

BEFORE THE NEW YORK STATE PUBLIC SERVICE COMMISSION

In the matter of:

APPLICATION OF CONSOLIDATED)
EDISON COMPANY OF NEW YORK) CASE 09-E-0428
FOR AN INCREASE IN ELECTRIC RATES)

REBUTTAL TESTIMONY

OF

DR ERIC B. LINDENBERG

SEPTEMBER 2009

REBUTTAL TESTIMONY OF DR. ERIC B. LINDENBERG

1 **Q. PLEASE STATE YOUR NAME AND ADDRESS.**

2 A. My name is Eric B. Lindenberg and my address is 6 Ciafardini Court, Marlboro,
3 New Jersey.

4 **Q. HAVE YOU PREVIOUSLY TESTIFIED IN THIS PROCEEDING?**

5 A. Yes. I submitted direct testimony in this proceeding on behalf of Consolidated
6 Edison Company of New York, Inc. (“CECONY” or the “Company”). I
7 submitted my credentials as part of my direct testimony.

8 **Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

9 A. The purpose of my rebuttal testimony is to respond to certain statements
10 contained in the prepared testimony of (i) the Staff Finance Panel and (ii)
11 Consumer Protection Board (“CPB”) witness Tariq Niazi. Specifically, I will
12 explain why (1) the standards espoused by Staff for determining a fair rate of
13 return in this proceeding are incorrect, (2) Staff’s claim is incorrect that required
14 equity returns are “usually” above the required returns for debt holders, but that
15 there are exceptions, (3) Staff’s meaning and interpretation of beta in the Capital
16 Asset Pricing Model (“CAPM”) is incorrect and if accepted would ignore that
17 significant impact that recent high market volatility has had on beta, (4) Staff’s
18 claim that estimating the expected market risk premium is subject to “a
19 considerable amount of judgment” ignores the potential for the Option Market
20 Implied Cost of Equity (“OMICE”) model to estimate that premium in a much
21 more objective manner, (5) Staff incorrectly asserts that utility betas are unlikely
22 to change much during periods of market turmoil and high volatility, (6) Staff
23 incorrectly rejects the use of quarterly compounding of dividends in the

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1 Discounted Cash Flow (“DCF”) model, (7) Staff and CPB witness Niazi both
2 incorrectly adjust the Company’s cost of equity because CECONY’s credit rating
3 is higher than the average for their proxy groups and (8) many of the claims made
4 by Staff and CPB witness Niazi regarding my use of the OMICE model to
5 estimate Con Edison’s cost of equity are incorrect and unsupported.

6

7 **STAFF’S STANDARD FOR DETERMINING A FAIR RATE OF RETURN**

8

9 **Q. WHAT IS STAFF’S POSITION REGARDING THE APPROPRIATE**
10 **STANDARD FOR SETTING A FAIR RETURN?**

11 A. In its testimony (p. 8), the Staff Finance Panel states “The fair rate of return,
12 therefore, allows the utility to recover its prudently incurred costs of debt and
13 preferred stock, while providing its common equity investors the opportunity to
14 earn a return that is commensurate with the risk of their investment.”

15 **Q. DO YOU AGREE WITH THIS STATEMENT?**

16 A. No. Offering common equity investors only the opportunity to earn a return
17 commensurate with investment risk in contrast to a reasonable expectation that
18 they will earn a return commensurate with that risk is inconsistent with the basic
19 definition of cost of equity capital. The return on equity that equity investors
20 actually receive is uncertain, even after the Commission sets an authorized return
21 on equity. In other words, the return actually received by equity investors is one
22 outcome from a probability distribution of potential outcomes that are influenced
23 by but not absolutely determined by the authorized return. Unforeseen changes in

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1 input costs, for example, may cause the utility to achieve a return that deviates up
2 or down from what was expected when the authorized return was set. The cost of
3 equity, or required return on equity, is the expected value of that probability
4 distribution. For the return on equity set by the Commission to be “fair”, common
5 equity investors require that the expected value of the range of outcomes in their
6 returns be commensurate with the risk of their investment. Providing only the
7 “opportunity to earn a return commensurate with investment risk”, as Staff
8 suggests, means that as long as the Company has some chance of achieving a
9 return commensurate with that risk, even if that chance is very small, Staff’s
10 standard will be satisfied. That is patently inconsistent with what the cost of
11 capital means and should be rejected. Traditional regulation in many jurisdictions
12 often makes it difficult for a utility to achieve and retain returns above the
13 authorized return even though achieved returns below the authorized return must
14 be accepted by the utility’s investors. As Mr. Hoglund discusses in his testimony,
15 in this jurisdiction recent regulatory adjustments to elements of the Company’s
16 revenue requirements have created the same kind of difficulty for the Company.
17 If that regulatory approach were to continue, then it would be appropriate to set
18 the authorized return sufficiently above the cost of capital so that the expected
19 value of what can be achieved will be enough to compensate for risk. In fact, in
20 its response to Question 131 of the Company’s Information Request to DPS Staff,
21 the Staff Finance panel clarified its position by recommending that the expected
22 value (mean value over all future values) of a utility’s return be commensurate
23 with the risk of common equity.

1 **REQUIRED RETURN ON EQUITY VS. REQUIRED RETURN ON DEBT**

2

3 **Q. WHAT IS STAFF'S POSITION IN ITS TESTIMONY ON THE**
4 **RELATIONSHIP BETWEEN THE REQUIRED RETURN FOR EQUITY**
5 **INVESTORS VERSUS THAT OF DEBT HOLDERS?**

6 A. Staff Finance Panel states (p.10) that the return required by equity investors is
7 usually higher than that of the utility's debt holders but that an exception may
8 exist during periods of disturbances in the market. The Staff goes on to cite as an
9 example the 1980-82 period when the economy was beset with high and volatile
10 interest rates. During that period, Staff uses the fact that returns allowed by this
11 Commission and other state commissions were lower than utility bond yields to
12 support its notion that exceptions to their general rule exist.

13 **Q. DO YOU AGREE WITH STAFF'S TESTIMONY THAT THERE CAN BE**
14 **EXCEPTIONS TO THE GENERAL RULE THAT THE REQUIRED**
15 **EQUITY RETURN MUST BE HIGHER THAN REQUIRED RETURNS**
16 **FOR DEBT HOLDERS?**

17 A. No. First, that short period during which authorized equity returns were below
18 bonds yields was an anomalous period that is not representative of what has
19 occurred at almost all other times. More importantly, the fact that regulatory
20 commissions authorized equity returns below the yield on bonds during 1980-82
21 is irrelevant to the issue of required equity returns in the market versus bond
22 yields. The required equity return is always the cost of equity which is always
23 above the market cost of debt. That is because common equity occupies a

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1 subordinate position in the capital structure and holders of common equity only
2 get returns after debt holders claims are satisfied. That makes equity risk always
3 higher than debt risk and equity investors will always demand a higher expected
4 return than do debt holders regardless of how high interest rates go. If an
5 authorized return does not meet those expectations, stock prices will drop so that
6 investor expectations can be met.

7 Q. Has Staff clarified its position on this issue?

8 A. Yes. In its response to Question 132 of the Company's Information Request to
9 DPS Staff, the Finance Panel states that "The Panel believes that at any point in
10 time, the expected return of a utility holding company's shareholders, as reflected
11 in its share price, will be higher than the yield requirements of its debtholders,
12 because of the subordination of common equity relative to debt in the capital
13 structure." It clearly follows from this response and its response to Question 131
14 that Staff is recommending that returns on equity authorized by this Commission
15 should provide expected returns to common equity investors that always exceed
16 the returns required by debtholders.

17

18 **STAFF'S DEFINITION AND INTERPRETATION OF BETA**

19

20 Q. **HOW HAS STAFF DEFINED BETA?**

21 A. Staff states (p. 65) that "According to the CAPM, the appropriate way to measure
22 an individual stock's risk is through a correlation of its return relative to the
23 market as a whole, known as beta."

1 **Q. DO YOU AGREE WITH THIS DEFINITION OF BETA?**

2 A. No. The accurate definition of beta is the correlation of a stock's return relative to
3 the market's return multiplied by the ratio of the volatility of the stock's return to
4 the volatility of the market's return¹. Thus, Staff's definition only reflects a
5 portion of what determines beta. It is important to clarify this point because Staff
6 incorrectly suggests elsewhere in its testimony (p. 94) that, due to the presence of
7 regulation, utility betas are unlikely to change much during periods of turmoil
8 such as what has been experienced recently. Even if under regulation this
9 correlation were to remain unchanged as Staff contends, beta could change
10 significantly if utility and market volatility change significantly. In my direct
11 testimony, (pp. 5-9) I demonstrated these large volatility changes. Accordingly,
12 Staff incorrectly claims that their estimates of beta are appropriate despite being
13 based on historical regressions. In his direct testimony (p. 24), Dr. Morin
14 recognized that beta estimates understate the true risk of the Company during
15 periods of high volatility. Staff does not because of its misunderstanding of what
16 drives beta. In fact, in Staff's response to Question 137 of the Company's
17 information request, it once again demonstrates a continued misunderstanding of
18 the difference between correlation and beta. Staff states "there is no reason to
19 believe that the historic correlation between utility stocks and the market return
20 will be appreciably altered as a result of the recent financial crisis." As I have
21 explained in my testimony, correlation is only one of the factors that affect beta.
22 The other factors are company and overall market volatility. Staff frequently

¹ See Elton, Edwin J. and Gruber, Martin J., Investments Volume I: Portfolio Theory and Asset Pricing, MIT Press 1999

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1 acknowledges in its own testimony that volatility changes have clearly occurred
2 during the recent turmoil. These changes are critical to understanding why
3 historically estimated betas are unreliable, particularly in the current environment.
4 The use of CAPM as implemented by Staff in its testimony does not address this
5 unreliability in the way that the OMICE model does.

QUARTERLY COMPOUNDING OF DIVIDENDS IN THE DCF MODEL

6

7 **Q. WHAT IS STAFF'S POSITION ON THE USE OF A DCF MODEL THAT**
8 **INVOLVES QUARTERLY COMPOUNDING OF DIVIDENDS AS A**
9 **MEANS TO ESTIMATE THE COST OF EQUITY?**

10 A. Staff rejects the use of a DCF model that involves quarterly compounding of
11 dividends. Rather, Staff (p. 101) relies on a reason cited by the Commission in its
12 April 24, 2009 Rate Order in the Company's last electric rate case (Case 08-E-
13 0539) that "any extra return to be achieved on account of quarterly dividend
14 reinvestment will be achieved by those who actually reinvest all the dividends in
15 the Company's stock." Therefore, "any additional allowance would be duplicative
16 for those who actually reinvest dividends and unnecessarily generous to those
17 who do not."

18 **Q. DO YOU AGREE WITH STAFF'S POSITION?**

19 A. No, I do not. Payment of dividends on a quarterly basis is the most common
20 pattern of dividend distributions among major public companies in the United
21 States. Investors collectively set stock prices in the market in part based on the

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1 expectation of the continued quarterly timing of Con Edison’s dividends. While
2 some of the investors may use dividends for other purposes, many of them expect
3 to be able to reinvest them when received and are counting on quarterly dividends
4 to do so. Thus, their return expectations are in part influenced by the timing of
5 those dividends. Since the overall market’s expectation for Con Edison’s
6 common equity return is significantly influenced by the large body of investors
7 who own Con Edison’s stock in part because of quarterly dividends, the DCF cost
8 of equity must reflect the quarterly nature of those dividends. In fact, Staff’s
9 rejection of a quarterly compounding model also supports the rejection of an
10 annual compounding model. By concluding that quarterly compounding is
11 “duplicative for those who actually reinvest dividends and unnecessarily generous
12 to those who do not”, then it would logically follow that even an annual
13 compounding model is inappropriate because not all investors reinvest dividends
14 even annually. Logic then suggests that no compounding at all should be done
15 and dividends should just be arithmetically summed up over the life of an
16 investment and discounted once at the end of the period. Such a result, however,
17 is plainly inconsistent with the DCF model. Given that Staff has incorrectly
18 excluded quarterly compounding from its calculations, I would suggest that
19 Staff’s DCF cost of equity estimate be adjusted upward, as recommended by Dr.
20 Morin.

21
22 **CREDIT QUALITY ADJUSTMENT**
23

1 **Q. DO STAFF AND CPB WITNESS NIAZI SUPPORT A CREDIT QUALITY**
2 **ADJUSTMENT FOR CON EDISON?**

3 A. Yes, both Staff and CPB witness Niazi claim that it is appropriate to adjust
4 downward their estimates of Con Edison's cost of equity because Con Edison's
5 credit rating is stronger than the average of the proxy group of companies that
6 they each deem comparable to Con Edison.

7 **Q. HOW DID STAFF AND CPB WITNESS NIAZI MAKE THEIR**
8 **DOWNWARD ADJUSTMENTS?**

9 A. Both testimonies make the adjustment in a very similar manner, so I will focus
10 my discussion primarily on the Staff methodology. Staff's first step was to
11 calculate the five-year average difference between the bond yields associated with
12 the ratings of each of the companies in their proxy group and the bond yields
13 associated with the Company's bond rating. That difference suggested to them
14 that there was a 23 basis point "discount" associated with the Company's debt
15 cost because of its higher ratings compared to the proxy group's average ratings
16 of somewhere between BBB+ and BBB for S&P and Baa1 and Baa2 for
17 Moody's. The second step was to "translate" this cost of debt discount into a cost
18 of equity discount. They calculated this translation by multiplying the debt
19 discount by the ratio of their estimate of the cost of equity for the proxy group to
20 its recent (three-month average) cost of debt. Their resulting equity discount was
21 31 basis points.

22 **Q. DID CPB WITNESS NIAZI USE A SIMILAR PROCEDURE?**

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1 A. Yes. CPB witness Niazi's method was quite similar to Staff's although there are
2 some differences such as (1) the period chosen to calculate the average spread
3 between the proxy groups' bond yields and yields for companies with Con
4 Edison's bond ratings, (2) the translation factor used to convert that spread into a
5 cost of equity discount and (3) a reduction in his translation result to reflect Con
6 Edison's position as weak single A credit. CPB witness Niazi's final
7 recommended downward adjustment was 46 basis points.

8 **Q. WHY DO YOU DISAGREE WITH THE STAFF AND CPB WITNESS**
9 **NIAZI'S PROPOSED CREDIT QUALITY ADJUSTMENT?**

10 A. I disagree because the argument is fundamentally inconsistent with results of their
11 own analyses of the cost of equity for the companies in their proxy group.

12 **Q. PLEASE EXPLAIN.**

13 A. Again I will focus on Staff's specific analysis because CPB witness Niazi's
14 analysis is quite similar. As noted above, Staff and CPB witness Niazi state that,
15 on average, the bond yields of the lower rated proxy group members were higher
16 than the Company's bond yield. Accordingly, if it were true that there was a
17 corresponding measurable difference between the cost of equity of the proxy
18 group and the cost of equity for Con Edison (because of its stronger credit rating),
19 then we should be able to look within the proxy group and observe a similar
20 disparity. Specifically, companies with the weaker credit ratings (those with
21 BBB+/Baa1 or weaker ratings) should have higher costs of equity than those with
22 the stronger ratings (A-/A3 or stronger ratings). As demonstrated by Staff's own
23 cost of equity estimates for the companies in their own chosen proxy group, and

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1 applying the method that Staff recommends be accorded two-thirds weight in this
2 proceeding (i.e., the DCF estimates), however, the exact opposite is true. As
3 shown in Exhibit EBL -1 of my rebuttal testimony, the average of Staff's DCF
4 cost of equity estimates for those companies with S&P ratings of BBB+ or weaker
5 is 10.33%. The median DCF cost of equity estimate for that same group is
6 10.14%. For those companies in the proxy group with S&P ratings of A- or
7 stronger, the average DCF cost of equity is 11.15% or 82 basis points higher than
8 the average value for the weaker credit group. The median DCF cost of equity for
9 the A- or stronger group is 10.87% or 73 basis points higher than the median
10 value for the companies with the weaker ratings.

11 **Q. WHAT IS THE RESULT OF YOUR ANALYSIS BASED ON MOODY'S**
12 **RATINGS?**

13 A. The results are quite similar. The average DCF cost of equity estimate for the A3
14 or stronger companies is 11.13% or 71 basis points higher than the 10.42%
15 average value for the Baa1 or weaker companies. The median DCF estimate for
16 the A3 or stronger companies is 10.87% or 80 basis points higher than the 10.07%
17 median value for the Baa1 or weaker companies.

18 **Q. WHAT DO YOU CONCLUDE FROM YOUR ANALYSIS OF THE DATA**
19 **IN EXHIBIT 1?**

20 A. The Staff's own estimates of the cost of equity for its proxy group of companies,
21 using the method they recommend be accorded the greatest weight in this
22 proceeding (i.e., DCF) suggest the very opposite of the credit quality adjustment
23 that Staff is proposing to implement. If any weight at all is to be accorded to

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1 Staff's argument that the cost of equity should be adjusted based on credit rating
2 differences between its proxy group and Con Edison, an upward adjustment, not
3 a downward adjustment, should be implemented.

4 **Q. ARE YOU RECOMMENDING ANY KIND OF ADJUSTMENT TO THE**
5 **COST OF EQUITY TO REFLECT CREDIT RATING DIFFERENCES**
6 **BETWEEN CON EDISON AND THE COMPANIES USED IN ANY**
7 **PROXY GROUP DEEMED RELEVANT IN THIS PROCEEDING?**

8 A. No. I am not recommending any such adjustments, either to the cost of equity
9 estimates derived from the Staff and CPB witness Niazi's proxy group or the cost
10 of equity estimates derived from the proxy groups used by me or Dr. Morin. I
11 believe that depending on what sample of companies one chooses and what
12 models are used for calculating the cost of equity, varying answers will result
13 concerning observed differences between subsets of companies with different
14 credit ratings. My general conclusion is that there certainly is no consistent
15 evidence that any credit rating adjustments are warranted to the cost of equity
16 derived from models designed to estimate that quantity. Therefore, the
17 Commission should reject the credit quality adjustments proposed by Staff and
18 CPB.

19 **CRITICISMS OF THE USE OF THE OMICE MODEL**

20

21 **Q. HOW DOES STAFF'S VIEW COMPARE TO YOURS ON THE RECENT**
22 **CHANGES IN MARKET VOLATILITY, THE RELATIONSHIP**

1 **BETWEEN THESE CHANGES AND HIGHER LEVELS OF RISK, AS**
2 **WELL AS THE COST OF EQUITY?**

3 A. Throughout its testimony, Staff shows that it is in general agreement with me
4 about the recent large changes in volatility and its impact on the cost of equity.
5 Staff (p. 44) makes reference to the “the exceptional volatility in the credit
6 markets following the collapse of Lehman Brothers and its impact on estimates
7 using the CAPM methodology”. They cite (p. 46) the deficiencies of beta in the
8 CAPM because of higher volatility, “beta determinations used in the CAPM
9 methodology are based on historical observations that, due to corporate
10 restructurings may not be representative of the level of earnings volatility
11 expected in the future.” They note (p. 70) that “This heightened degree of
12 variability in the expected MRP is a direct result of the exceptional volatility in
13 the credit markets that has followed in the wake of the Lehman Brothers
14 collapse.” Staff also specifically states (p. 114) that it agrees with my testimony
15 that the higher level of volatility ought to be reflected in cost of equity
16 calculations. In fact, Staff acknowledges (p.116) that the OMICE model I employ
17 in my testimony has intuitive appeal because it relies on traded financial
18 instruments to provide estimates of future volatility.

19 **Q. DO YOU AGREE WITH STAFF’S CLAIMS (P.115) THAT YOU HAVE**
20 **SHOWN NO EVIDENCE THAT THE SYSTEMATIC RISK OF THE**
21 **UTILITY INDUSTRY HAS CHANGED AS A RESULT OF THE**
22 **INCREASE IN VOLATILITY SINCE SEPTEMBER 2008?**

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1 A. No. As I demonstrated my testimony, volatility spiked up to a temporary high in
2 the immediate period surrounding September 2008 due to the Lehman
3 bankruptcy. I never claimed anything about changes in beta relative to that narrow
4 period.

5 What I have claimed is that betas have likely risen since mid-2007. Since most
6 estimates of beta employed in this proceeding use data that covers some or all of
7 that earlier period, they have not fully captured the significant increase in market
8 index and utility volatility that I have demonstrated in my testimony. Staff
9 acknowledges (p. 94) that “overall risk in the market is higher than it was a year
10 ago.” In an attempt to minimize the impact of this acknowledgment in its
11 response to Question 136 of the Company’s Information Request, Staff claims
12 that current volatility as measured by the Chicago Board Option Exchange’s
13 (CBOE) volatility index is within its 10 year historic range. Staff provides no
14 supporting evidence for this statement but, even if true, the statement misses an
15 important point. Current volatility may be down somewhat from its peak during
16 2008, but it is still significantly higher than it was before the recent economic and
17 financial crises began in late 2007. Because of that, betas that are historically
18 estimated will not reflect the higher volatility now in the market.

19 I also noted earlier that utility volatility seems to have increased proportionately
20 more than for the market index. Since beta depends specifically on volatility and
21 not just correlation, there is ample reason to believe that true underlying betas (not
22 the betas estimated from historical data) have indeed changed. Therefore, in the

1 context of the CAPM, estimates of risk using historical betas are biased
2 downward relative to a more forward-looking view of risk.

3 **Q. STAFF CLAIMS (P. 116) THAT YOUR OMICE MODEL OVERSTATES**
4 **THE COST OF EQUITY BECAUSE OMICE MAY INCLUDE**
5 **DIVERSIFIABLE RISK. IS THIS CORRECT?**

6 A. No. The OMICE model is specifically predicated on the idea that total volatility
7 indeed matters to investors in assessing risk and return requirements. Total
8 volatility includes both diversifiable and non-diversifiable risk, in contrast to the
9 CAPM, where only systematic risk matters. As I explained in my direct
10 testimony (pp. 17-18), total volatility, including its diversifiable component, is
11 important to investors because many investors do not hold diversified portfolios
12 either by choice, investment constraints, information limitations or transactions
13 costs. These investors include corporate investors like many utilities who make
14 investments because the returns they expect will be enough to compensate them
15 for the total risk of their investments. They do not operate as diversified portfolio
16 managers, but instead control risks by efficient operations of their businesses.
17 These investors bear the full risk of their investments and the OMICE model is
18 designed to relate cost of equity to total investment risk. I also explained in my
19 testimony that the finance literature has shown that systematic risk alone does not
20 adequately explain the range of equity returns actually observed in the market.

21 **Q. STAFF CRITICIZES YOUR USE OF THE OMICE MODEL BECAUSE IT**
22 **RELIES ON PUBLICLY TRADED OPTIONS WHOSE LIVES ARE**

1 **TYPICALLY NOT MORE THAN TWO OR THREE YEARS. IS THAT A**
2 **VALID CRITICISM?**

3 A. No. While it would be preferable to use longer dated option prices if they were
4 available, I explained in my direct testimony (pp. 14-15) why longer dated
5 options, if they were traded, would have implied volatilities that are close to or
6 very slightly lower than the implied volatilities of the options with two or three
7 year terms. I explained that the term structure of implied option volatilities in
8 traded options is generally downward sloping but only modestly. I also explained
9 that longer-dated options, when they are offered, usually are very thinly traded.
10 As a result, to induce traders to offer longer-dated options for sale, such options
11 would need to be priced with an implied volatility that has little or no discount to
12 the volatility implied by the prices of more widely traded shorter-dated options
13 Moreover, to be conservative in my application of the OMICE model, I used a 5%
14 “haircut” to the implied volatility present in the longest dated traded options
15 available in order to estimate a volatility for the 30-year put options used in my
16 analysis. Staff’s criticism of my use of traded option data ignores the clear and
17 conservative rationale I employed in my analysis and therefore should be rejected.

18 **Q. PLEASE ADDRESS STAFF’S CRITICISM OF YOUR USE OF A PROXY**
19 **GROUP IN YOUR APPLICATION OF THE OMICE MODEL.**

20 A. Staff criticizes my choice of proxy group for use in the OMICE model because it
21 supposedly suffers from the same weakness that they have alleged regarding Dr.
22 Morin’s proxy groups. I indeed began with Dr. Morin’s two peer groups. The
23 fact that some non-investment grade companies are included is appropriate

1 because, as I have demonstrated earlier, there is no convincing evidence that the
2 cost of equity estimated from available models for higher rated companies is
3 measurably lower than that for lower rated companies. More importantly, my
4 application of the OMICE models to the utility sector focused on companies that
5 had actual traded options in the market with at least a six-month term. That
6 required me to eliminate certain companies that otherwise would be appropriate.

7 **Q. STAFF MAKES NOTE OF THE FACT THAT THE OMICE MODEL HAS**
8 **NOT BEEN ADOPTED BY A REGULATORY BODY FOR THE**
9 **PURPOSE OF ESTABLISHING A FAIR RATE OF RETURN. IS THAT A**
10 **VALID REASON FOR NOT ACCEPTING IT IN THIS PROCEEDING?**

11 A. No. The CAPM model, which is now a staple in many jurisdictions including
12 New York, was only adopted in these jurisdictions many years after its first
13 appearance in the academic literature. The length of time between appearance in
14 the literature of the CAPM and its adoption by regulators in no way is related to
15 the correctness of the model or the relevance of its use by regulators. The merits
16 of the model, its internal consistency, whether it is consistent with current market
17 conditions, the availability of relevant market-based data and the ease of
18 application should be what drives its acceptability, not how many years have
19 passed since its first exposure.

20 **Q. WHY IS THE OMICE MODEL AN APPROPRIATE SUPPLEMENT TO**
21 **THE CAPM AND DCF MODELS EMPLOYED BY OTHER WITNESSES**
22 **IN THIS PROCEEDING?**

1 A. The OMICE model adds to the information about future required returns by
2 investors because it is the only model used in this proceeding that is explicitly
3 based on objective measures of future risk and volatility implied by the actual
4 market prices of traded securities. In its use of CAPM, Staff relies either on
5 historical data, at least in part, or utilizes a forward view of the market risk
6 premium that, while related to future volatility, comes from the subjective views
7 of a single market participant. While Dr. Morin also uses historical betas, he
8 clearly stated in his direct testimony that those betas were likely to understate the
9 true forward-looking risk of companies in the current market due to recent
10 increases in volatility. The DCF model used by Staff relies on estimates of future
11 expectations of dividend growth and expected ROE that are also subjective and
12 are only indirectly related to risk. Staff compounds the problem by using a
13 circular argument in which forecasts of expected long-term ROE are inputs to its
14 DCF model while ROE is itself the output of the same model and is to be decided
15 on for the Company in this proceeding.

16
17 **CPB WITNESS NIAZI'S CRITICISM OF THE OMICE MODEL**

18
19 **Q. PLEASE STATE YOUR ASSESSMENT OF CPB WITNESS NIAZI'S**
20 **CRITICISM OF YOUR USE OF THE OMICE MODEL.**

21 A. Mr. Niazi's makes totally unsupported claims that the cost of equity estimates I
22 derived using the OMICE model are "vastly overstated", "unrealistic" and
23 "excessive (pp. 35-36). He bases these statements solely on his observation that

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1 the market risk premium and expected market return that I estimated using the
2 model are higher than the estimates he relies on from a single source, Merrill
3 Lynch. I freely admit that my estimates are higher than his but that is precisely
4 what analytical investigations of each method in this proceeding should be about.
5 Since Mr. Niazi is offering no such objective comparative analysis, his
6 unsupported opinion should carry absolutely no weight.

7 **Q. DOES THAT CONCLUDE YOUR TESTIMONY?**

8 A. Yes, it does.

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Exhibit EBL -1

Analysis of Staff Finance Panel's Cost of Equity Estimates by Credit Rating Grouping

Company	S&P Rating	Moody's Rating	S&P Score	Moody's Score	DCF COE
ALLETE	BBB+	Baa1	8.00	8.00	9.53%
Alliant Energy Corp	BBB+	Baa1	8.00	8.00	10.89%
Ameren Corp	BBB-	Baa3	10.00	10.00	10.13%
American Electric Power	BBB	Baa2	9.00	9.00	11.08%
Avista Corp	BBB-	Baa3	10.00	10.00	9.14%
Black Hills Corp	BBB-	Baa3	10.00	10.00	9.86%
Cleco Corp	BBB	Baa3	9.00	10.00	10.35%
Consolidated Edison	A-	Baa1	7.00	8.00	9.33%
DPL Inc	A-	Baa2	7.00	9.00	16.38%
DTE Energy Co.	BBB	Baa2	9.00	9.00	10.78%
Duke Energy Corp	A-	Baa2	7.00	9.00	8.87%
Edison International	BBB-	Baa2	10.00	9.00	11.33%
Empire District Electric	BBB-	Baa2	10.00	9.00	11.61%
Entergy Corp	BBB	Baa3	9.00	10.00	11.41%
FirstEnergy Corp	BBB	Baa3	9.00	10.00	12.73%
FPL Group Inc	A-	A2	6.00	6.00	12.23%
Great Plains Energy	BBB	Baa3	9.00	10.00	7.58%
Hawaiian Electric Industries Inc	BBB	Baa2	9.00	9.00	10.00%
IDACORP Inc	BBB	Baa2	9.00	9.00	8.59%
MGE Energy Inc	AA-	Aa3	4.00	4.00	10.87%
Northeast Utilities	BBB	Baa2	9.00	9.00	9.30%
NSTAR	A+	A2	5.00	6.00	11.14%
PG&E Corp	BBB+	Baa1	8.00	8.00	11.59%
Pinnacle West Capital Corp	BBB-	Baa3	10.00	10.00	9.89%
Portland General Electric	BBB+	Baa2	8.00	9.00	9.81%
Progress Energy	BBB+	Baa2	8.00	9.00	9.57%
Sempra Energy	BBB+	Baa1	8.00	8.00	11.17%
Southern Co	A	A3	6.00	7.00	10.87%
TECO Energy Inc	BBB	Baa3	9.00	10.00	11.39%
Vectren Corp	A-	Baa1	7.00	8.00	9.53%
Westar Energy	BBB-	Baa3	10.00	10.00	9.74%
Wisconsin Energy Corp	BBB+	A3	8.00	7.00	10.53%
Xcel Energy Inc	BBB+	Baa1	8.00	8.00	10.14%
Avg			8.27	8.64	10.53%
Median			9.00	9.00	10.35%
Avg "BBB" (S&P)			8.96		10.33%
Median "BBB" (S&P)			9.00		10.14%
Avg "A" (S&P)			6.13		11.15%
Median "A" (S&P)			6.50		10.87%
Avg "Baa" (Moody's)				9.11	10.42%
Median "Baa" (Moody's)				9.00	10.07%
Avg "A" (Moody's)				6.00	11.13%
Median "A" (Moody's)				6.00	10.87%