

BEFORE THE
NEW YORK STATE
PUBLIC SERVICE COMMISSION

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Proceeding on Motion of the Commission as to the
Rates, Charges, Rules and Regulations of Case 09-E-
Rochester Gas and Electric Corporation
for Electric Service

Proceeding on Motion of the Commission as to the
Rates, Charges, Rules and Regulations of Case 09-G-
Rochester Gas and Electric Corporation
for Gas Service
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**DIRECT TESTIMONY OF
JEFF D. MAKHOLM, PH.D**

September 17, 2009

DIRECT TESTIMONY OF JEFF D. MAKHOLM

TABLE OF CONTENTS

I. INTRODUCTION	1
II. THE FAIR RATE OF RETURN AND COST OF COMMON EQUITY	16
A. SUMMARY AND BACKGROUND TO THE DETERMINATION OF THE FAIR RATE OF RETURN ON COMMON EQUITY	16
III. COMPUTING THE COST OF CAPITAL	23
A. ESTIMATING THE COST OF EQUITY CAPITAL	23
B. THE COMPARABLE GROUP	26
C. THE DCF METHOD	27
1. <i>A Description Of The DCF Method</i>	27
2. <i>Inputs into the DCF Calculations.</i>	30
3. <i>DCF Conclusions</i>	49
D. CAPM ANALYSIS	50
E. CONCLUSIONS ON COST OF EQUITY	53
F. THE INCREASINGLY UNCOMPETITIVE RETURNS IN NEW YORK	54
G. LACK OF FACTORS COUNTERVAILING LOW AWARDED ROES IN NEW YORK	57
IV. CONCLUSION	64

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 **I. INTRODUCTION**

2 **Q. Please state your name, business address and current position.**

3 A. My name is Jeff D. Makhholm. I am a Senior Vice President at National Economic
4 Research Associates, Inc. (“NERA”). NERA is a firm of consulting economists with
5 its principal offices in a number of major U.S. and European cities. My business
6 address is 200 Clarendon Street, Boston, Massachusetts, 02116.

7 **Q. Please describe NERA.**

8 A. NERA was founded in 1961 by consulting economists working in conjunction with
9 Professor Alfred E. Kahn of Cornell University (a future Chair of the New York
10 Public Service Commission and still an active Special Consultant at NERA), making
11 it the oldest firm of independent consulting economists.

12 **Q. Please describe your academic background.**

13 A. I have M.A. and Ph.D degrees in economics from the University of Wisconsin,
14 Madison, with a major field of Industrial Organization and a minor field of
15 Econometrics/Public Economics. I also have B.A. and M.A. degrees in economics
16 from the University of Wisconsin, Milwaukee. Prior to my latest full-time consulting
17 activities, I was an Adjunct Professor in the Graduate School of Business at
18 Northeastern University in Boston, Massachusetts, teaching courses in
19 microeconomic theory and managerial economics.

20 **Q. Please describe your work experience pertaining to this proceeding.**

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 A. My work involves economic issues involving pricing, regulation and markets for the
2 natural gas and electricity industries, among others. My consulting work includes the
3 specific issues of competition, rate design, fair rate of return, regulatory rulemaking,
4 incentive ratemaking, load forecasting, least-cost planning, cost measurement,
5 contract obligations and bankruptcy. I have prepared expert testimony and
6 statements, and I have appeared as an expert witness in many state, federal and
7 United States District Court proceedings, as well as in regulatory and judicial
8 hearings abroad.

9 I have also directed studies on behalf of utility companies, governments and the
10 World Bank in many countries. In these countries, I have drafted regulations,
11 established tariffs, recommended financing options for major capital projects and
12 advised on industry restructurings. I have also assisted in the privatization of state-
13 owned gas utilities. As part of my international work pertaining to the gas industry, I
14 have conducted formal training sessions for government, industry and regulatory
15 personnel on the subjects of privatization, pricing, finance and regulation.

16 Regarding rate of return and utility financing questions, specifically, I have testified
17 for electric, natural gas, water and telecommunications utility clients before several
18 state commissions, including the New York State Public Service Commission
19 (“Commission”), state commissions in Connecticut, Pennsylvania, Oregon, Ohio,
20 North Carolina, Kansas, New Jersey, Maryland, California, Virginia, Rhode Island,
21 New Hampshire, Texas, Illinois, Indiana, Maine, and Wisconsin, as well as before the
22 Federal Energy Regulatory Commission (“FERC”) and the Federal Communications

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 Commission. Before these commissions and those of other states, I have testified on
2 a wide range of issues, including cost of capital, rate design, cost of service, incentive
3 ratemaking (including formal price cap regulation), prudence, gas and fuel costs, and
4 a number of other issues. My current curriculum vitae, which more fully details my
5 educational and consulting experience, is provided as **Exhibit__ (JDM-1)**.

6 **Q. Are you familiar with the way in which New York and other states, as well as the**
7 **federal government (and other countries with similar regulatory environments,**
8 **such as Canada), regulate the rates of utilities?**

9 A. Yes. I have submitted hundreds of testimonies in dozens of state and federal
10 jurisdictions in the United States and similar regulatory jurisdictions in other
11 countries, including Canada. These include a number of pieces of evidence for
12 various New York electricity and gas utilities.

13 **Q. Does your experience with regulated utilities extend outside the U.S.?**

14 A. Yes. I have directed projects involving privatization and tariff regulation, including
15 assessments of the opportunity cost of capital, for major regulated utilities and other
16 network infrastructure businesses in many countries, including Poland, the United
17 Kingdom, the Netherlands, Ireland, Spain, Argentina, Chile, Bolivia, Mexico,
18 Canada, China, New Zealand, South Africa, Russia, and Australia, among others.

19 **Q. Please describe your appearances before the Commission in New York.**

20 A. Over the past 20 years, I have appeared as a sworn expert witness, or presented a
21 sworn affidavit or testimony, 22 times before the Commission on a diverse range of

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 subjects for electricity, gas and water utilities. Those subjects included: (1) the pass
2 through mechanisms for gas acquisition costs for gas distributors; (2) the measured
3 benefits of pipeline entry into gas transport markets in New York; (3) the rate
4 handling of contract reformation costs for the pipeline suppliers of gas distributors;
5 (4) cost of capital and capital structure for gas and electric utilities (for New York
6 State Electric & Gas Corporation, Rochester Gas and Electric Corporation and
7 Brooklyn Union Gas Company); (5) the effect of weather adjustment clauses on the
8 cost of capital; (6) the effective structure of electric price protection plans; and (7) the
9 effects of holding company mergers on prices and service quality for New York
10 operating utility subsidiaries.

11 In addition, I participated in the Generic Finance Proceeding in New York (the
12 “generic” proceeding) in the early 1990s, as a consultant to the group comprising all
13 nine of the regulated electricity and gas companies in the state. That work involved
14 an investigation into the possibility of adopting an agreed-upon method to
15 automatically update the cost of capital for regulated utilities in the state without
16 necessitating traditional case-by-case evidentiary hearings. While that lengthy
17 proceeding took over a year and produced many written reports and
18 recommendations, it was never adopted formally by the Commission and never
19 achieved its objective of streamlining regulatory litigation surrounding the cost of
20 capital. I refer to the work and outcome of that generic proceeding in this testimony.

21 **Q. So would you say that you are familiar with the way in which the Commission**
22 **regulates the companies in its jurisdiction?**

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 A. Yes. I am familiar with both the way in which this Commission administers its
2 responsibilities to look out for the interests of consumers of utility services in New
3 York and the way in which the Commission sets the fair rate of return, oversees
4 utility capital structures and generally regulates tariff levels.

5 **Q. Have you published other papers relating to regulating the rates of public**
6 **utilities?**

7 A. Yes. My C.V. lists 18 published papers and one book pertaining to various elements
8 of state and federal regulation, both in the U.S. and abroad.

9 **Q. What is the purpose of your testimony in this proceeding?**

10 A. My purpose is twofold: (1) to present the results of my calculations on the cost of
11 common equity and overall cost of capital (including capital structure) for Rochester
12 Gas and Electric Corporation (“RG&E” or “the Company”); and (2) to highlight the
13 differences between what I compute and what seems to have become the customary
14 Department of Public Service Staff (“Staff”) method under the generic formula, and
15 to provide justification for these differences. To a large extent, I have no objection to
16 some of the data sources and computational methods inherent in the generic formula.
17 There are a couple of areas, however, where I present evidence to show that those
18 methods either have been characterized unfairly or bias the outcome of calculations of
19 the fair rate of return.

20 **Q. Please describe what you mean by your second purpose.**

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 A. In this time of stressed financial markets, it is impossible not to notice and discuss
2 that New York, along with Connecticut, allows the lowest ROEs in the nation.
3 Particularly in the past few years, the Commission has relied for the most part on
4 Staff’s calculations of the cost of equity and rejected seemingly all other methods.
5 That is, the Commission has adopted, almost as custom, calculations that have
6 reflected Staff’s explicit adoption of the methods arising from the generic proceeding
7 from 1991-1994. With the continued belief in the soundness of those methods—
8 reflecting in part the additional apparent belief of Staff and others in New York that
9 the Commission’s rate determinations contain other beneficial elements for utilities
10 such as fully-forecast test years¹ that countervail those low awarded returns—the
11 Commission has consistently awarded ROEs substantially lower than its peers in
12 other states.

13 I think that there is an evidentiary basis to challenge those two beliefs. First, while
14 the generic method contains a number of unobjectionable and fair features, there are
15 others that I conclude are not well justified, are biased in the direction of lower ROEs,
16 reflect the opinions of groups of participants in the generic proceeding that were
17 never examined by the Commission, and/or are subject to challenge. Second, there is
18 no evidence available to the market that New York provides any indirect
19 compensation to utility investors to countervail the low returns that it has recently
20 awarded. It is therefore useful to examine the particular methods behind the generic
21 formula, particularly as those methods seem to be verging on unquestionable custom

¹ For example, See: Case 08-E-0539 and 08-E-0618, *ConEd Recommended Decision* at p. 231 (January 7, 2009).

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 in New York.² I have been involved in other cases in New York where new evidence
2 convinced the Commission to change existing methods of computing the cost of
3 equity.³ With respect to particular elements of the generic formula, I conclude that
4 while much that has become custom is fair and reasonable, certain elements of the
5 generic method are not so. Changes to particular generic inputs and methods will
6 streamline the formula and make it more representative of the actual cost of capital
7 than it has been to date.

8 **Q. Are you saying that you think the Commission should re-examine particular**
9 **elements of the generic method for determining the ROE if evidence points to**
10 **problems with those elements?**

11 A. Yes. The generic method appears to have supported New York’s place as the state
12 along with Connecticut with the lowest average ROE awards in the nation. The
13 Commission Secretary, in a June 30, 2009 letter to Assemblyman Kevin Cahill in
14 Cases 08-E-0887 and 08-G-0888 (the “Cahill Letter”), recognized that the allowed
15 equity returns in New York are “among the lowest equity returns in the country.” In
16 a competitive capital market reacting to credit-crisis and recession, re-evaluating
17 elements of a proceeding begun 18 years ago, which never resulted in a final

² See Ruling on CPB Motion Addressing Dr. Morin’s Prefiled Testimony, Case 09-E-0428, issued July 15, 2009. That ruling set out which of the parameters and methods inherent in the generic formula are subject to a “heavy” burden of proof. I refer to this ruling again in the section of my testimony detailing both my agreement and disagreement (with the heavy burden of proof noted) with the generic method.

³ See Case 91-M-0509, Recommended Decision, pages 31-32. I was the witness in that Brooklyn Union Gas case that presented sufficient evidence, accepted at the time by Staff, to “demonstrate that this fine-tuning of the DCF was proper” in that Commission order.

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 Commission order,⁴ can only help to assure the market (which has its eye on the level
2 of regulatory support by commissions that control rates and equity returns) that New
3 York is sensitive to current capital costs. The Supreme Court’s *Hope* decision of
4 1944 mandated a test for the fair treatment of utility investors, regardless of the
5 various methods or formulas that led to the result, which requires that the allowed rate
6 of return on common equity be consistent with the equity returns of companies with
7 comparable risk. To a certain extent, as I said, elements of the generic methods are
8 useful. But other elements of that method appear to be contributing to an
9 unreasonable result—perhaps more through inertia and/or a desire merely to cleave to
10 the generic formula rather than through careful consideration. Furthermore, the
11 approach developed in the generic proceeding ignores the unique economic and
12 financial circumstances that we have seen over the past year that have been
13 unprecedented in our lifetimes.

14 **Q. With respect to your first purpose, please summarize your conclusions regarding**
15 **the fair rate of return on common equity for RG&E.**

16 A. The fair rate of return on common equity I recommend and conclude is reasonable for
17 RG&E is a combination of the results of my Discounted Cash Flow (“DCF”) and
18 Capital Asset Pricing Model (“CAPM”) calculations for a proxy group of electric and
19 combination electric and gas utilities, as I summarize in **Exhibit __ (JDM-2)**. My

⁴ This proceeding originally contemplated the creation of a mechanism for semi-annual cost-of-equity adjustments for all New York utilities, which was never adopted. “The cost of equity would be calculated using these methods twice a year (to be effective each January 1 and July 1), and would be applied, after updating from the effective date of the calculation to the actual date it is applied, to each company whose new rates become effective in the ensuing period.” Case 91-M-0509, Recommended Decision, p. 11.

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 DCF estimate is **12.03 percent**, while my CAPM estimate is **10.23 percent**.
2 Combining those two, giving double the weight to the DCF as is the Commission’s
3 policy from the generic proceeding, produces a weighted average of **11.43 percent**.
4 Giving the DCF method twice the weight of the CAPM is consistent with my
5 longstanding opinion that the DCF is a more robust and reliable method for
6 calculating the cost of equity in rate cases in America where the data to populate that
7 theory is so plentiful. In recent years, this Commission has also given double the
8 weight to DCF vis-à-vis CAPM, according to the generic method.

9 My recommendation will help the Company to achieve its goal of improving its credit
10 ratings—a goal that I consider reasonable and in the long-term interests of its
11 ratepayers. There is abundant evidence from the current capital markets that merely
12 having an “investment grade” rating is not sufficient to induce investors to provide
13 lowest-cost capital to utilities. As described in more detail in the Direct Testimony of
14 Susan Abbott, the spread in the market between the yields on minimally investment
15 grade utility bonds (*i.e.*, “BBB” or “Baa”) and those with higher ratings (*i.e.*, “A” or
16 better) remains much wider than it was prior to the financial crisis. Furthermore, the
17 greatly widened spreads are objective evidence that investors in this volatile market
18 require a substantial premium to provide capital to those utilities that lack “A” level
19 ratings, and thus the long-term interests of ratepayers lie in RG&E working with its
20 State regulator to improve its credit standing.

21 Moreover, my return on common equity recommendation is not affected by other
22 aspects of the Company’s overall request for rate relief—in particular, its rate design,

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 tariff riders or deferred recovery mechanisms. I have reviewed the Company’s
2 proposal to implement certain revenue decoupling mechanisms. As I have testified in
3 other jurisdictions and in my writings, it is my opinion that incremental changes to
4 rate design and billing, such as decoupling mechanisms, do not affect cost of capital.
5 Likewise for the Company’s proposal to implement certain recovery mechanisms for
6 costs incurred subsequent to the close of this rate case, which I have also reviewed. It
7 would not be accurate to conclude that such recovery mechanisms, in and of
8 themselves, constitute methods by which investors could be so sufficiently more
9 sanguine about future earnings as to prompt the market to provide capital to the
10 Company at a lower cost. The contrary is more likely true in my opinion—that
11 unsupported “risk-based” justifications for lowering the awarded ROE, based on no
12 particular market evidence, are a signal to the investment community of unfair
13 regulatory treatment.

14 Ultimately, while decoupling or other non-traditional cost recovery mechanisms can
15 update rates more efficiently and at a lower cost than a full rate case, they do not alter
16 the basic “regulatory compact” or the ability of either the Company or others to
17 examine and revise just and reasonable rates as conditions warrant.

18 **Q. What is the required overall rate of return for RG&E?**

19 A. The required overall rate of return for a firm is the firm’s weighted average overall
20 cost of capital (“WACC”). The WACC is the sum of the costs of the component
21 parts of the capital structure, *i.e.*, debt and common equity, weighted by their relative
22 proportions in the capital structure.

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 In **Exhibit__ (JDM-2)**, I present the capital structure (which is 48 percent common
2 equity, 0.3 percent customer deposits, and 51.7 percent long-term debt) and the cost
3 of capital components that are appropriate for the Company. The overall cost of
4 capital for RG&E is 9.47 percent.

5 **Q. What exhibits support your cost of equity and WACC calculations?**

6 A. **Exhibits __ (JDM-3), __ (JDM-4) and __ (JDM-6)** explain my use of the DCF
7 analysis, summarize my comparable group selection process, and the balance of my
8 exhibits present my DCF and CAPM analyses. I use the projected actual capital
9 structure ratios, cost of long-term debt, and cost of preferred equity that would be
10 applicable for RG&E at the time that new rates would go into effect. An index of all
11 the work papers that support my DCF and CAPM analyses are included in **Exhibit __**
12 **(JDM-19)**. All of these work papers have been provided to Staff in electronic format.

13 **Q. With regard to your second purpose, please outline in which areas you adopt the**
14 **generic approach and in which areas you conclude that there is a reason to differ**
15 **from that approach.**

16 A. The generic formula used by Staff employs a weighted average of the DCF and
17 CAPM formulas for computing the cost of capital, with particular methods for
18 calculating each. Using the list of items contained in the July 15, 2009 ALJ ruling in
19 the ongoing Consolidated Edison Company of New York, Inc. (“ConEd”) case (Case
20 09-E-0428), here is where I agree and disagree with the Staff approach:

21 1. Proxy Groups. I have a method of deriving proxy groups that I have employed
22 for many years that produces what I consider a reasonable group that is reflective

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 of the business risk of regulated companies in question. It would produce 18
2 electric and combination electric and gas companies in this case. Staff’s group (as
3 adopted by the Commission) in the most recent ConEd rate order produces 31
4 companies. While I think that Staff’s group of 31 is marginally less reflective of
5 the business risk of RG&E’s regulated utility operations than my group of 18, I
6 will use it in this proceeding as whatever differences in the calculated results do
7 not appear to be material.

8 2. Staff’s Single-Source DCF Method. Staff’s application of the generic formula,
9 while called a “two-stage” method, actually uses one stage from a single source.
10 The generic formula indeed uses two growth rates, but they are both five-year
11 projections from the *Value Line Investment Survey*. *Value Line* takes care to
12 square its projections with each other to make them financially consistent, and
13 thus the generic method does not employ two independent growth rates. As such,
14 with five-year projections coming from the same publication, it is a misnomer to
15 call the generic DCF model a “two-stage” analysis. The practice also adds
16 unnecessary computational complexity and tends to conceal a narrow reliance on
17 a single source of data. I recommend the use of a single-stage DCF with more
18 than one independent source of growth data to develop the critical growth rate.

19 3. Dividend Average Period. The generic formula was originally planned to be
20 updated every six months to be used “generically” for all utilities in New York.
21 For this reason, it employed a six-month average stock price and dividend yield.
22 But the six-month updates never took hold in New York. I generally find that six
23 month-average data is not current enough for use in rate cases. That fact came to
24 a head in the credit crisis when, in the recent ConEd and Central Hudson Gas and
25 Electric Corporation cases, Staff halved the period to three months, an approach
26 that was accepted by the Commission in both cases.⁵ While I typically use a
27 shorter timeframe than three months to reflect current capital costs, there is

⁵ See Case 08-E-0887, *Order Adopting Recommended Decision with Modifications* (June 22, 2009).

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 nothing inherently unfair about using three months, and if it is to be the objective
2 modern custom in New York, then I am willing to use it in my testimony here.

3 4. DCF Growth Factor. As I noted, all five-year forecasts used in the generic
4 method come from a single publication: *Value Line*. One of them—for the first
5 “stage”—is the projected dividends-per-share (“DPS”) growth. Using DPS,
6 however, introduces a bias, and I will not use it. The source of the bias is plain
7 enough: since the mid-1990s when the generic formula appeared, utilities have
8 been climbing down from the high dividend payout ratio levels that their
9 difficulties in the 1980s had led them. With steadily-declining dividend payout
10 ratios (*i.e.*, greater retained earnings), which *Value Line* predicts will continue in
11 its five-year forecasts, the companies have a source of growth that investors can
12 see (and rely upon) but that are not reflected in the DPS growth factor that is used
13 by Staff. To be sure, management discretion to reduce dividends does not mean a
14 utility’s growth rate is similarly declining. Investors today read the same *Value*
15 *Line* pages that Staff uses. They see the projected profitability and they price the
16 shares in the market accordingly—taking into account management payout
17 decisions. The use of DPS projections simply fails to capture that investor
18 expectation of profitability growth, which is precisely why other independent
19 sources of growth projects focus on earnings—and do not even bother to project
20 dividend growth. Thus, I conclude that the Commission should jettison the use of
21 DPS growth, as the consequential downward bias in this market should not be
22 ignored.

23 5. Weighting Methodology. The generic formula gives the DCF double the weight
24 of the CAPM. I have always concluded that the DCF is a more tangible and
25 practical method for determining the cost of capital in American regulatory
26 jurisdictions, given the relatively large numbers of companies from which to
27 construct proxy groups and the vigorous market for independent investment
28 research (*e.g.*, *Value Line*) from which to draw growth rates. To the extent that
29 the Commission continues to use the CAPM at all, I accept the generic weighting

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 method in this case, recognizing that the use of the CAPM in some fashion has
2 long become custom in New York. However, I would recommend that the
3 Commission focus even more heavily on a proper DCF analysis than it has in the
4 generic proceeding in light of the institutional instability in capital markets and
5 the recent erratic results we have seen in debt yields and stock prices. The DCF
6 method remains the gold standard in American utility rate cases, in my opinion, as
7 discussed in **Exhibit __ (JDM-5)**.

- 8 6. CAPM. The CAPM method is inherently opaque and theoretical—it has none of
9 the common sense of the DCF method—with the latter’s “yield plus growth”
10 aspect. Nevertheless, its inventors won a Nobel Prize and, in its accepted and
11 traditional form, CAPM is an established part of the financial landscape. But the
12 accepted and traditional form is only one-half of what the generic formula calls
13 for. There is another—the “zero beta” form—which is neither traditional nor used
14 by investors or any other regulatory commission of which I am aware. Its lack of
15 use in the real world should argue effectively against its use to contribute to
16 RG&E’s fair rate of return. The zero beta CAPM has only inertia to defend it.⁶
17 The Commission should not longer utilize a method that investors neither use nor
18 rely upon in making investment decisions.

19 As in other jurisdictions, utility ROE analysts in cases in New York, myself included,
20 have tended to employ the methods that serve them in other states.⁷ We have not
21 tended to treat the generic methods as rising to the level of Commission-mandated
22 custom. In this case, however, given July 15th, 2009 ALJ Ruling in the ongoing

⁶ I was part of the proceedings that produced the generic formula, and a number of forms of extended CAPM models were proposed by various parties—some of great complexity requiring large numbers of idiosyncratic assumptions and great quantities of data. The more complex models (*e.g.*, Fama-French, Arbitrage Pricing Theory) did not survive. The “zero-beta” survived only because it was easy to calculate, not because a case was ever made that it added anything to the result or that anyone really knew what it meant.

⁷ I was the cost of capital witness for RG&E in its cases decided in 2003 (Case Nos. 02-E-0198, 02-G-0199).

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 ConEd case (Case 09-E-0428), it seems that such a custom has developed.
2 Recognizing that, I think that contrary to my normal practice, it is wise in this case to
3 adopt that custom when it appears appropriate and challenge it when evidence shows
4 that elements of the custom are mis-stated, biased or inadequate.

5 To be sure, there are other elements that inform the overall return—in particular the
6 appropriate capital structure for ratemaking purposes and whether selling and
7 issuance costs are to be included in the result.

8 The generic methods contemplated the use of company-specific capital structures for
9 ratemaking purposes, adjusting them to square the average capital structure ratios of
10 the proxy group with those from the company in question.⁸ I employ such methods in
11 my testimony, thinking them fair and reasonable. It is not reasonable to use
12 consolidated or parent capital structure ratios in setting regulated rates for utility
13 operating subsidiaries, particularly in this case. The use of standalone capital
14 structures for the Company is also discussed in more detail in the Direct Testimony of
15 Susan Abbott and the Policy Panel.

16 With respect to the cost of issuing and selling stock, it remains unassailably true that
17 the companies in the proxy group cannot issue their common stock for free. Those
18 companies have expenses associated with the issuance of their common stock, and
19 unless recognition is made of the difference between what investors pay (as share
20 prices) and what those utilities receive (as net proceeds from sale transactions), then a
21 DCF calculation will not accurately reflect the cost of capital for that proxy group as

⁸ See Recommended Decision, Case 91-M-0509, pp. 61-71.

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 part of their reasonable cost of service. That is to say, a DCF calculation for the
2 proxy group that is correct in every other respect, but which does not reflect the cost
3 of issuing securities, will understate the cost of capital for those companies—by
4 precisely the selling and issuance expenses for those companies. Understating the
5 proxy group cost of capital in this respect is something that I cannot agree with, and I
6 perform a selling issuance adjustment, as I always do, in order to reflect that proxy
7 group’s true capital cost—a cost attributable to RG&E as well.

8 **II. THE FAIR RATE OF RETURN AND COST OF COMMON EQUITY**

9 **A. Summary And Background To The Determination Of The Fair Rate Of**
10 **Return On Common Equity**

11 **Q. What do you mean by “fair rate of return on common equity?”**

12 A. The essence of traditional public utility ratemaking—the “regulatory compact”—has
13 been that utilities like the Company have been protected by franchise (or some other
14 effective means) against certain specific and limited types of competition. In return,
15 the utility has accepted the obligation to provide service on just and reasonable terms.
16 The utility has also accepted the duty to reasonably anticipate the future needs of its
17 customers and to make whatever investments it judges necessary in order to meet
18 those needs as efficiently as possible. Finally, the utility has accepted that prices
19 would be set so as to recoup operating costs plus a reasonable profit. For a public
20 utility, reasonable profit, under the law and in the financial world, has been defined as
21 a rate of return sufficient to attract capital.

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 The capital attraction—or “opportunity cost”—standard has been key in determining
2 the fair rate of return for public utilities. When investors make their funds available
3 to a utility, they forego the option to use those funds for another purpose (either
4 current consumption or another investment). They also put their funds at some risk.
5 In return for foregoing current consumption and incurring risk, utility investors
6 require a return on their funds. This return to investors is a cost to the utility—the
7 “*cost of capital*.” In order for the utility to compensate its investors adequately for
8 the current consumption foregone and the risk incurred, the utility must be allowed,
9 as a component of its rates for service, a *fair rate of return* that covers its cost of
10 capital.

11 **Q. Does the way you have just defined the concept of fair rate of return on equity**
12 **comport with its traditional definition?**

13 A. Yes. The United States Supreme Court established the traditional standard for a fair
14 and reasonable return in its *Hope* decision (*Federal Power Commission et al. v. Hope*
15 *Natural Gas Co.*, 320 U.S. 591 (1944)):

16 . . . the return to the equity owner should be *commensurate with returns on*
17 *investments in other enterprises having corresponding risks*. That return,
18 moreover, should be sufficient to assure confidence in the financial
19 integrity of the enterprise, so as to *maintain its credit and attract capital*.
20 (My emphasis.)

21 This often-quoted passage from the *Hope* decision, besides providing a legal standard
22 for determining the fair rate of return, comports precisely with the opportunity cost
23 standard for determining the fair rate of return that covers the utility’s cost of capital.

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 In an earlier case, *Bluefield Waterworks & Improvement Co. v. Public Service*
2 *Commission of the State of West Virginia et al.*, 262 U.S. 679, 693 (1923), the
3 Supreme Court defined the proper rate of return as follows:

4 A public utility is entitled to such rates as will permit it to earn a return on
5 the value of the property which it employs for the convenience of the
6 public equal to that generally being made at the same time and in the same
7 general part of the country on investments in other business undertakings
8 which are attended by corresponding risks and uncertainties, but it has no
9 constitutional right to profits such as are realized or anticipated in highly
10 profitable enterprises or speculative ventures.

11 Furthermore, the Supreme Court stated in *Bluefield* that establishing an insufficient
12 return on invested capital denies shareholders the Constitutional right of due process
13 under the Fourteenth Amendment.

14 Rates, which are not sufficient to yield a reasonable return on the value of
15 the property used at the time it is being so used to render the service, are
16 unjust, unreasonable, and confiscatory, and their enforcement deprives the
17 public utility company of its property, in violation of the Fourteenth
18 Amendment.

19 These principles from *Bluefield* are consistent with the economic principles that I
20 apply in this testimony.

21 **Q. Has the traditional regulatory compact changed over time?**

22 A. No, the standard for the return that investors are due on their invested capital has not
23 changed in the U.S. since the *Hope* decision in 1944. Note that deregulation has been
24 implemented in many industries, including the gas and electric utility industries,
25 throughout many countries in the past twenty years. However, those changes have
26 not altered the requirements for a fair rate of return to equity investors in rate-
27 regulated utility businesses.

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 It is no hyperbole to call the *Hope* decision the landmark event in the history of the
2 economics of utility regulation in the U.S. Those economists who lived through the
3 issues leading to that judgment competed with each other in their textbooks to
4 memorialize its importance.⁹ Professors Emery Troxel of Wayne University, Eli
5 Clements of the University of Maryland and James Bonbright of Columbia University
6 all wrote about the *Hope* decision’s importance, with Bonbright calling it “one of the
7 most important economic pronouncements in the history of American law.”¹⁰

8 **Q. Does the traditional concept of fair rate of return apply to all of the capital**
9 **raised by the utility from investors, or just the common equity component?**

10 A. Yes, it applies to all of the capital, including a company’s common stock equity,
11 preferred stock equity and debt.

12 **Q. Does the traditional concept of fair rate of return vary according to who owns**
13 **the regulated utility’s common stock?**

14 A. No, it does not. The standards of capital attraction set forth in *Hope* decades ago—
15 reflecting the opportunity cost of capital—apply to all regulated operating utilities,
16 regardless of who owns the common stock of the companies involved. That
17 opportunity cost standard, as an economic matter, means that the cost of capital

⁹ The judgment resulted from an appeal of the first rate decision for interstate pipelines by the Federal Power Commission under the 1938 Natural Gas Act. *Hope* Natural Gas was a Standard Oil subsidiary, and it challenged the Commission’s ability to limit regulated charges to the opportunity cost of capital on its book equity. The Supreme Court upheld the Commission’s ruling.

¹⁰ Troxel, E., *Economics of Public Utilities*, Rinehart, New York (1947), pp. 283-284; Clemens, E.W., *Economics of Public Utilities*, Appleton Century Crofts, New York (1950), pp. 187-188; Bonbright, J.C., “Utility Rate Control Reconsidered in the Light of the *Hope* Natural Gas Case,” *The American Economic Review*, Vol. 38, No. 2. (1948), p. 465. Bonbright, who had written the most extensive treatise on the valuation of utility property up to that time, was a witness for the Federal Power Commission in the case. See: Bonbright, J.C., *Valuation of Utility Property*, 2 vols., McGraw-Hill, New York (1937).

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 should reflect the risks of using the utility’s capital to serve its ratepayers. In the case
2 of the Company, my cost of equity recommendation does just that, based as it is on
3 the proxy group of independent operating utilities. My method of deriving the cost of
4 equity based on such a proxy group, which is standard in American utility regulation,
5 makes no distinction on the composition of the owners of the common stock of those
6 utilities. In the context of the regulatory practices that have developed in the United
7 States since the Supreme Court ruled in the *Hope* decision, there is no place in
8 ratemaking to adjust regulated rates upward or downward based on who owns the
9 common stock—whether it is a mass of individual small shareholders, a small group
10 of institutional investors or a holding company.

11 Regulating the prices of utilities without regard to who holds their common stock not
12 only holds to longstanding regulatory principles in the U.S., it is also practical. All
13 utilities compete in the market for capital, regardless of who owns their stock at the
14 moment. It is unreasonable as a practical matter to expect capital markets to support
15 necessary and ongoing utility capital expenditures unless they compete effectively
16 with other investment opportunities. The incentive on the part of the capital markets
17 to commit funds to operating utilities is no different for an independent company than
18 it is for the operating subsidiary of a holding company. This is always true, but the
19 effect is particularly visible in difficult economic times when capital funds are tight,
20 as we have seen during this financial crisis.

21 **Q. Please discuss the role that attracting capital plays for investor-owned utilities.**

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 A. Capital attraction determines the basic constraint that investor ownership places on
2 the level of regulated charges. Professor Bonbright, describes what he called the
3 “capital attraction function” for investor-owned public utilities as follows:

4 [Capital attraction] is one of the most prominent and most widely
5 recognized functions of public utility rates. Public utility companies are
6 permitted to impose charges for their services largely in order to induce
7 and enable them to supply these services and to make provision for their
8 continuation and for their required expansion. If denied the opportunity to
9 levy compensatory charges, they could not long continue operation in the
10 absence of tax-financed subsidies.

11 . . . Rates below this level are deemed deficient because, at least in the
12 long run, they will not enable the company to live up to its obligations to
13 serve the community.¹¹

14 Further, Professor Bonbright states that the capital attraction function for utility
15 ratemaking has always been a key concern for regulators as well as regulated
16 companies.

17 . . . In public utility cases in which the general *level* of rates (as distinct
18 from the rate *structure*) is at issue, the capital-attraction standards of
19 reasonable rates tends to be accepted by [regulatory] commissions as the
20 primary basis for their decisions. Even the representatives of the public
21 utility companies will usually base their requests for a rate increase or
22 their opposition to a rate decrease on the ground of a need for credit-
23 sustaining revenue.

24 **Q. How does return on investment affect attracting capital in the capital markets?**

25 A. Given the high operating leverage for public utilities (*i.e.*, the use of a high proportion
26 of fixed investment costs), the ability of regulated utilities to reliably provide a return
27 to their owners is key to obtaining credit ratings that facilitate the acquisition of

¹¹ Bonbright, J.C., *Principles of Public Utility Rates*, Columbia University Press, New York (1961), pp. 49-50.

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 capital. Independent credit ratings agencies, such as *S&P* and *Moody's*, provide
2 comprehensive discussions of the factors that lead them to grant “investment grade”
3 ratings for investor-owned electric utilities. Consistent regulatory treatment is crucial
4 to *S&P's* ratings:

5 Regulation defines the environment in which a utility operates and has
6 great influence on the company’s financial performance. A utility with a
7 marginal financial profile can, at the same time, be considered highly
8 creditworthy as a result of a supportive regulatory environment.
9 Conversely, unpredictable or antagonistic regulatory action can undermine
10 the financial position of utilities that are very strong from an operational
11 standpoint.¹²

12 In addition, *S&P* states that,

13 Standard & Poor’s evaluation of regulation also encompasses the
14 administrative, judicial, and legislative processes involved in local or
15 national regulation. These can affect rate-setting activities and other
16 aspects of the business, such as competitive entry, environmental and
17 safety rules, facility siting, and securities sales Standard & Poor’s
18 ratings factor in the impact of such constraints and obligations on a
19 utility’s operations and financial performance.¹³

20 *S&P* speaks credibly for the capital markets, and these statements underscore the vital
21 role of capital attraction in setting fair and reasonable returns. Susan Abbott speaks
22 in greater detail about the process through which the credit rating agencies evaluate
23 utility companies in her Prepared Direct Testimony.

24 **Q. Has the financial crisis had an effect on the cost of equity?**

25 A. Yes. Common equity investors are entitled to the residual value of the firm after
26 owners of senior securities and other creditors and lenders have been paid. Bond

¹² Cheryl E. Richer, “Rating Methodology for Global Power Utilities,” Standard & Poor’s Infrastructure Finance, September 1998, p. 65.

¹³ *Id.*, p. 66.

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 holders, in contrast, have a written contract that provides for a fixed schedule of
2 principal and interest payments (as well as particular procedures to take over a
3 company if those payments are not forthcoming). Debt holders—whether they own
4 “A” rated bonds or “Baa/BBB” rated bonds—have a relatively high degree of
5 certainty that they will be repaid in a timely manner. Investors in equity securities do
6 not enjoy a comparable degree of certainty, and equity is therefore considered a
7 riskier form of investment than debt. As such, if bond holders are requiring higher
8 returns, it stands to reason that equity investors, who are taking on greater risk than
9 bond holders, would require higher returns as well.

10 **III. COMPUTING THE COST OF CAPITAL**

11 **A. Estimating the Cost of Equity Capital**

12 **Q. How do you determine a fair rate of return on common equity for the Company?**

13 A. Estimating the cost of capital involves both theoretical and empirical components.

14 The theoretical component relies on the standard financial literature to develop cost of
15 capital methods that are consistent with what we know and observe about the way that
16 financial markets work. All of the cost of capital models that appear in the financial
17 literature result from theoretical investigations. The most important theoretical
18 consideration when determining the cost of capital for the Company is ensuring that the
19 method employed provides an accurate reflection of the market for the Company’s
20 common stock.

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 The empirical component includes the collection of the data to be used with the
2 theoretical cost of capital methods. The most important empirical consideration is to
3 gather data that are: (1) consistent with the theoretical models employed; (2) timely;
4 and (3) unbiased. It is also important that the calculations made with the empirical data
5 be reliable and stable. In other words, the resulting cost of capital measure should not
6 be highly sensitive to minor or judgmental changes in the type or source of the data
7 used.

8 **Q. What theoretical methods do you use in your evaluation of the Company's cost**
9 **of capital?**

10 A. I employ the DCF and CAPM methods using a comparable group of companies. The
11 DCF method makes use of the relationship between the current stock price and the
12 expected future stream of dividends in order to calculate investors' estimated discount
13 rate, or cost of equity. The DCF is in near-universal use in regulatory jurisdictions in
14 the United States.

15 The CAPM result is the sum of two components: (1) a risk-free rate applicable to all
16 companies; and (2) a company-specific risk premium (the product of a company-
17 specific beta and a market risk premium). Unlike the DCF model, the CAPM is
18 sometimes difficult to apply in utility rate cases. The DCF renders a cost of capital
19 estimate for each company in a proxy group. Some might seem a bit high and others
20 a bit low, but the individual company results have objective "measures of central
21 tendency," such as averages. This is not true for the CAPM. The CAPM is the sum
22 of two components: (1) a risk-free rate applicable to all companies; and (2) a

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 company-specific risk premium (the product of a company-specific beta and a market
2 risk premium). There are a wide variety of risk-free rates from which to choose (*e.g.*,
3 long-term/short-term/average of both). Furthermore, because the same risk-free rate
4 applies as an additive term to all companies' cost of equity estimates, there is no
5 measure of central tendency in the result. In short, we cannot resolve the question of
6 uncertainty surrounding short-term versus long-term rates by repeated sampling. In
7 the end, the CAPM analyst has to choose a risk-free rate that drives the results—
8 precisely the type of choice that limits the model's objectivity and effectiveness.

9 The CAPM also suffers from dependence, in part, on historical data. The company-
10 specific betas used for each separate estimate of the ROE measure a company's
11 stock's volatility relative to the market. Nevertheless, I recognize that the
12 Commission has in the past given some weight to the CAPM method when
13 determining the cost of equity and, therefore, I need to make it clear what the
14 concerns are regarding the standard CAPM analysis.

15 Finally, as a check on the results of my DCF and CPM analyses, I also use a "Yield
16 Plus Growth" method for the electric utility industry as a whole which, like the DCF
17 method, makes use of expected dividend yields and expected future growth in those
18 dividend streams and which confirms the reasonableness of my recommended rate of
19 return on common equity for the Company in this case. It is only a check, however,
20 and is not a component of my quantitative recommendation.

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 **B. The Comparable Group**

2 **Q. Do you use a comparable group to determine the fair return on equity for the**
3 **Company?**

4 A. Yes. I adopt in this case the comparable group of 31 electric and combination electric
5 and gas utilities developed by Staff in its previous testimony for ConEd in Case 08-E-
6 0539. While that would not normally be the group that I would choose—for
7 combination electric and gas utilities like RG&E, I would employ a comparable
8 group of 18 U.S. electric and combination electric and gas utilities that reflects
9 longstanding methods to gather a group of companies comparable to the Company’s
10 regulated utility operations – in this case I see no difficulty in employing the 31
11 companies that Staff has used as the relevant proxy group, and which the Commission
12 has adopted as sufficiently large to give reasonably stable and reliable estimates of
13 the cost of equity. Either my preferred 18-member proxy group or the Staff 31-
14 member group will do in this context. Thus, to avoid contention in this case, I adopt
15 Staff’s proxy group of 31 companies.

16 **Q. Does the proxy group of 31 have a similar degree of financial risk as RG&E?**

17 A. The proxy group has a degree of financial risk that is within a percentage point of that
18 for RG&E. The Company’s equity-to-total-capital ratio is 48 percent, while the
19 proxy group’s ratio is 48.36 percent, with a standard deviation of 6.46 percent.
20 Therefore, I conclude that no adjustment to the allowed ROE is needed to compensate

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 materially different leverage and financial risk between the proxy group average and
2 RG&E.

3 **C. The DCF Method**

4 **1. *A Description Of The DCF Method***

5 **Q. Please describe the DCF method.**

6 A. The DCF method estimates the cost of common stock equity by determining the
7 present value of all future income expected to be received from a share of common
8 stock. As such, the DCF method is the common stock equity analogue to the way in
9 which debt and preferred stock equity cost rates are found in a rate case. With the
10 DCF method, the cost of common stock equity is the discount rate that equates a
11 stock's current observed market value with the present value of all future expected
12 returns from holding the common stock (*i.e.*, dividends and capital gains). The
13 prevailing common stock price is assumed to reflect investors' expectations of the
14 value of common stock, including all future dividends and price appreciation.

15 The DCF methodology grew out of Professor Myron J. Gordon's work on stock
16 valuation models.¹⁴ The research performed by subsequent writers (including Gordon
17 himself) resulted in the equation known as the "Periodic" DCF model. The "Periodic"
18 DCF model generally expresses k_e , the cost of the common stock equity portion of
19 total capital, as a relationship between the prevailing price of common stock equity,
20 P_0 , current dividends, D_0 , and the dividend growth rate, g . Following is a formal

¹⁴ See: Myron J. Gordon, *The Investment, Financing and Valuation of the Corporation* (Homewood, IL: Richard D. Irwin Inc., 1962; reprint, Westport, CT: Greenwood Press, Publishers, 1982).

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 statement of the “Periodic” DCF model. The derivation of this model appears in
2 **Exhibit __ (JDM-3)** of my testimony.

$$k_e = \frac{D_0 * (1 + g)}{P_0} + g$$

Where:

- P_0 = price of stock
- D_0 = previous dividend paid
- k_e = cost of equity
- g = dividend growth rate

3 This “periodic” or annual version of the DCF model has been very popular in
4 regulatory rate of return proceedings. In order to use the model properly, however, it
5 is important to reflect accurately how dividends are paid and how they grow. This
6 version of the model embodies two key abstractions regarding dividend payments.
7 First, it assumes that dividends are paid annually; and second, it assumes that
8 dividends grow continuously from period to period. Most utilities pay dividends
9 quarterly and increase their dividends only once a year.

10 **Q. The generic method employs a “two-stage” DCF formula. How is that different**
11 **from the formula you list above?**

12 A. The generic two-stage DCF uses two different growth rates—one for the first five
13 years and the other for years six to infinity. With a changing growth rate, it is not
14 possible to present the DCF formula in its “reduced form” as shown above. Rather,
15 the formula remains in the “long-form” that I show as equation number 3.4 in **Exhibit**
16 **__ (JDM-3)** to my testimony.

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 **Q. In the introduction to your testimony, you said that Staff’s approach to**
2 **measuring growth using the same source (*Value Line*) for the same five-year**
3 **time period is not really a “two-stage” analysis. Please explain.**

4 A. Staff relies solely upon *Value Line* five-year estimates for both near and long-term
5 growth, despite the fact that the time horizon for both of their growth rates is identical
6 (*i.e.*, five years). Given that *Value Line* analysts take evident care to make sure that
7 the financial ratios resulting from their five-year forecasts are consistent with each
8 other, the Staff method employed in recent cases fails to account for both near-term
9 and long-term growth, since its *Value Line* projections are both five-year estimates,
10 and would not be recognized as two independent sources of growth by the investors
11 who use that publication. Given the inputs that Staff has traditionally used to
12 populate the generic method, it is a misnomer to call its DCF a two-stage analysis as
13 if there were independent sources of growth for the two stages.

14 **Q. Do you think that a two-stage DCF model is a good idea generally?**

15 A. I do not. It is hard enough with a single-stage DCF to draw from the market growth
16 rate evidence that reflects what investors expect. That is, there are just not that many
17 sources of independent growth rate forecasts that can fairly reflect the expectations of
18 investors for growth in profitability for the companies in the proxy group. The idea
19 that we can employ a DCF model that distinguishes between the growth investors
20 expect for the first five years, as opposed to the years six to infinity, conveys a false
21 sense of precision. There is simply no objective evidence available in the market to

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 make a two-stage DCF anything other than guesswork for the second stage or the
2 break between the two stages, in my opinion.

3 Given the lack of any evidence for investor expectations beyond the five-year
4 forecasts for proxy group company growth rates from disinterested market analysts,
5 like those at *Value Line* or Zacks, I cannot agree with its use, and I disagree with the
6 generic method in this respect. No jurisdiction (of the handful) that places reliance on
7 a two-stage DCF model has come up with an acceptable way to solve the problem of
8 the lack of objective and useful growth rates for utility companies beyond the five-
9 year horizon used by stock market analysts. As such, particularly given the single
10 *Value Line* source of growth inherent in the generic methods, I conclude that the two-
11 stage DCF model relied upon by the Commission in the past few cases in New York
12 is particularly weak and unsupportable. The Commission would avoid unnecessary
13 complexity by returning to its previous use of the reduced form of the DCF as I show
14 above—by far the most widely-used form among state utility commissions—with a
15 single growth rate based upon more than one data source for projected profitability
16 growth.

17 **2. *Inputs into the DCF Calculations.***

18 **(a) *Calculation of the Stock Price, P_0***

19 **Q. What data do you use for the stock price input, P_0 , in your DCF calculations?**

20 A. I use stock prices obtained from *Yahoo! Finance*. It is my normal practice to use
21 stock prices on the latest day consistent with the filing, because only the latest stock

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 prices are consistent with up-to-date investor expectations.¹⁵ This is because it is a
2 widely held tenet of efficient markets that the informative value (with regard to investor
3 expectations) of yesterday’s stock prices is superseded by today’s stock prices.

4 The original “generic” method used six months—reflecting the goal of making
5 generic six-month updates that would apply to all NY companies. Staff switched in
6 the latest ConEd case to three months to reflect the great changes that took place in
7 capital markets since the credit crisis. I have preferred in past testimonies filed in
8 New York the Commission’s pre-generic custom of employing 20 days to reflect
9 practices in the capital markets while staying reasonably current. But there is nothing
10 inherently biased about three months, as long as it used consistently over time. I
11 would certainly not agree to changes in these timeframes in each rate case, because of
12 the possibility that different timeframes could be chosen in each case in order to reach
13 different DCF results. However, if the three-month timeframe is now the custom in
14 New York, then I adopt it for my testimony here.

15 **Q. Do you adjust the observed stock prices?**

16 A. Yes. I perform an “ex-dividend date” adjustment on all of the stock prices to remove
17 the known effect that the next quarterly dividend payment has on the stock price.

18 This adjustment is necessary because of the assumption in all standard DCF models
19 that the next quarterly dividend will be received one full period from the date the
20 stock price is measured. The problem with this assumption is that the next quarterly

¹⁵ I apply the cost of capital estimation methods that I use in a consistent manner. With regard to the stock price, for example, analysts could use selective stock price averaging to raise or lower surreptitiously a calculated result.

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 dividend is usually closer than one full quarter from the day the stock price is
2 observed. This affects the stock price in a known way and must be corrected in order
3 to avoid a downward bias in the calculated result.

4 The adjustment is well-known in New York, and indeed was generally settled
5 practice before the generic proceeding after the Administrative Law Judge and
6 Commission in a Brooklyn Union rate case saw sufficient evidence to be convinced
7 of the adjustment’s usefulness. For reasons perhaps lost in the deliberations on the
8 generic method, the adjustment wound up on the cutting room floor. I maintain that
9 ignoring the adjustment—whether using a daily stock price or a three month
10 average—biases the ROE results downward by known amounts, and I recommend its
11 re-adoption. To me, the Judge and Commission, upon examining the record
12 evidence, reached the proper conclusion on this issue in the Brooklyn Union case.
13 The Recommended Decision in the generic proceeding, which was never adopted by
14 the Commission, produced no evidence to the contrary.

15 The Recommended Decision in the generic case jettisoned the ex-dividend date
16 adjustment ostensibly because it was “mathematically unwieldy,” making “further
17 precision of the ex-dividend adjustment ... unnecessary.” Both of these conclusions
18 are incorrect. First, any complexity in the ex-dividend date adjustment accepted by
19 the Commission in the Brooklyn Union case in 1989 evaporates with a three- or six-
20 month average period, when the adjustment, because the averaging period embraces

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 whole quarters, becomes trivial to perform.¹⁶ Second, the “further precision”
2 statement is wrong in the context of other adjustments that the generic finance
3 method adopted. The S*V adjustment, which was also part of that 1989 Brooklyn
4 Union method adopted by the Commission, results in this case in no more of a
5 movement in the result as the ex-dividend date adjustment. Both were accepted by
6 the Commission on the basis of record evidence, both are consistent with the theory,
7 and neither is difficult to perform. In my opinion, both should be a part of the final
8 calculation.

9 **Q. What is the ex-dividend date and how does ignoring it bias the DCF calculations**
10 **downward?**

11 A. The ex-dividend date is the date on which the right to the next dividend no longer
12 accompanies a stock. Because dividends are an important part of the return to utility
13 shareholders and in view of the relatively high payout ratios involved, the
14 ex-dividend date is an important and predictable determinant of the stock price.
15 Utility stock prices, like other stock prices, are observed to drop by an amount
16 approximately equal to the quarterly dividend on the ex-dividend date.¹⁷ The DCF
17 model as traditionally applied, by Staff or me, applies only on the ex-dividend date.

¹⁶ The adjustment simply requires subtracting one-half of the last dividend payment from the three or six month average stock price, rather than calculating the effect with more precision as a single day or 20-day average would require.

¹⁷ A discussion of the importance of the ex-dividend date appears in most financial texts. See for example: E.F. Brigham, *Financial Management Theory and Practice*, 3rd Edition, (New York: The Dryden Press, 1982), 687. Empirical evidence on this phenomenon can be found in articles written by J.A. Campbell and W. Beranek, “Stock Price Behavior On Ex-Dividend Dates,” *Journal of Finance*, 10, 4, (December 1955), 425-429; D. Durand and A.M. May, “The Ex-Dividend Behavior of American Telephone and Telegraph Stock,” *Journal of Finance*, 15, 1 (March 1960), 19-31; and E.J. Elton and

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 **Q. How do you make the adjustment in the stock price?**

2 A. I make the adjustment by removing from the stock price the portion of the dividend
3 that has already accrued. I make this adjustment to the P_0 term before performing
4 the DCF calculations for a proxy group. In cases where I employ a single day's stock
5 price, the adjustment is straightforward. That is, I subtract from the stock price a
6 proportion of the last dividend payment. That proportion is the number of days since
7 the last ex-dividend date, divided by 90 (*i.e.*, a full quarter). In the case of a full
8 quarter's average stock price, the adjustment is trivial—as on average the accrued
9 dividend is one-half of the last dividend payment. Removing that one-half accrued
10 dividend is straightforward. I make this adjustment to the P_0 term in **Exhibit __**
11 (**JDM-7**) before performing the DCF calculations shown in **Exhibit __ (JDM-15)**.

12 **Q. Does the generic method adopt an ex date adjustment to the stock price?**

13 A. No. And in that respect the generic method introduces a bias into its calculations that
14 I think it should recognize and remedy.

15 **Q. Please explain.**

16 A. In Case No 89-G-1050 (Brooklyn Union Gas), the Commission ruled on the ex
17 dividend adjustment to stock prices. In that case, Brooklyn Union (through my
18 testimony) and Staff agreed on the applicability of the ex-dividend adjustment to
19 stock prices, but the Consumer Protection Board (“CPB”) objected. The Commission
20 determined:

M.J. Gruber, “Marginal Stockholder Tax Rates and the Clientele Effect,” *Review of Economics and Statistics*, (February 1970), 68-74.

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 The Judge [Edward D. Cohen] adopted a company proposal, to which staff
2 agreed, which increases the yield component in the DCF calculation to
3 account for the temporary stock price increases as quarterly dividend
4 payment dates approach. CPB excepts on the grounds that the adjustment
5 compensates the company for a non-existent risk and that the adjustment
6 was already rejected in Brooklyn Union’s 1985 rate case as an
7 “unnecessarily complex refinement.”

8 The adjustment is not intended to compensate for “risk” as such; it is
9 designed to produce the correct yield given the DCF formula. ... While we
10 had previously rejected the adjustment as an unnecessary refinement, the
11 method has been sufficiently developed on this record to warrant adoption
12 of the adjustments. As to its complexity, it is no more complex than many
13 of the other adjustment that we make to determine the allowed return on
14 equity. Therefore, CPB’s exception is denied.¹⁸

15 The Commission has never re-examined evidence on this issue. The only reason that
16 Staff in recent cases has not adopted the adjustment is that the Recommended
17 Decision in the generic case (Case 91-M-0509) referenced a comment from the
18 “Telecom Group” that it was “unwieldy” and from the “Electric/Gas Group” that such
19 “precision” was unnecessary. CPB continued to oppose the adjustment as it had in
20 the Brooklyn Union case.¹⁹

21 The Commission had already examined and rejected the “unwieldy” and “precision”
22 arguments in Case No 89-G-1050, and no evidence was brought to bear in the generic
23 case to challenge the Commission’s conclusions. Indeed, the nature of the adjustment
24 is made much easier by the use of a three-month stock price average.²⁰

¹⁸ Opinion No. 90-29 (October 17, 1990) pp. 21-22.

¹⁹ Case 91-M-0509, Recommended Decision (July 19, 1994), pp. 32-33.

²⁰ Average stock prices for a whole quarter have exactly one-half the next expected dividend in them, or what the Commission called “the temporary stock price increases as quarterly dividend payment dates approach.” Removing half the expected dividend from the average quarterly stock price is a trivial exercise.

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 In this context, there is no reason not to adopt the adjustment as the Commission once
2 did in a case where it reviewed the evidence and changed its practices to be consistent
3 with what it recognized is a well-known stock market reality. The effect on the return
4 to RG&E of avoiding this bias in measuring the stock price is not trivial. Based on
5 my DCF model for the proxy group, the about three basis point downward bias that
6 comes from ignoring this effect on stock prices in my model equals \$200,000 per year
7 in after-tax equity return, or \$1 million if rates stay in effect five years for RG&E.

8 (b) **Calculation of the Dividend, D_1**

9 **Q. How do you measure the dividend, D_1 ?**

10 A. The DCF model requires that $D_1 = D_0 * (1 + g)$, where D_0 is equal to the sum of the
11 four most recent dividend payments. Thus, my starting point is to obtain the data for
12 D_0 . I obtain the sum of the past four quarterly dividends per share payments from
13 *Value Line Investment Survey* (“*Value Line*”).²¹ I use the sum of the four most recent
14 dividend per share payments for each company in the proxy group, which is the D_0
15 term shown on **Exhibit __ (JDM-8)**.

16 (c) **Calculation of Growth, g**

17 **Q. How do you estimate the dividend per share growth term, g ?**

²¹ Data for the utilities in my comparable group were taken from *Value Line Investment Survey*, June 12, 2009, June 26, 2009, August 7, 2009, and August 28, 2009.

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 A. I use three different prospective growth measures, from two independent sources, to
2 estimate dividend growth from which I then take the simple average. The first is a
3 measure of sustainable growth that examines projections of the separate components
4 of dividend growth from *Value Line*—that is, retained earnings and expected returns
5 to book equity, as well as the possibility of issuing new shares at prices in excess of
6 book values. The second measure is calculated using the forecasts of earnings per
7 share, also published by *Value Line*. The third measure uses analysts’ estimates of
8 earnings, as summarized by Zacks.

9 **Q. Please describe the first method you use to calculate growth for the companies in**
10 **your comparable group.**

11 A. The first method is known as either the “retention growth” or “sustainable growth”
12 method. This method produces a forward-looking, sustainable growth rate by
13 multiplying the fraction of earnings that analysts expect a company to retain by the
14 expected return on book equity. The sustainable growth method also allows for
15 growth stemming from new issuances of stock at premiums over book value. This is
16 a valid way of estimating future dividend growth, because future growth in the
17 dividend can occur only if: (1) a portion of the expected equity return is reinvested
18 instead of being paid out in the form of dividends; or (2) if new common stock is
19 issued at prices above current book values (causing existing shares to appreciate in
20 value).

21 I estimate a sustainable growth rate for each company using the following formula:

DIRECT TESTIMONY OF JEFF D. MAKHOLM

$$g = (B * R) + (S * V)$$

Where:

B = expected retention ratio

R = expected return on equity

S = percent new equity expected

V = 1 minus book-to-market ratio

1 This formula for estimating sustainable growth is explained in more detail in **Exhibit**
2 **__ (JDM-4)**. This theoretical growth measure shows that investors can expect
3 growth through both retained earnings and the sale of new stock at a premium above
4 book.

5 For all the publicly traded stocks in the comparable company group, investors can
6 currently expect both forms of growth, as the market-to-book ratio for all is above
7 one. The sustainable growth rate (*i.e.*, the BR + SV growth rate) should be
8 implemented with financial ratios expected to prevail in the future. My sustainable
9 growth rate is indeed based solely on *Value Line* projected data (for 2012-2014) for
10 the return on common equity, estimated dividend per share and estimated book value
11 per share. I used no current-period data for those basic inputs.

12 The inputs to and results of implementing the sustainable growth formula are presented
13 in **Exhibits __ (JDM-9) and __ (JDM-10)**.

14 **Q. Is the use of information provided by *Value Line* and Zacks, appropriate for**
15 **your second and third methods?**

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 A. Yes. The practice of using forecast growth rates provides a sound basis for
2 estimating the long-term growth of the utility. Financial analysts exert considerable
3 influence over the many investors who do not possess the resources to make their
4 own forecasts. The accuracy of these forecasts, in the sense of whether they turn out
5 to be correct, is not the issue as long as they reflect widely held expectations. **Exhibit**
6 **__ (JDM-11)** summarizes the *Value Line* and Zacks growth rates and provides the
7 details of the calculation of the *Value Line* EPS growth rates.

8 Analysts' forecasts are sometimes criticized on the grounds that it is very difficult to
9 forecast growth rates accurately in the short term, let alone in the long term. However,
10 this general objection is irrelevant to a DCF analysis because this method is based upon
11 present investor expectations. Widely distributed forecasts influence both the current
12 stock price and DCF cost of equity, not what the future will actually turn out to be.

13 **Q. Are the five-year annual projected growth rates in earnings published by *Value***
14 ***Line* and Zacks reasonable indicators of long-term growth?**

15 A. Yes. First, I should note that the generic method adopts no other growth forecasts
16 other than five-year *Value Line* forecasts, so this issue should not be contentious in
17 this case.

18 Those forecasts are reasonable in the context of proceedings in which rate of return is
19 being examined. It would be naïve to assume that the growth rates forecasted by
20 *Value Line* and those summarized by Zacks are applicable far into the future.
21 However, there are two strong reasons for employing such forecasts in the present
22 proceeding. First, to the extent that investors employ forecasts like those published

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 by *Value Line* and Zacks as long-term growth rates, these forecasts accurately reflect
2 the current expectations of long-term growth included in the cost of capital. Second,
3 *Value Line*'s and Zacks forecast growth rates might not be substantially different, on
4 average, from what investors believe long-term growth prospects to be, given that the
5 forecast is widely distributed in the financial community.

6 **Q. Please elaborate on the usefulness of Zacks consensus earnings growth rate data**
7 **in cost of capital cases.**

8 A. Zacks is a reputable firm that collects the growth rate estimates of financial analysts
9 and publishes consensus growth rate information. Widely distributed forecasts—such
10 as Zacks' consensus five-year growth rate estimates—influence both the current stock
11 price and DCF cost of equity. I would not rely solely on this source of growth rate
12 data, however. Other equally valid measures of growth rates exist, such as those that
13 can be constructed using *Value Line* data. Rather than use a single source for my
14 growth rate, I strive to use a diversity of credible sources and credible approaches.

15 **Q. Is it appropriate to use unadjusted projected dividend growth rates (rather than**
16 **earnings per share growth rates) when dividend payout ratios are declining?**

17 A. It is not. This is because such growth rates depend on whether the utilities being
18 examined are in the process of systematically or predictably altering their payout
19 ratios. That is, if companies are systematically trying to retain a greater share of
20 earnings, using projected dividend growth rates in a DCF model will understate the
21 effect on growth of the growth of retained earnings. This effect is straightforward

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 enough, and it is well-recognized in the standard financial literature. For example,
2 R.L Hahne and G.E. Aliff, authorities on public utility accounting, state:

3 If growth in dividends is utilized, this factor can be distorted in the short
4 run by management decisions affecting dividend payout ratios.²²

5 Such references are common in finance and regulatory texts. The effect of changing
6 payout ratios on dividend growth rates is widely known.

7 It can easily be seen that the dividend payout ratios of the companies in my proxy
8 group have declined in recent years. **Figure 1**, below, shows the average payout ratio
9 from 1990 through 2014 as reported by *Value Line*. **Figure 1** conveys most directly
10 that the growth in dividends during this period is less than the growth in earnings (*i.e.*,
11 the proxy group firms are retaining a greater fraction of their earnings internally).

²² Hahne, R.L., and Aliff, G.E., *Accounting for Public Utilities*, Matthew Bender, New York, 1998, pp. 9-21.

DIRECT TESTIMONY OF JEFF D. MAKHOLM

Figure 1: DPS/EPS Ratios for Proxy Group, Actual and Projected



Source: Value Line

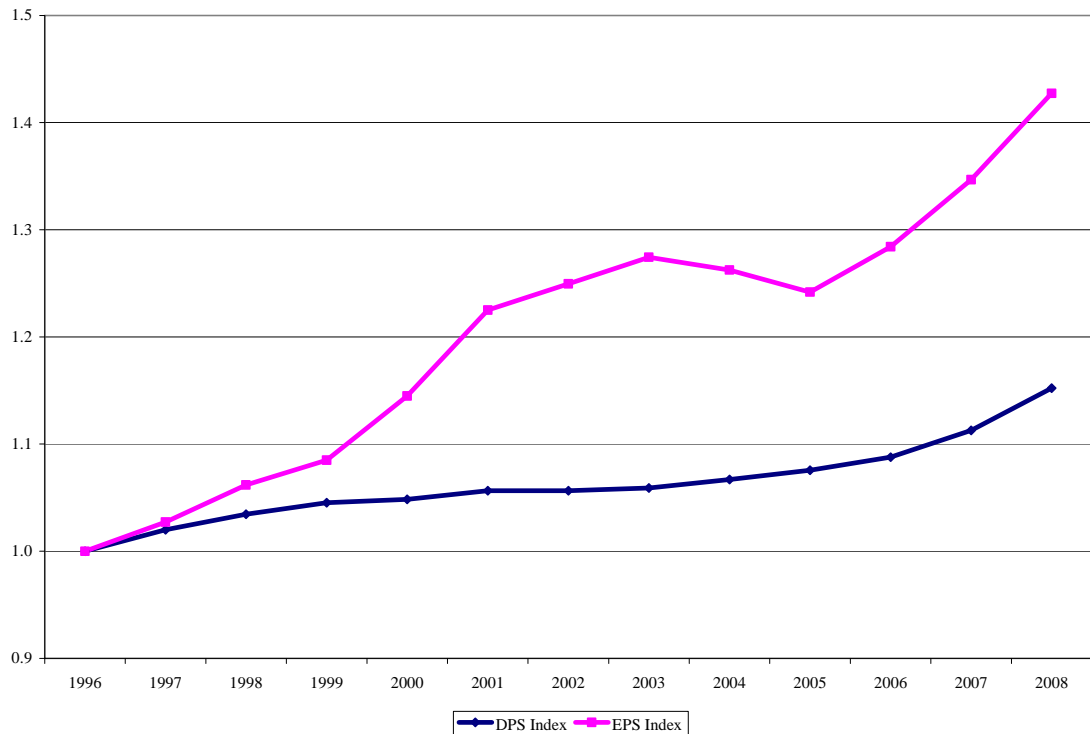
1 There are two generally accepted ways to deal with the issue. The first is to use more
2 complicated growth measures that adjust for projected changes in the dividend payout
3 ratio (these are called “sustainable growth” or “retention growth” measures). The
4 other method is simply to rely on earnings projections—which are not distorted by
5 trends in dividend payout policies. Indeed, it is most common for cost of capital
6 analysts and regulatory commissions to avoid dividend growth rates altogether—
7 precisely to avoid the problem with the generic method for relying unduly on
8 projected DPS growth rates.

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 Q. Given the declining DPS/EPS ratio, what effect does this have on projected
2 growth rates?

3 A. **Figure 2** demonstrates the stability and predictability of earnings as growth rates, as
4 opposed to dividend growth rates, given the declining payout ratios shown in **Figure**
5 **1**.

6 **Figure 2: Growth of Dividends and Earnings, Indexed to 1996**



7

8 Q. You said at the outset of your testimony that investors could themselves see in
9 *Value Line* how projected profits were not captured by dividend growth when
10 payout ratios were expected to decline. Could you elaborate?

11 A. Yes. Attached as **Exhibit ____ (JDM-12)** is a page from *Value Line* for one member of
12 the proxy group (Hawaiian Electric) that I have marked up to show what I mean.

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 *Value Line* projects, from 2009 to 2012-2014 a growth in net profits of 45 percent.
2 For the same period, *Value Line* projects no growth in dividends. To align its
3 projected profit growth with its projected constant dividends, *Value Line* projects a
4 decline in the ratio of dividends to a net profit of 29 percent. Investors examining this
5 page would well understand that *Value Line* projects a substantial portion of the
6 Hawaiian Electric’s growth in profitability will be retained by the company.
7 Focusing on dividends per share, during a time when payout ratios are declining,
8 masks the company’s true expected profitability growth that shapes and/or reflects
9 investor expectations.

10 No informed investor would look at the *Value Line* page for Hawaiian Electric and
11 conclude that *Value Line* projects zero growth in the value of this investment for the
12 next five years. To the extent that investors form expectations based on *Value Line*,
13 or alternatively that *Value Line* and investors base their own expectations on the same
14 sort of market information, then investors will price Hawaiian Electric shares to
15 reflect *all* projected profitability, and not just those in the form of dividends. Using
16 zero DPS growth in the context of what appears on that page would fail to reflect both
17 investor expectations and the value of the Hawaiian Electric share in the market.

18 My fundamental point in criticizing the generic formula’s use of the DPS growth is
19 that there is ample evidence that the Hawaiian Electric example reflects the average
20 of the proxy group—projected profitability growth (reflected in EPS growth) is
21 greater than projected DPS growth, accounted for by a decline in the dividend payout

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 ratio. Using DPS growth rates in a DCF formula with such evidence would introduce
2 a large downward bias in the results that does not reflect investor expectations.

3 **Q. Do other independent sources of analyst growth projections separate out DPS**
4 **growth rates like *Value Line* does?**

5 A. They do not. *Value Line* is unique in the way that it projects profitability growth and
6 then backs out what fraction of earnings are retained or paid out as dividends. The
7 others, like Zacks, simply report earnings, reflecting the reasonable investor
8 expectations among companies like those in the proxy group that profitability growth
9 drives stock prices, not management decisions on what fraction of that growth to pay
10 out in the form of dividends over the next handful of years. I attach as **Exhibit__**
11 **(JDM-13)** a representative page from Zacks to show the prominence of earnings
12 growth forecasts and the lack of DPS forecasts. Particularly in the case of utilities
13 with stable dividend payment histories, DPS growth rates, in and of themselves, just
14 do not matter sufficiently for companies like Zacks to bother reporting.

15 **Q. Do you make any adjustments to your DCF results?**

16 A. Yes. I make an adjustment for selling and issuance costs when calculating the DCF
17 costs in **Exhibit__ (JDM-15)**.

18 **Q. Why do you make such an adjustment?**

19 A. Because without it the DCF method will fail to capture a tangible element of the cost
20 of capital for the proxy group of companies. Let me explain.

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 The companies in the proxy group incur expenses when issuing common stock.
2 Unless due recognition is made of the difference between share prices (what investors
3 pay) and net proceeds from sale transactions (what those utilities receive from the
4 sale), then the DCF method will not accurately reflect the cost of capital for that
5 proxy group. In other words, a proper DCF calculation for the proxy group that is
6 sound in every other respect will understate the cost of capital for those companies if
7 it does not account for selling and issuance expenses.

8 **Q. Is such an adjustment generally made by regulators?**

9 A. Yes. An adjustment to factor in selling and issuance costs is made as a traditional
10 part of computing the embedded cost of debt and preferred stock and is appropriate
11 for equity issuances as well.

12 **Q. Please explain.**

13 A. Basing required returns on net, rather than gross, proceeds is standard regulatory
14 practice when the capital is in the form of debt or preferred stock. Traditional
15 practice in many states includes a return element for selling and issuance expenses,
16 just like a return component is included for such expenses with debt. The only
17 difference between the traditional treatment for debt and equity is that the debt selling
18 and issuance expense *principal* would be amortized to be collected over the term of
19 the debt issue. Since equity has no “term,” as such, there was no amortization of the
20 principal—only an equity rate of return component to reflect a holding charge.

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 It is inconsistent—and the source of improper DCF calculations—to exclude the same
2 type of issuance cost allowance from outstanding common stock balances if those
3 costs were incurred in the issuance of that common stock and were not reflected as a
4 current expense in rates at the time the issuance was made. For long-term debt and
5 preferred stock issuances, these costs are capitalized by calculating a required rate of
6 return on the net proceeds to the Company. It would be inconsistent to allow the
7 capitalization and collection of these costs on long-term debt and preferred stock
8 issuances and not to allow the collection of the same kind of costs on common stock
9 issuances.

10 **Q. What is the most common way for regulatory commissions to compensate for**
11 **issuance costs?**

12 A. The most common way to compensate utilities for necessary issuance costs related to
13 common stock, as well as for preferred stock and long-term debt, is to allow a return
14 *on* these costs for any one year and a return *of* these costs over the life of the issue.
15 For common stock, because the life of the issue is, in essence, perpetual, the return
16 component to recover the return on these costs is permanently a part of the return on
17 equity. The only way these costs will “go away” is if they are paid off as a current
18 expense. Failing to compensate a utility for its issuance costs will assure the under-
19 recovery of its prudently incurred costs of raising capital.

20 **Q. How do you make your issuance and selling expense adjustment?**

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 A. It is proper to include an issuance expense return adjustment for the entire equity
2 component of the capital structure.²³ Therefore, I use the conventional form of the
3 issuance expense adjustment to gauge the cost of equity for the proxy group
4 companies:²⁴

$$r = \frac{D_1}{P_0 * (1 - f)} + g$$

Where:

r = required return adjusted for issuance expenses

f = flotation cost percentage

5 For the purpose of choosing an appropriate value for f , the flotation cost percentage,
6 I refer to a publication by Victor Borun and Susan Malley as well as information
7 specific to the Company’s most recent public equity issuances.²⁵ Borun and Malley
8 conclude that total flotation costs for electric utilities are about 5.5 percent. As shown
9 in **Exhibit__ (JDM-14)**, the average of the Company’s last five equity offerings is
10 3.24 percent.²⁶ The average of the two is 4.37 percent, which I use as the issuance
11 cost percentage for the DCF calculations in this case, according to the formula above.

²³ Support for using total common equity appears in: Eugene F. Brigham, *et al.*, “Common Equity Flotation Costs and Rate Making,” *Public Utilities Fortnightly*, (May 2, 1985), pp. 28-36.

²⁴ This formula appears in Eugene F. Brigham, *et al.*, “Common Equity Flotation Costs and Rate Making,” *Public Utilities Fortnightly*, (May 2, 1985), pp. 28-36.

²⁵ Victor M. Borun and Susan L. Malley “Total Flotation Costs for Electric Company Equity Issues,” *Public Utilities Fortnightly*, (February 20, 1986), pp. 33-39.

²⁶ Three of these issuances are for RG&E. Two are for New York State Electric & Gas Corporation.

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 **Q. Please explain why the issuance expense adjustment should be made to total**
2 **common equity.**

3 A. Investors are entitled to earn the expected cost of capital on their investment. The
4 DCF model illustrates that this expected cost is equal to dividend payments plus
5 capital gains on the value of their shares. The cash paid in by investors is greater than
6 the net proceeds that the company takes in. Therefore, the company must earn a
7 greater return on the smaller net proceeds balance to compensate investors adequately
8 for their expected cost of capital. But the money paid to the investors in any year, the
9 dividend, reflects only a portion of the returns on equity. Retained earnings represent
10 the other portion, or the funds used to finance future growth and future dividends. If
11 retained earnings do not receive a selling and issuance return adjustment, they will
12 not grow at a rate sufficient to allow for the payments of dividends at investors'
13 expected growth rate in the future, and the company would not earn its true cost of
14 capital.

15 **3. DCF Conclusions**

16 **Q. Please summarize your DCF method.**

17 A. Using the adjusted stock prices for a three month period, the most recent four actual
18 dividend per share payments, the average of the sustainable growth and forecast
19 earnings growth estimates, and the issuance cost method shown above, I arrive at a
20 cost of common equity for the comparable group of 12.03 percent, as shown in
21 **Exhibit__ (JDM-15) and Exhibit __ (JDM-2).**

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 **D. CAPM Analysis**

2 **Q. Please describe the CAPM method.**

3 A. The CAPM is the sum of two components: (1) a risk-free rate applicable to all
4 companies (R_f); and (2) a company-specific risk premium, which is the product of a
5 company-specific beta (β) and a market equity risk premium over the risk free rate
6 [$(R_M) - (R_f)$].

7 **Q. Is there more than one way to calculate the CAPM model?**

8 A. Yes. The CAPM formula itself is rather straightforward. Its components are: (1) the
9 risk free rate of return; (2) the market rate of return; and (3) the beta. Yet despite this
10 algebraic simplicity, experts have applied different methods to obtain each of these
11 components and to compute the required rate of return. The effects of choosing one
12 method over another can substantially change the required cost of capital.

13 My approach to implementing the CAPM model includes: (1) relying on betas that
14 are published in the *Value Line Investment Survey*, an independent source of financial
15 information; and (2) calculating an equity risk premium using “top-down” DCF
16 analysis for the S&P 500 as a whole, which provides an objective, and forward-
17 looking estimate of the market return.

18 When my forward-looking R_M is incorporated into the CAPM model, along with
19 *Value Line* betas and the risk-free rate, this generates a timely and forward-looking
20 estimate of the cost of equity. In times of turbulent markets, such as now, this

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 approach has the decided advantage of relying on timely information from close
2 observers of the financial markets, rather than relying on historical data.

3 **Q. How have you calculated a CAPM return on equity?**

4 A. My CAPM results are shown on **Exhibit __ (JDM-16)**.

5 I use a risk-free rate of 4.61 percent, which is the yield on 30-year U.S. Treasury
6 bonds, as reported on U.S. Treasury's website.

7 I use the *Value Line* betas for the companies in my comparable group. *Value Line*
8 data are unique in that *Value Line* "is not affiliated with any bank, broker, or
9 insurance company." *Value Line* is an independent, well-regarded and much-used
10 resource, gauging by its wide circulation.²⁷ The Research Foundation of CFA
11 Institute explains that:

12 The corporations whose stocks are covered compensate neither Value Line
13 nor the individual analysts following the company. All Value Line
14 revenues come from fees collected from subscribers. As a result of this
15 independence, any bias in Value Line analyst forecasts cannot be
16 attributed to analyst desires to attract revenue-generating business in the
17 form of investment banking fees or brokerage commissions.²⁸

18 Forward-looking measures of the market risk premium are available. I calculate a
19 forward-looking market risk premium by subtracting the risk-free rate from estimates
20 of the "top-down" cost of equity capital of the *S&P 500*. *First Call* and *Reuters*
21 provide 9.19 percent and 10.20 percent estimated five-year earnings growth rates for

²⁷ *Value Line* points out, in a letter to potential subscribers, that "*Value Line* is not in the retail brokerage business. *Value Line* does not accept advertising. *Value Line* does not receive any financial compensation when you make an investment. Which is why we can guarantee the analysis you're reading is free of bias—and completely independent of the companies we're writing about." *Value Line Investment Survey*, undated letter, p. 1.

²⁸ Francis, et al., *Security Analyst Independence*. Research Foundation of CFA Institute, p. 43.

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 the *S&P* 500, respectively, and *S&P* provides a 2.47 percent estimate of the dividend
2 yield of the *S&P* 500. Combining these inputs using the standard DCF model
3 provides two estimates for a forward-looking, top-down DCF cost of common equity
4 for the *S&P* 500: 12.01 percent using *First Call* data, and 13.05 percent using *Reuters*
5 data, as shown in **Exhibit__ (JDM-17)**.

6 As shown on **Exhibit__ (JDM-16)**, p. 1 of 2, this method of estimating the risk
7 premium using *First Call* data produces a 9.86 percent result for the proxy group
8 using CAPM. As shown in **Exhibit__ (JDM-16)**, p. 2 of 2, this method of estimating
9 the risk premium using *Reuters* data produces a 10.60 percent result for the proxy
10 group.

11 **Q. What conclusion do you draw on CAPM cost of common equity for the proxy**
12 **group?**

13 A. As demonstrated in **Exhibit__ (JDM-16)**, I use two approaches to estimate a CAPM
14 cost of common equity for the proxy group. My CAPM cost of equity range is from
15 9.86 percent to 10.60 percent, as summarized in **Exhibit__ (JDM-2)**.

16 **Q. Have you included any additional materials to check your cost of common equity**
17 **analysis?**

18 A. Yes. I compare my calculated results to another way of deriving the cost of equity for
19 electric utilities, which I refer to as my “Yield Plus Growth” method. This method
20 confirms the reasonableness of my DCF and CAPM analyses. To perform this check,
21 I add the expected dividend yield of the electric utility industry, as published by

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 *Value Line*, to the expected growth rate for the industry, as published by both Reuters
2 and First Call. Summing the two figures gives a cost of common equity for the
3 industry of 11.54 percent, as shown in **Exhibit __ (JDM-18)**.

4 Yield plus growth has long been used, both by practitioners and commissioners in the
5 U.S. as the most basic foundation from which to assess the cost of equity in the
6 market. Many analysts, myself included, use various forms of DCF analysis to
7 embody yield plus growth in a precise, theoretical format. Indeed, the principal
8 attraction of the yield plus growth analysis is its connection to a common sense
9 addition of the two essential components of compensating investors for purchasing
10 common stock—the current dividend yield and their expectation for the growth in
11 earnings/dividends vis-à-vis what they pay for the stock.

12 Given the current financial crisis, I decided in this case to pull from widely-available
13 capital market publications the yield and growth estimates for the regulated electric
14 utility industry that would be available to investors, without any of the technical detail
15 or underlying transparency that accompanies my DCF and CAPM analyses. Even
16 without that transparency, the resulting numbers, shown in **Exhibit__ (JDM-2)**, are
17 reasonable indicators of current investor expectations—and also confirmation to me
18 that what I propose is a reasonable fair rate of return for the Company.

19 **E. Conclusions on Cost of Equity**

20 **Q. Please summarize your conclusion as to the fair rate of return on common equity**
21 **for the Company.**

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 A. Based on the foregoing discussion, the fair rate of return on common equity that I
2 support as fair and reasonable for the Company is **11.43 percent**, as summarized on
3 **Exhibit__ (JDM-2)**. That return recommendation gives twice the weight to the DCF
4 than the CAPM, according to the generic weighting convention.

5 **F. The Increasingly Uncompetitive Returns in New York**

6 **Q. What independent support do you have for saying that the returns granted by**
7 **the Commission are “increasingly unfavorable?”**

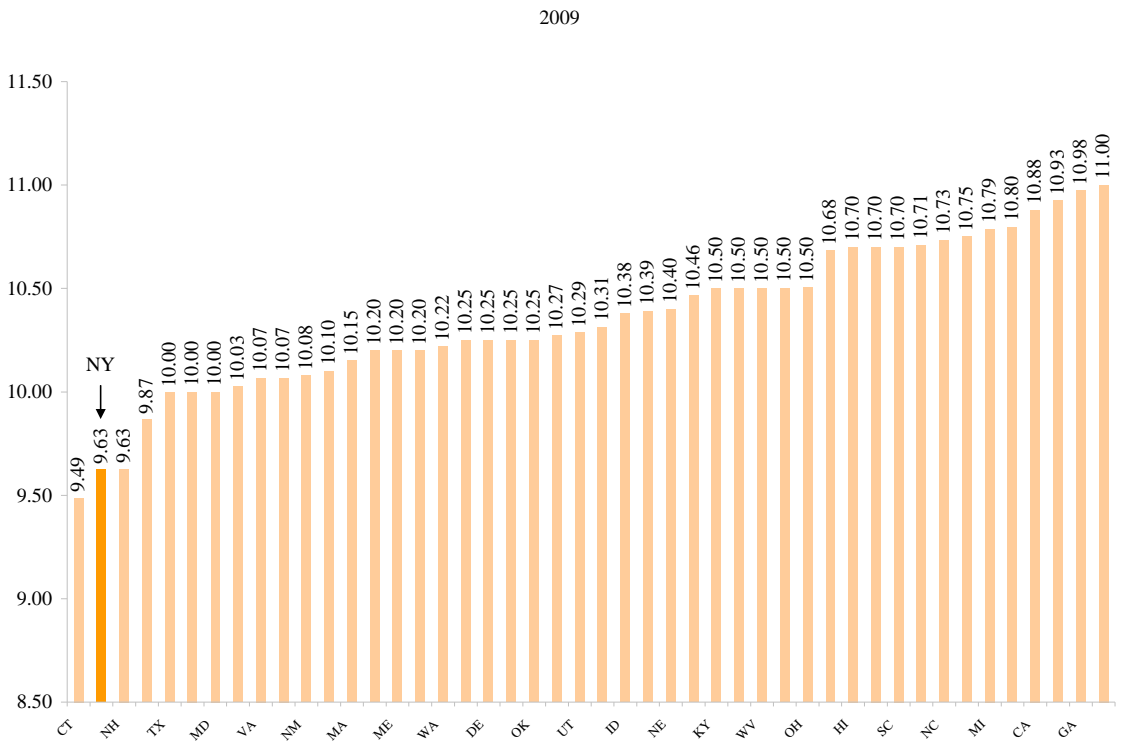
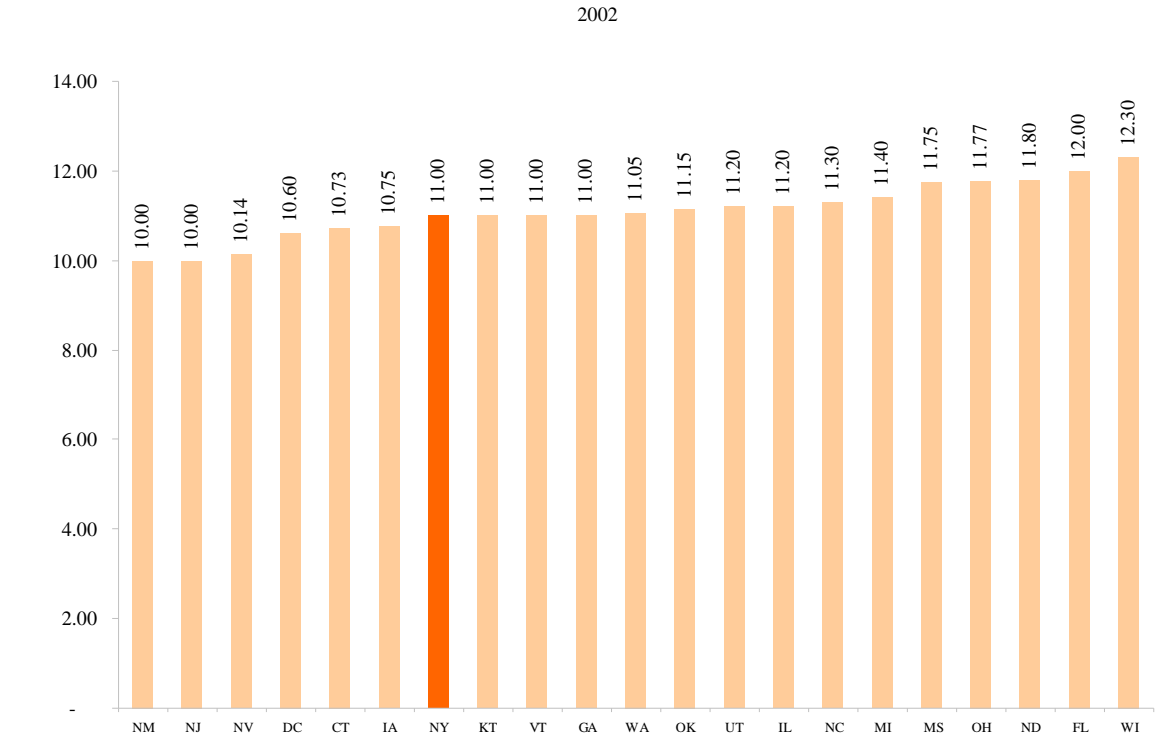
8 A. I have two supports. The first is a simple tabulation regarding how the Commission
9 is sliding well beneath the awards of its peers regarding allowed returns, as reported
10 by Regulatory Research Associates (“RRA”), which the Commission Secretary
11 acknowledged in her letter to Assemblyman Cahill that I reference earlier in my
12 testimony. The second is what the three ratings agencies said about the last awarded
13 returns for electricity distributors in New York.

14 **Q. Please proceed.**

15 A. **Figure 3**, below, shows the statewide average return on equity for every final state
16 rate case decision in 2002 and then in 2009. It is obvious to the subscribers of
17 regulatory newsletters (the source of those data) and to the credit markets generally
18 that New York has awarded returns lower than those of any other state in the nation
19 recently, and has moved there from a position that had been closer to the average five
20 years earlier.

DIRECT TESTIMONY OF JEFF D. MAKHOLM

Figure 3: Average Allowed ROEs by State, 2002 and 2009



DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 **Q. Does New York’s position in this respect have an effect on ratings and the costs**
2 **of borrowing for New York operating utilities?**

3 A. I conclude that it does affect the cost of borrowing, based on my review of the ratings
4 agency reports concerning the April 2009 and March 2008 ConEd rate orders. In
5 response to ConEd’s most recent April 2009 rate order, Moody’s downgraded ConEd
6 two notches and said the following:

7 Moody’s believes that CECONY’s regulatory environment has become
8 more challenging in recent years. Our view reflects the steady decline in
9 allowed ROEs as evidenced by the decline in ROE in CECONY’s electric
10 business from the 11.1% that existed through most of the 1990s and the
11 early part of this decade to the 9.1% authorized for the 2009 rate year.²⁹

12 Rating agency opinions of ConEd’s previous March 2008 rate order were also
13 uniformly negative—two agencies downgraded on the spot and the third placed
14 ConEd on negative credit watch for a possible future downgrading.

15 Fitch said the following:

16 Fitch has today downgraded the issuer default ratings (IDR) of ED and
17 CECONY by one notch to ‘BBB+’ and ORU to ‘A-’. ... Also, the
18 authorized ROE for CECONY of 9.1% is not only well below the sector
19 average but is also below average for utilities of comparable risk and in
20 Fitch’s view is not supportive of the projected need to raise equity and
21 debt capital.³⁰

22 S&P reported on the March 2008 ConEd order as follows:

²⁹ *Moody’s Investor Service*, “Credit Opinion: Consolidated Edison Company of New York, Inc.,” June 30, 2009.

³⁰ *Fitch Ratings*, “Fitch Completes Review of Con Ed Inc. Group; Resolves Rtg Watch,” March 28, 2008.

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 The [downgrading] reflects our expectations that the firm’s financial
2 measures will be commensurate with ‘A-’ after the recent New York
3 Public Service Commission’s \$425 million rate order for subsidiary
4 Consolidated Edison Co. of New York Inc. (CECONY) become effective
5 at month’s end. ... The firm’s ability to manage its regulatory relations
6 effectively will likely be a key determinant at current ratings levels.³¹

7 **G. Lack of Factors Countervailing Low Awarded ROEs in New York**

8 **Q. The ALJ Decision in Commission Docket 08-E-0539 (page 231) contains the**
9 **following statement: “New York is distinguishable to the extent it uses a**
10 **forward-looking rate year, allows full recovery of commodity-related costs, and**
11 **permits full reconciliation for sales revenues and some expenses.” Do you**
12 **agree?**

13 A. I do not agree, as I find evidence to the contrary. Using the type of evidence
14 available to the capital markets, I have reviewed the experience of other state utility
15 commissions with respect to test year definition, the pass-through of commodity-
16 related costs and true-ups or trackers for revenues and expenses. What that evidence
17 shows is that the practices in New York do not differ significantly from prevailing
18 practices elsewhere—contrary to that ALJ statement in Docket 08-E-0539.

19 **Q. Please describe your review of experience with test year definition in other**
20 **states.**

21 A. For my review, I relied on summaries of regulatory practice across jurisdictions
22 published by Regulatory Research Associates. These summaries describe the practice

³¹ *Standard & Poor’s*, “Research Update: Consolidated Edison Inc. Downgraded To ‘A-’ From ‘A’ On Rate Decision,” March 25, 2008.

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 for defining the test year in each jurisdiction. My findings indicate that it is not
2 uncommon for state utility commissions to use forward-looking test years. While
3 some commissions continue to rely on historic test years, many of them make
4 adjustments to the historic data that make the process more or less tantamount to
5 using a forward-looking test year. Only a small fraction of commissions use historic
6 test years without data adjustments. A summary of test year definition in other states
7 is shown in **Figure 4** below.

DIRECT TESTIMONY OF JEFF D. MAKHOLM**Figure 4: Test Periods By State**

<u>State</u>	<u>Forward- Looking</u>	<u>Historical with Known and Measurable</u>	<u>Only Backward- Looking</u>
Alabama		✓	
Arizona		✓	
Arkansas	✓		
California	✓		
Colorado			✓
Connecticut	✓		
Delaware	✓		
D.C.	✓		
Florida	✓		
Georgia	✓		
Hawaii			✓
Idaho	✓		
Illinois	✓	✓	
Indiana		✓	
Iowa		✓	
Kansas		✓	
Kentucky		✓	
Louisiana			✓
Maine		✓	
Maryland			✓
Massachusetts		✓	
Michigan		✓	
Minnesota	✓		
Mississippi	✓		
Missouri		✓	
Montana		✓	
Nebraska	✓		
Nevada		✓	
New Hampshire		✓	
New Jersey		✓	
New Mexico		✓	
New York	✓		
North Carolina		✓	
North Dakota	✓		
Ohio			✓
Oklahoma		✓	
Oregon	✓		
Pennsylvania			✓
Rhode Island		✓	
South Carolina		✓	
South Dakota		✓	
Tennessee		✓	
Texas		✓	
Utah	✓		
Vermont		✓	
Virginia		✓	
Washington		✓	
West Virginia		✓	
Wisconsin	✓		
Wyoming		✓	
Total:	17	28	6

Source: Regulatory Research Associates

¹ RRA has not published a review for Alaska.

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 **Q. Please describe your review of experience with the pass-through of commodity**
2 **costs in other states.**

3 A. I will describe the review of data, but must first outline the regulatory principles that
4 are applied when utilities purchase commodities on behalf of their customers and
5 those costs are considered for recovery in rates. Utilities buy commodities to be able
6 to meet the uncertain needs of their customers. Traditional integrated electric utilities
7 buy fuel for their power plants and buy power in the market to meet any supply
8 shortfalls. Restructured distribution-only utilities, like those in New York, buy power
9 in the market to meet the full needs of their customers. Their gas divisions buy
10 natural gas from the market on behalf of their ratepayers. These commodity
11 purchases are entitled to a presumption of prudence.

12 In light of this, it is not surprising that my review of practices in other jurisdictions
13 did not reveal any state utility commissions that deny full recovery of prudent
14 commodity-related expenses. While I did identify certain jurisdictions in which there
15 is a sharing of earnings, or where bands around a projection of commodity-related
16 costs are used and sharing is applied, in no jurisdiction did I see the denial of a
17 reasonable opportunity for full recovery of prudently-incurred commodity-related
18 costs. I prepared a report for Portland General Electric in 2005 which demonstrated
19 that it is standard practice to allow for full recovery of commodity-related costs and,

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 importantly, many jurisdictions allow for expedited recovery through a fuel
2 adjustment or power adjustment clause.³²

3 **Q. Please address the third regulatory practice cited by the ALJ: reconciliation for**
4 **sales revenues and some expenses.**

5 A. Again, I found that New York is not alone in its use of after-the-fact true ups for
6 certain revenues or expense accounts. Particularly in the context of new construction,
7 where input costs have changed rapidly and unexpectedly in recent years, it is
8 becoming more common for regulatory commissions to approve trackers that will
9 follow the costs as they are incurred and allow for expedited recovery. While each
10 state has their own way of doing things, their practices are generally the same in each
11 case.

12 **Q. In summary, after having compared these aspects of New York regulation to**
13 **regulatory practice in other jurisdictions, do you believe that it was correct for**
14 **the ALJ to conclude that the regulatory framework in New York is**
15 **distinguishable from other jurisdictions?**

16 A. No. I do not find the regulatory framework in New York to be distinguishable in
17 those respects. Instead, I find the Commission's approach to ratemaking in these
18 areas to be on par with approaches taken elsewhere.

³² Makholm, Jeff D. and Olson, Wayne P. "The Continuing Role of Power Cost Adjustments in the Electric Utility Industry." September 30, 2005, included as an attachment to the testimony of Lesh and Niman before the Oregon Public Utility Commission in Case UE 180.

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 **Q. How does the failure to distinguish these aspects of New York regulation from**
2 **regulation elsewhere impact your opinion on the appropriate rate of return on**
3 **equity for the Company?**

4 A. The ALJ's statement suggests that the allowed ROE need not be as high in New York
5 as it is in other jurisdictions because other aspects of the regulatory framework reduce
6 risks for utility investors. This is a problematic suggestion that could lead to arbitrary
7 reductions in the allowed ROE that would unreasonably deny a New York utility the
8 opportunity to earn a fair rate of return. As noted above, the aspects of the New York
9 regulatory framework cited by the ALJ in Docket 08-E-0539 do not differ
10 significantly from prevailing practices in other states. Furthermore, even in a
11 contrary-to-fact hypothetical where the non-ROE elements of utility regulation in
12 New York did place less risk on utility shareholders than the elements of utility
13 regulation elsewhere, it would not be a foregone conclusion that the required ROE for
14 New York utilities would necessarily be lower. The required ROE needs to be
15 established from the clear principles that were articulated the *Bluefield* and *Hope*
16 decisions, as spelled out earlier in my testimony.³³

17 **Q. Is it fair to draw conclusions from the divergence in returns awarded by the**
18 **Commission in New York compared to its peers in other states?**

19 A. I do not think that it would be fair to presume automatically that the burden falls on
20 this Commission to justify the persistently lower average ROEs as compared with

³³ *Bluefield Waterworks & Improvement Co. v. Public Service Commission of West Virginia*, 262 US 679, 693 (1923) and *Federal Power Commission v. Hope Natural Gas Company*, 320 US 391 (1944).

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 those granted by their peers in other states. However, this Commission has used the
2 generic formula in order to reach those lower returns, and therefore, criticism of that
3 generic formula as a basis for reaching these lower returns is fair and appropriate.

4 The Commission’s peers who did not attempt to find a similar way to streamline their
5 ROE procedures continued on the traditional path—to examine anew, in every base
6 rate case, expert evidence on ROE for the company in question for the relevant period
7 of time.

8 I do not think that anyone would consider the results of those case-by-case
9 evidentiary procedures in other states to be biased as a general rule. Therefore, it is
10 natural—and again to me justifiable—to subject the New York generic formula to the
11 test of bias. If we find that New York utilities and those in other states face
12 comparable operating environments and risk to investors, then it is natural to question
13 the efficacy of the Generic Financing Proceeding formula approach to the ROE, not
14 the traditional approach that the Commission’s peers in other states still practice.

15 It is therefore not prejudgment but practicality that prompts me to conclude that the
16 lower New York ROEs are beneath a fair and reasonable return based on equity
17 investments of similar risk. I do not question whether the Commission’s peers as a
18 group are incapable of deriving “just and reasonable” tariffs. What I do question is
19 whether, based on similar underlying risk factors, the Generic Financing Proceeding
20 methods in New York can do likewise.

21 As discussed in more detail in the Direct Testimony of Susan Abbott, all three major
22 rating agencies, as well as RRA, have expressed concern regarding the Commission’s

DIRECT TESTIMONY OF JEFF D. MAKHOLM

1 recent history of awarding low ROEs. All three rating agencies have expressed doubt
2 that companies in unsupportive jurisdictions will be able to retain their current ratings
3 in 2009. A supportive outcome in this case will be absolutely essential to avoiding
4 future downgrades and working toward an “A” level rating.

5 **IV. Conclusion**

6 **Q. Does this conclude your direct testimony?**

7 A. Yes.