competition for such NIH health
7 research grants has significantly increased. According to Crain’s New
8 York Health Pulse, nationally, the number of applications for NIH
9 funding has risen from 43,069 to 49,592 since 2005. As a result, the
10 percentage of applications that were successful in getting funding has
11 steadily dropped, from 22% in 2005 to 18% in 2011. In New York
12 State, the total amount of NIH research award funding for hospitals
13 dropped from \$126.4 million in 2005 to \$86.9 million in 2012, a
14 decrease of 31%.¹⁹

15

16 **Q. Can you quantify the number of jobs and expansion planned by**
17 **the CPA coalition?**

18 Elliott Sclar, Ph.D., and Nancy Aries, Ph.D, “Biomedical Research and the New York State Economy,” New York Academy of Medicine, 2000.

¹⁹ “More Applicants, Few Grants.” Crain’s New York Health Pulse. August 23, 2012.

1 A. Collectively, our membership represents many of the most
2 respected institutions in New York City and the world. As previously
3 stated, CPA members plan on spending approximately \$6.3 billion on
4 new construction projects over the next few years, constructing 2.3
5 million square feet of new biomedical space, and creating 2,700 jobs.
6 Their commitment to maintaining jobs, even in the toughest economic
7 downturns, is well established while their ability to attract and retain
8 world-class employees is consistent with the City's employment goals.

9

10 **Q. Do you believe that the Non-Profit Biomedical Research Sector**
11 **in New York City is at an economic disadvantage compared to**
12 **other sectors?**

13 A. Yes. The biomedical industry has one of the highest energy
14 utilization rates of those industry sectors that are most important to the
15 economic growth of New York State. A 2011 study by Energy Design
16 Resources, a California based utility industry organization, showed that
17 laboratories have a higher energy cost per square foot than all other
18 sectors surveyed. Laboratories typically consume 5 to 10 times more

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1 energy per square foot than typical office buildings.²⁰ Con Edison
2 designs its electric distribution services for a biomedical facility at an
3 energy density 50% higher than for office buildings.²¹

4
5 A study conducted by The Boyd Company in 2012, showed that New
6 York City biomedical facilities have the highest, by a wide margin, ratio
7 of electric costs as a percentage of total operating costs exclusive of
8 salaries. Biomed facilities in the Boston, Newark/Northern Jersey, and
9 San Francisco areas spend about 43% of their operating budget for
10 electricity, while Chicago facilities spend 34% but, New York City
11 biomed facilities spend 48% of their operating budget on electric power
12 (more than any of the 40 cities surveyed). The New York City
13 biomedical industry also spends between 2% - 12% more on labor
14 costs and salaries compared to the above mentioned cities.²² An
15 expanded biomedical BIR set-aside could help mitigate these higher
16 energy costs, and support high-wage jobs for City residents.

17

²⁰ Case Study: *High Performance Laboratories*. Energy Design Resources. 2011.

²¹ Con Edison, Rider Y Load Density, Engineering Design Values Used in Calculating Peak Demands.

²² The Boyd Company Inc. "A Comparative Operating Cost analysis for the Biotechnology Industry, 2012."

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1 While the 2008 recession is slowly abating, new economic growth is
2 often a two-edge sword when it comes to electricity pricing for high
3 usage intensity biomed customers. Studies indicate that a
4 strengthening economy typically results in increased grid-wide power
5 demand, further bolstering expectations of higher prices. These and
6 other factors point to a likelihood of increasing energy prices over the
7 next three (3) years. Against such a backdrop, there is no reasonable
8 expectation that market-based relief is in sight. The need for low cost
9 power as an economic incentive for large non-profit hospitals and
10 universities located in New York City, therefore, remains critically
11 important.

12

13 Despite the success of these industries, their ability to continue to build
14 new research facilities and hire more people is tenuous. Non-profit
15 institutions have been hard hit economically in recent years for several
16 reasons. Hospital expenses continue to increase on a yearly basis.
17 Between 2001 and 2011, tuition at private, not-for-profit universities
18 increased 31%.²³ The rising cost of healthcare insurance has caused

²³ US Department of Education. National Center for Education Statistics, "Tuition Costs of Colleges and Universities," <http://nces.ed.gov/fastfacts/display.asp?id=76>.

1 premiums to increase 58% since 2002.²⁴ The cost of energy continues
2 to be a significant impact on operating expenses.

3

4 Adding to the problems in healthcare are the ongoing cuts in State and
5 Federal aid as well as the continuing mandates that result in increased
6 operating costs. A recent analysis of the impacts of the federal funding
7 sequester on biomedical research found that New York is losing up to
8 \$101.92 million in funding because of the across-the-board 5% budget
9 cut.²⁵

10

11 **Q. What efforts have CPA members pursued to improve their**
12 **efficient use of energy to minimize the burden of energy costs?**

13 A. Despite their aggressive energy conservation measures, CPA
14 members spend over \$244 million on energy each year, nearly \$148
15 million (61%) of which is spent on electricity.²⁶ These institutions have
16 been highly active in finding and eliminating energy waste and cost.
17 Many have been recipients of NYSERDA grants for improving their

²⁴ Crain's New York Business, "2012 City Facts," Health Insurance Skyrockets April 3, 2013.

²⁵ *The Impact of a Sequester on the National Institutes of Health and Implications for Jobs and the US Economy*. United for Medical Research. www.unitedformedicalresearch.com/wp-content/uploads/2013/02/UMR_Impact_of_Sequestration_2013.pdf.

²⁶ Source is from Luthin Associates' CPA member surveys.

1 lighting, HVAC, and other systems. In the last section of my testimony,
2 I detail some of the excellent efficiency work at one of our member
3 facilities (the NYU Langone Medical Center) which is planned.
4 Previous BIR applications detailed the considerable financial and
5 personnel resources to improve the energy efficiency of their facilities.
6 In a recent compendium of energy efficiency measures installed at
7 biomedical research centers, we counted dozens of major energy
8 efficiency projects that have recently been completed at:

- 9 • NY Presbyterian Hospital
- 10 • Mt. Sinai Medical Center
- 11 • Memorial Sloan Kettering Cancer Center.
- 12 • NYU Langone Medical Center

13 These measures included but not limited to demand control of air
14 handling units; efficient lighting; variable frequency drives; data center
15 energy efficiency measures; more efficient chillers, motors, fans, and
16 pumps; and the installation of sensors, heat recovery systems, and
17 variable air volume fume hoods. A central plant configuration was
18 reviewed to achieve greater efficiency.²⁷

19

²⁷ Energy Efficiency Measures Identified in BIR Applications Filed with Con Edison.

1 **Q. Do you believe that future economic development programs**
2 **should be expanded?**

3 A. Yes, I do.

4

5 **Q. What can be done to alleviate the financial burden faced by**
6 **these institutions?**

7 A. While Con Edison's biomedical research set-aside within the BIR
8 program certainly benefits eligible non-profit institutions, the current 40
9 megawatt set-aside and 50 MW cap are too limiting. As stated above,
10 only 15 MW (12 MW in NYC and 3 MW in Westchester) are available
11 for projects that will be developed in the near future. Assuming the
12 6 MW Mt. Sinai project is approved, we estimate that projects in
13 development just by CPA members will overshoot the 40 MW by 21
14 MW. Merely meeting that level would put the total set-aside at about
15 61 MW by 2017, which does not account for projects about which we
16 may be unaware. Since the timeframe for completing such capital
17 intensive projects is often several years, the current low set-aside
18 effectively minimizes the benefits of the program. This is why our
19 request to increase the set-aside to 70 MW is reasonable. This is in
20 addition to the 3 MW Westchester portion.

1

2 **Q. Can you provide an example of the impact one of your**
3 **CPA member institutions has on the NYC economy?**

4 A. I cite NYU Langone Medical Center (NYULMC) a world class
5 patient-oriented integrated academic medical center, as one of the
6 nation's premier centers for excellence in healthcare, biomedical
7 research, and medical education. NYULMC comprises three hospitals;
8 Tisch Hospital, a 705-bed acute-care tertiary facility; Rusk Institute of
9 Rehabilitation Medicine, the first rehabilitation hospital in the world,
10 with 174 beds and extensive outpatient rehabilitation programs; and,
11 the 190-bed Hospital for Joint Diseases, one of only five hospitals in
12 the world dedicated to orthopedics and rheumatology. In addition, the
13 NYU School of Medicine, one of the nation's preeminent academic
14 institutions which include the Smilow Research Center, the Skirball
15 Institute of Biomolecular Medicine, and the Sackler Institute of
16 Graduate Biomedical Sciences, is located on the campus.

17

18 In addition to being a leading hospital, NYULMC has a world-class
19 academic medical center; a network of premier centers for excellence
20 in health care, biomedical research. It provides medical education that

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1 has state-of-the-art clinical programs across the continuum of care. Its
2 mission is to teach, to serve, and to discover by maintaining an
3 academic culture devoted to excellence in education, patient care, and
4 research.

5
6 The mission of hospitals and health systems across New York State is
7 to provide access to health care services 24 hours a day, seven days a
8 week, 365 days a year for millions of patients and their families,
9 regardless of ability to pay. Hospitals are economic anchors in their
10 communities. However, the precarious financial health of these
11 community assets threatens their continued ability to complete that
12 mission. Hospitals have very little control over the major items that
13 drive up health care costs including workforce shortages,
14 pharmaceutical and blood costs, new technological advances,
15 escalating malpractice and other insurance premiums, pension fund
16 shortfalls, lack of health care coverage and growing emergency room
17 utilization.

18
19 In regards to how NYULMC's work force impacts on New York City's
20 economy, the institution is the twelfth largest employer in NYC. A total

1 of 55,507 jobs in the State of New York in 2008 were directly or
2 indirectly attributable to New York University School of Medicine and
3 their primary hospital affiliates. The total annual economic impact on
4 NYS is over \$7.5 billion; \$3.3 billion through direct operations and \$4.2
5 billion through indirect impact. Federal research dollars collected by
6 New York University School of Medicine resulted in an impact of
7 \$647.9 million dollars in 2008. New York University School of
8 Medicine and its primary hospital affiliates add 19,736 FTEs by Direct
9 Impact and 12,335 FTEs by Indirect Impact in Brooklyn and Queens,
10 according to Tripp Umbach.

11

12 **Q. Can you explain NYULMC's involvement in biomedical**
13 **research?**

14 A. NYULMC's involvement in biomedical research is summarized in a
15 report from 2011.²⁸

16

- 17 • 1,500 active clinical research projects
- 18 • \$234 million in research funding for 2010
- 19 • \$71.4 million in Stimulus funding to date

²⁸ *Investing for the Future*, Internal NYULMC Report, p.8, October 2011.

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- 1 • 3,178 research papers published in 2010
- 2 • 140 patents and inventions
- 3 • #1 hospital in USA for patent/licensure revenue
- 4 • 400 active license agreements
- 5 • 20% growth in technology transfer revenue
- 6 • 7% growth in inventions
- 7 • 6 Centers of Excellence
- 8 • 545,000 square feet dedicated to research

9

10 Any discussion of the benefits of biomedical research to the economic
11 well being of New York can be made in the context of the hospital and
12 university institutions that develop sponsor and operate the biomedical
13 research facilities. To meet the needs of an increasingly technological
14 approach to medicine and research, NYULMC has developed a master
15 plan that is known as the Campus Transformation project.

16

17 The Campus Transformation project is dramatically reshaping
18 NYULMC through a series of major new constructions, renovations
19 and expansions, all geared to creating a world-class, patient-centered,
20 integrated academic medical center that will lead the industry for

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1 decades to come. Such a sweeping transformation is needed because
2 the medical center's three-fold objective of achieving sustained
3 excellence in patient care, medical research and education, is currently
4 being constrained by the confining building envelopes of its on-campus
5 facilities, an aging infrastructure and optimal adjacencies between
6 programs that ought to function together more seamlessly.

7
8 The Campus Transformation project plans to renovate and develop
9 about 1.86 million square feet of space at a cost of \$3.23 billion. About
10 75% of this amount will be spent with New York based contractors. 1.2
11 million square feet will be dedicated to biomedical research. The
12 spending will directly generate 10,374 construction and related jobs in
13 New York State. Indirectly these investments will generate another
14 \$1.44 billion in economic output and 9,100 additional jobs throughout
15 New York State. On average, that's 2,782 full-time jobs and nearly
16 \$604 million in output each year over the next 7 years.

17
18 NYULMC forecasts that the Campus Transformation plan will create
19 1,531 new jobs at the medical center when the new space is fully built-
20 out and occupied. About 1,000 jobs will be for biomedical research.

1 The economic activity associated with these new jobs would directly
2 add about \$233 million annually to the New York State economy.
3 Through their multiplier effect, these investments will indirectly
4 generate another \$143 million in economic output plus another 840
5 jobs.²⁹

6
7 To illustrate our point about the importance of biomedical research to
8 the changing medical landscape, about 67% of the new jobs and 65%
9 of the capital investment in the Campus Plan is devoted to biomedical
10 space.

11
12 Currently, NYULMC has three biomedical research projects
13 representing 13 megawatts of electricity under development. They
14 include:

- 15
- 16 • Kimmel Pavilion: This 800,000 square foot facility is the key to the
17 Campus Transformation. It will consolidate NYULMC's resources
18 for research and clinical care into a single, contiguous facility.

19

²⁹ Ibid.

1 Planning the Kimmel Pavilion from scratch has allowed senior staff
2 at the medical center to rethink how a facility can best
3 accommodate emerging technologies, innovative clinical practices
4 related to translational research and a growing emphasis on the
5 new technologies and approaches in research and patient care.
6 The layout will optimize efficiencies by keeping surgeons, research
7 staff and clinical staff “tethered” to specific procedure areas.
8 Additional patient room space will enable work stations and
9 diagnostic equipment to be placed at the patient bedside to better
10 enable the bench-to-bed research model.
11
12 In consultation with leading clinicians, project planners are grouping
13 the facility's inpatient rooms by specialty (neuroscience, cardio-
14 vascular, cancer). This further supports the translational research
15 efforts. The Kimmel center will be the test bed for much of the
16 research being conducted at NYULMC.
17
18 While NYULMC uses many forms of research, one of the methods
19 NYULMC uses to implement their research as exemplified in

1 Kimmel is called translational research, also known as bench-to-
2 bed research.

3
4 Translational research is scientific research that helps to make
5 findings from basic science useful for practical applications that
6 enhance human health and well-being. It is practiced in the
7 medical, behavioral, and social sciences. For example, in medicine
8 it is used to "translate" findings in basic research quickly into
9 medical practice and meaningful health outcomes. Applying
10 knowledge from basic science is a major stumbling block in
11 science, partially due to the compartmentalization within science.
12 Hence, translational research is seen as a key component to
13 finding practical applications, especially within medicine.³⁰

14
15 Translational research is a form of research that enables
16 organizations that make the innovations developed by research
17 applicable to the population under study in real time. In the field of
18 medicine, it is used to translate the findings in basic research more
19 quickly and efficiently into medical practice. This results in

³⁰ *What is Translational Research?*, Center for Clinical and Translational Sciences, <http://cts.uth.tmc.edu/what-is-translational-research>.

1 observations that can more quickly lead to positive results.
2 Governmental funders of research and pharmaceutical companies
3 have spent vast amounts internationally on basic research and
4 have seen that the return on investment is significantly less than
5 anticipated. Translational research has come to be seen as the
6 key, missing component.

7
8 With its focus on removing barriers to multi-disciplinary
9 collaboration, translational research has the potential to drive the
10 advancement of applied science. An attempt to bridge these
11 barriers has been undertaken particularly in the medical domain
12 where the term translational medicine has been applied to a
13 research approach that seeks to move "from bench to bedside" or
14 from laboratory experiments through clinical trials to actual point-of-
15 care patient applications.

16
17 NYULMC has a long history of successfully translating the results
18 of biomedical research into techniques for disease prevention,
19 diagnostic tools and treatments that benefit millions of people.

1 Moreover, its success in this arena has a direct impact on New
2 York City's economy.

3
4 The process of bringing new discoveries from the lab to the
5 marketplace can follow several different paths. In some cases, the
6 University's Office of Industrial Liaison licenses is promising new
7 technologies to established companies. For example, a biologic
8 first developed at NYULMC was licensed to Centocor and provided
9 the basis for Remicade, a drug that has been used successfully to
10 treat more than a million people worldwide for rheumatoid arthritis,
11 colitis, Krohn's disease and other ailments. Similarly, technology
12 licensed to Pfizer led to the development of Sutent, an anti-cancer
13 drug with more than \$1 billion in annual sales worldwide.

14
15 In other cases, NYULMC technologies are licensed to new ventures
16 created specifically for the purpose of further developing and
17 commercializing those technologies.

18
19 • Radiation Oncology: This project is another biomedical facility. This
20 new 19,000 square foot structure, adjacent to the Kimmel Pavilion,

1 will house the campus' radiation oncology department in a
2 configuration that enables seamless connections between the Tisch
3 and Kimmel facilities.

4

- 5 • New Science Building: This is another one of the planned
6 biomedical buildings. Like other major components of the Campus
7 Transformation, the new Science Building will expand upon
8 NYULMC's existing strengths—in this case advanced medical
9 research. The planned 350,000 square foot facility will be home to
10 the Neuroscience Institute. In addition, it will incorporate wet lab
11 space, core facilities, a vivarium, and expansive public and
12 conferencing areas. The building will integrate research facilities
13 and services strategically so that investigators, students, faculty
14 and clinicians can all work more efficiently and collaboratively.

15

16 The expansive New Science Building will also enable the School of
17 Medicine to accommodate new recruits and projected growth in funded
18 research. Like other major components of the Campus
19 Transformation, the New Science Building will expand upon the
20 medical center's existing strengths--in this case translational research

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1 concentrating in the neurosciences and immunology, inflammation and
2 infection. It will also serve as a major gateway to areas of the Medical
3 Center devoted primarily to education and research. Critically, the
4 expansive New Science Building will enable the School of Medicine to
5 accommodate new recruits and projected growth in funded research.

6
7 The NYULMC recently opened the Musculoskeletal Institute (MSI),
8 another biomedical research facility. It is a new comprehensive
9 orthopedic outpatient center that brings Spine, Sports Medicine,
10 Arthritis, and Total Joint Replacement together under one roof. MSI
11 will integrate biomedical research and clinical practice with the parallel
12 goals of directly improving patient care, and increasing knowledge
13 towards a cure for arthritis, autoimmune diseases and other
14 musculoskeletal conditions. MSI will include a comprehensive on-site
15 imaging center with Digital X-ray, Extremity MRI, and Special
16 Procedure Fluoroscopy facilities and encompass the outpatient
17 Physical and Occupational Therapy facilities of the NYU Rusk Institute,
18 including a large PT/OT gym. The gym facility will support the needs
19 of the Harkness Center for Dance Injuries, which offers orthopedic

1 treatment services to the dance community. The 110,000 square foot
2 facility is located on three floors at 333 East 38th Street.

3

4 The Campus Transformation project is not only about research. It is
5 dramatically reshaping NYULMC through a series of major new
6 constructions, renovations and expansions, all geared to creating a
7 world-class, patient-centered, integrated academic medical center that
8 will lead the industry for decades to come. It is a master plan to
9 reorganize and optimize the medical center's on-campus and off-
10 campus resources, and for structuring future growth while enhancing
11 the essential integration of patient care, research and education. The
12 vision comprises these new non-biomedical research facilities:

13

- 14 • The future viability of Tisch includes the facility's seamless
15 integration with the new Kimmel Pavilion, and planning for Kimmel's
16 construction and Tisch's renovation have proceeded with this
17 integration in mind. The long-awaited expansion of Tisch's
18 intensive care unit on the 15th floor was completed in April 2010,
19 doubling the ICU's size and completely redesigning it to provide
20 state-of-the-art, patient-centered holistic care. The space offers 35

1 bed units incorporating the latest bedside care technology,
2 configured in layouts that optimize efficiency and also the comfort
3 of patients, visitors and staff.

4
5 The Tisch Elevators and Lobby project is adding a new four-car
6 elevator bank inside a freestanding 18-story structure connected to
7 the 18-story bed tower of the hospital. This will increase the total
8 number of elevator cars serving the hospital to 12. The renovation
9 adds substantial new patient and visitor amenities, both to the main
10 lobby (including a Family Resource Center and Meditation area)
11 and to each of the upper inpatient floors. This Tisch Elevators &
12 Lobby project is scheduled for completion in 2012.

13
14 • Emergency Department Expansion (2010-2014): As part of the
15 strategy for providing a state-of-the-art acute care center at the
16 North Clinical Care Center, NYULMC is upgrading and expanding
17 its Emergency Department. As with planning for the Kimmel
18 Pavilion, this project spurred the clinicians involved to completely
19 rethink the Emergency Department's layout, maximize efficiencies
20 and incorporate new technologies.

1

2 The multi-phased project will expand the department well beyond
3 its current cramped 6,900 square feet to 19,600 square feet, and
4 add another 2,400 square feet devoted to radiology. The addition
5 will boost the number of patient treatment positions from the current
6 18 to a total of 40.

7

8 Among the crucial improvements to the Emergency Department are
9 separations between adult walk-in and ambulance patients, and
10 between adult and pediatric patients, which are essential to
11 providing better care for all as the anticipated number of visitors to
12 the facility overall continues to grow as expected. This segregation
13 of patients will allow for a dedicated pediatric emergency care
14 center, with its own pediatric waiting/play area, enhancing the
15 safety and comfort of patients and families. Meanwhile a separate
16 fast-track service will move non-acute patients more quickly
17 through treatment and discharge. The expansion further enables
18 the addition of a state-of-the-art imaging suite, as well as a family
19 consultation room and room for family members to remain at the
20 bedside of patients in treatment areas.

1

2 These projects will further the goals of the NYULMC by ensuring that
3 the population of New York receives high quality, accessible, culturally
4 sensitive, cost effective health care keeping New York State on the top
5 of academic medicine by evolving and growing with medical education
6 trends; searching for new opportunities to expand biomedical and
7 health services research; and offering New York's citizens the
8 opportunity to benefit from newly developed medicines, procedures
9 and technologies through improved coordination of information and
10 resources. The goals of the biomedical research are in line with NYC
11 and NYS strategies to continue to be a center for this industry.³¹

12

13 **Q. Can you describe some of the energy efficiency efforts at**
14 **NYULMC?**

15 A. Overall, NYULMC has committed to designing all of these buildings
16 at a high level of energy efficiency. These projects will include a LEED
17 designed building at the Kimmel Center and all projects will be
18 designed with energy efficiency in mind. In addition, the new Electric
19 and Emergency Generator Plant will include an 8 MW co-generation

³¹ NYULMC website: <http://redaf.med.nyu.edu/campus-transformation-overview>.

1 plant that will supply 40% of the existing campus load including
2 biomedical research load. This system will be much more efficient
3 than utility generated power. This effort is part of a larger upgrade to
4 our Primary Electric Service and Emergency Generator Plant, planned
5 for 2013-2017: The medical center's energy needs currently are
6 straining the capacity of its existing infrastructure; and as the NYULMC
7 grows this strain will only worsen. Meanwhile, energy costs are
8 expected to rise, turning energy efficiency into an economic as well as
9 an environmental goal. A new 78,600 sq. ft. Energy Building will
10 relieve the strain on NYULMC's infrastructure. It will provide primary
11 electric service to the complex, accommodate anticipated growth in
12 energy consumption, and at the same time employ combined heat and
13 power (CHP) generation technology to produce energy that is cleaner
14 and more economical. This facility will include the 8 MW co-generation
15 system with a 150 kpph (i.e., thousand pound per hour) Heat Recovery
16 and Steam Generator (HRSG) and two 150 kpph dual-fire boilers.

17

18 **Q. What is the need for Economic Development Assistance?**

19 A. Much of what makes NYULMC world class requires more and more
20 electricity for treatment and research. Therefore, any program that can

1 mitigate the cost of electricity will enable it to add to the economic
2 development of New York by building modern facilities, employing high
3 salaried as well as entry level personnel and increasing the
4 contribution of Federal research investment. If these investments are
5 not made in New York, they will be made elsewhere in New Jersey or
6 Connecticut or other regions. NYULMC's answer to this conundrum is
7 The Campus Transformation supported by the Business Incentive Rate
8 and other programs such as Recharge NY which is providing five
9 megawatts of reduced power to NYULMC.

10

11 As shown in this testimony, the high cost of electricity in New York as
12 compared to other regions exacerbates the high level of operating
13 expenses of this industry and can result in projects being delayed,
14 reduced in size or cancelled. By addressing that issue, expanded BIR
15 for non-profit institutions can be an important support for the
16 biomedical research industry and the New York City economy.

17

18 **Billing Errors**

19

20 **Q. What is your experience with billing errors?**

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1 A. Luthin Associates reviews the electric gas and steam bills of most
2 CPA members, and several other clients. As President of Luthin
3 Associates, I have become aware of a number of large errors among
4 our clients. These errors have multiple causes, including incorrect
5 demand amounts, inaccurate estimates, incorrect rate schedules, and
6 incorrect application of penalty rates. The erroneous bills include gas,
7 steam and electric bills. It appears that most of these large erroneous
8 bills are computed outside Con Edison's automated billing system.
9 Many of these errors could be identified by basic exception reports to
10 screen for possible causes of error, such as identical billing
11 determinants in consecutive months, billing determinants much greater
12 than recent history, incorrect meter constants, or multiple consecutive
13 estimated meter readings. .

14

15 **Q. Why is this a serious problem?**

16 A. While the total number of errors is relatively small compared to the
17 entire customer population, the number of errors is large compared to
18 the set of bills which Luthin Associates reviews. Moreover, these
19 errors are large and their occurrence persistent. As shown in Exhibit
20 CL-1, the total value of errors discovered since 2007 is more than \$2.8

1 million, and on average these errors went unresolved for over 2
2 months each. In the 20 months between May 2011 and January 2013,
3 the total overbilling was approximately \$1.4 million, and the average
4 time to correction was more than 2 months. It is important to note that
5 these are only errors discovered among those of our clients for whom
6 we conduct bill reviews. These are a small fraction of Con Edison's
7 customers. The frequency, magnitude and duration of billing errors
8 have not decreased since 2007.

9

10 **Q. How does Luthin Associates perform bill review on behalf of**
11 **its clients?**

12 A. With the clients' agreement to allow us access to confidential billing
13 information, we use proprietary software to review our clients' bills and
14 in doing so identify bills that appear to be billed at rates greater than
15 the applicable tariff rates and/or contract prices. When we suspect that
16 a bill includes excessive charges, we investigate to identify any
17 possible source of error, including all of the following: rate schedules,
18 all applicable adjustments, riders, minimums and/or maximums, billed
19 taxes, meter constants, and any other factor that may affect the
20 accuracy of the bill. To support this effort, we have developed a

1 proprietary bill calculator, including a database of Con Edison rates,
2 and another confidential database of client billing information. When
3 we find a significant billing error, we report that information to our
4 client, and in some cases present our findings to the appropriate
5 vendor on behalf of our client, in order to obtain a correct bill.

6

7 **Q. Why are all the errors enumerated in your exhibit the result of**
8 **overbilling?**

9 A. Our practice is to methodically search for excessive bills. No client
10 has approached us to search for bills which are too low. I believe it is
11 in the vendors' interest to insure that all bills are correct, and to the
12 extent that the Company underbills, the Company has resources to
13 find those bills. I also expect that any case of overbilling brought to the
14 Company's attention should cause the Company to initiate a full
15 investigation of all the bills on that account.

16

17 **Q. What have you discovered concerning the Company's**
18 **management of this problem?**

19 A. In response to our inquiries, the Company stated that it has not
20 compiled data on the frequency and amount of erroneous bills. I infer

1 from that response that Con Edison does not currently have the data
2 necessary to recognize the problem. Without that information, the
3 problem is unmanageable. I am also aware that the Revenue
4 Decoupling Mechanism (RDM) holds the Company harmless for billing
5 errors, even very large ones, and suspect that RDM has exacerbated
6 the problem by diminishing the incentive to control this problem.

7

8 **Q. How did you conduct your investigation into Con Edison's**
9 **management of its billing accuracy?**

10 A. We propounded a series of interrogatories, to determine the extent
11 of the problem. This step was necessary because, as customers, we
12 have access only to our own data, which allows only a very small
13 sample. The relevant questions and answers were:

14

15 CPA Questions Nos. :008-019

16 8. *For each month of the historic test year, and for continuing*
17 *subsequent months, for all such electric described above,*
18 *please provide: The total number of monthly bills, the average*
19 *demand, average use and average amount for those bills.*

20

21 9. *The number of estimated bills, the average demand, average*
22 *use and average amount for those estimates bills.*

- 1 10. *The number of accounts receiving estimated bills in 2 or more*
2 *consecutive months and the average demand, average use*
3 *and average amount for those estimates bills.*
- 4 11. *The number of estimated bills generated automatically by the*
5 *electronic billing system.*
- 6 12. *The number of bills estimated by any Con Edison employee.*
- 7 13. *The number of bills requiring correction, adjustment or re-*
8 *billing.*
- 9 14. *The average amount of any correction, adjustment or re-*
10 *billing.*
- 11 15. *The maximum amount of any correction, adjustment or re-*
12 *billing.*
- 13 16. *The cause of any error requiring correction, adjustment or re-*
14 *billing.*
- 15 17. *The average number of days between identification and*
16 *correction of errors.*
- 17 18. *The total number of monthly bills, the average demand,*
18 *average use and average amount for those bills that are*
19 *billed using a Journal Voucher Code 02 Voucher Bill or that*
20 *are billed using a Journal Voucher Code 26 Unmetered*
21 *Service.*

1 19. *The number of bills that are released automatically, held for*
2 *review, and the number of bills not generated automatically*
3 *and the reasons for holding billing.*

4 The Company's response to all of these questions was:

5 *Response:*

6 *Historical information is not maintained in a format that can be*
7 *queried. With respect to data requested for subsequent months,*
8 *this would require analysis and the development of other*
9 *processes which are not currently in place. To provide*
10 *information in response to this question as well as to CPA 9-19*
11 *would require an extensive manual study which the Company*
12 *declines to undertake in accordance with 16 NYCRR 5.8.*
13 *In a phone conversation with CPA on April 17, 2013, the*
14 *Company offered to explore providing alternative available data to*
15 *CPA. That offer remains open.*

16

17

18 **Q. What do you conclude from this?**

19 A. I conclude that the Con Edison does not have adequate information
20 systems in place to assure ratepayers and stockholders that all bills
21 are rendered accurately and in a timely manner.

1

2 **Q. By response to Question No.8, the Company has offered to**
3 **“work with CPA to provide alternative data.” Is that an adequate**
4 **response?**

5 A. No. Our only interest is to receive accurate, timely bills. The
6 purpose of our investigation was to determine whether the Company
7 develops the kind of information necessary to manage the billing error
8 problem. We found that it cannot currently collect the necessary
9 information.

10

11 **Q. Are you aware of the Customer Operations Panel proposal to**
12 **develop a new billing system for those accounts now billed**
13 **outside the automated billing system?**

14 A. Yes, and we support that initiative.

15

16 **Q. What do you propose?**

17 A. I propose a penalty if Con Edison fails to reduce the number and
18 amount of billing errors for all classes. The penalty should be
19 \$650,000, or approximately equal to 10% of the budget cost of the new
20 system proposed by the Customer Operations Panel. The penalty

1 should be paid upon the completion of a baseline number of billing
2 errors, the total absolute value of those errors, and the number of days
3 until correction. If this case results in a multiple year rate plan, the
4 penalty should be tied to error reductions below the baseline in
5 subsequent Rate Years. The program should continue and be
6 renewed as necessary until the number of incorrect bills is reduced to
7 a reasonable level, and the average duration to correction is less than
8 10 business days for two consecutive years.

9

10 **Reliability Performance Mechanism**

11

12 **Q. Do you agree with the proposal by the Electric Infrastructure**
13 **Panel to discontinue the performance metric for the replacement**
14 **of over duty breakers in the RPM?**

15 A. No. This is an issue of particular importance to CHP developers and
16 to our members, but it is also consistent with the purpose of RPM
17 generally. The Panel testifies that meeting the goals of the RPM
18 metric is consistent with the Company's reliability goals and alludes to
19 alternate system protection measures that are now feasible for CHP
20 plants. Installation of fault duty mitigating equipment on the customer

1 side limits the fault duty current shortfall that a customer would place
2 on the network, but it will not improve the reliability of the already
3 overstressed network, or improve reliability for customers generally.
4 Protection equipment installed on the customer side of an over tasked
5 network does not eliminate system shorts that cause reliability issues
6 for all customers. As a result of shorts or dips in the network, our
7 members may experience low voltage conditions that impact
8 equipment such as pumps and condensers that serve critical care
9 areas in hospitals. Much hospital equipment is extremely sensitive.
10 For example, any short or voltage dip on the network will shut down
11 radiology equipment in use.

12

13 **Q. Has the over-dutied network situation improved?**

14 A. No. As can be seen by comparing the maps contained in Exhibit
15 ____ (CL2) and Exhibit ____ (CL3), the areas of Manhattan that will
16 require customer side fault current protection for synchronous
17 connections is expected to increase by 2026, not decrease.

18

19 **Q. What is the ratepayer's interest in this?**

1 A. This is not solely an issue for the developers of CHP plants with
2 synchronous connections to the Con Edison system. All customers
3 have an interest in a modern, reliable distribution system. Con Edison's
4 own reliability contingency plan (filed in CASE 12-E-0503 - Proceeding
5 on Motion of the Commission to Review Generation Retirement
6 Contingency Plans) includes the development of large numbers of
7 CHP plants and other network connected demand side resources.
8 These resources depend on reliable networks. The Panel does not
9 consider the cost to the customer of those measures and ignores the
10 reliability concerns of all customers. In response to our request, the
11 Company provided the following response (CPA_12-f 1-Answer-
12 CPA_12_94):

13 *Customer A installed the G&W Current Limiting Protector*
14 *(CLiP) at a cost of \$220,000, \$110,000 of which was paid for*
15 *by NYSERDA, leaving a cost of \$29/kW (vs. \$380-1000 per*
16 *kW in substation upgrade costs). Subsequently, the substation*
17 *that supplies Customer A was fully upgraded, removing the*
18 *overduty condition at the station. As such, Customer A was*
19 *given permission to remove the installed device but is keeping*
20 *it in place to protect its own equipment. Replacement fuses for*

1 *the G&W CLiP cost \$4,000-\$5,000 per phase. The Customer*
2 *B project chose to install the same CLiP device to protect its*
3 *internal equipment from fault current contribution of its CHP.*

4 From the above, it can be inferred that Customer A chose to keep the
5 CLiP even after it received permission to remove it in order to protect
6 its hospital facilities from various transients on the utility distribution
7 system. Maintenance of this type of 3 phase installation is extremely
8 costly. These fuses cost up to \$10,000 per phase. CPA members
9 report network failures, voltage variations, or shorts circuits as much as
10 five times per year. For this example, total maintenance costs annually
11 could reach 150, 000 and may require over 5 hours to replace each
12 time they open. While it is true that this customer was able to reduce
13 costs for its fault mitigation equipment because of a very large
14 NYSERDA grant, that project would not be eligible for assistance
15 under currently open NYSERDA programs.

16 The Company further includes this:

17 *Customer C installed “The Switch” for AC-DC-AC conversion at*
18 *an estimated cost of \$3 million or \$450/kW. O&M costs are not*
19 *known. The AC-DC-AC converter provides for many more*

1 *control features than solely fault current mitigation so a direct*
2 *\$/kW cost should not be used for comparison to the CLiP.*

3 That is a substantial additional cost, and one not covered by
4 NYSERDA as implied late in the Company's response:

5 *Notably, the recently approved NYSERDA CHP Acceleration*
6 *Program (PON 2568), which provides financial incentives for the*
7 *installation of pre-qualified, pre-engineered CHP systems*
8 *includes multiple designs that have fault-mitigating inverter-*
9 *based designs which are new to the market.*

10 This program is limited to CHP installations of 1.3 MW or less, a
11 limitation which would exclude the largest projects, including the ones
12 referred to by the Company in their responses to our questions.

13 The Company also offered this response:

14 *We do not believe our proposal to end the performance metric*
15 *for replacement of over-duty circuit breakers will impact any*
16 *known planned CHP developments. The Company intends to*
17 *continue its program for replacing over-dutied circuit breakers at*
18 *least at the same rate of replacement as is provided in the*
19 *performance metric. The Company proposes in this proceeding*
20 *to spend \$11.28 million in 2013, \$11.3 million in 2014, \$10.5*

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1 *million in 2015, and \$10 million annually in 2016 and 2017 to*
2 *replace over-dutied breakers at a rate of about 60 to 65 units*
3 *per year.*

4 While the Company “intends” to continue to replace over-dutied
5 breakers at the rate required by RPM, it proposes to eliminate the RPM
6 incentive. This is the heart of the dispute. The Company believes the
7 program should be optional and subject to revision at any time without
8 cost to the Company; our members believe that the commitment to
9 replace those breakers only be suspended under extraordinary
10 circumstance. Maintaining the RPM metric for over-dutied breakers is
11 consistent with that commitment, and with system reliability.

12

13 Each CHP installation is unique, with its own site specific
14 considerations. Requiring additional customer side network protection,
15 or limiting solutions to any particular technology in lieu of correcting the
16 underlying network reliability problem, creates an additional constraint
17 on developers. Even those specific technologies that are eligible for
18 NYSERDA support may be more costly or inappropriate for some
19 applications. Any unnecessary constraint limits the equipment and
20 other choices of developers, increases costs and ultimately constrains

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1 CHP development. With current concerns about energy efficiency and
2 the possible retirement of large amounts of generation capacity, CHP
3 has become only more important. Transferring costs to CHP will only
4 discourage development, without improving reliability, for the general
5 body of ratepayers. The current RPM includes the correct metric to
6 measure Con Edison's progress toward achieving the Commission's
7 reliability goals. The Panel's proposal should be rejected.

8

9 **Q. Does this complete your prepared testimony in this case?**

10 A. Yes.