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DIRECT TESTIMONY

of

SHEENA KIGHT-GARLISCH

Finance Department

Financial Analysis Division

Illinois Commerce Commission

Northern Illinois Gas Company's

Proposed General Increase in Rates for Delivery Service

Docket No. 08-0363

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WITNESS IDENTIFICATION

Q. Please state your name and business address.

A. My name is Sheena Kight-Garlisch. My business address is 527 East Capitol Avenue, Springfield, IL 62701.

Q. By whom are you employed and in what capacity?

A. I am employed by the Illinois Commerce Commission ("Commission") as a Senior Financial Analyst in the Finance Department of the Financial Analysis Division.

Q. Please describe your qualifications and background.

A. In May of 1998, I received a Bachelor of Business degree in Finance and Marketing from Western Illinois University in Macomb, Illinois. I earned a Master of Business Administration degree, with a concentration in Finance, also at Western Illinois University in May 2001. I have been employed by the Commission since January of 2001. I was promoted to Senior Financial Analyst on October 1, 2004.

Q. Please state the purpose of your testimony in this proceeding.

A. The purpose of my testimony is to present my analysis of the cost of common equity of Northern Illinois Gas Company d/b/a/ Nicor Gas Company ("Nicor Gas" or "Company"). In addition, I will respond to the direct testimony of Company witness Dr. Jeff D. Makholm. (Co. Ex. 10.0)

COST OF COMMON EQUITY

Q. What is your estimate of Nicor Gas' cost of common equity?

A. My analysis indicates that the cost of common equity equals 10.16%.

Q. How did you measure the investor required rate of return on common equity for the Company?

A. I measured the investor-required rate of return on common equity for the Company with the non-constant discounted cash flow ("NCDCF") and risk premium models. Since the Company does not have market-traded common stock, NCDCF and risk premium models cannot be applied directly to the Company; therefore, I applied both models to a sample of public utilities comparable in operating risk to Nicor Gas ("Utility sample").

Sample Selection

Q. How did you select a Utility sample comparable in operating risk to the Company?

A. According to financial theory, the market-required rate of return on common equity is a function of operating and financial risk. I began with the group of utility companies that Company witness Makholm used in his estimate of a fair rate of return on common equity for Nicor Gas. I believe that Dr. Makholm's sample companies are reasonable estimators of Nicor Gas' operating risk. I then removed MGE Energy Corp. from the Utility sample because it lacked a growth rate estimate from Zacks Investment Research, Inc. ("Zacks"). The remaining companies in my Utility sample are presented in Schedule 6.01.

Dr. Makholm's sample group "derives at least 80% of its operating revenues from regulated utility operations."[1] The percentage of operating revenues from regulated operations measures operating risk. I will address the financial risk of Nicor Gas and the Utility sample later in my testimony.

DCF Analysis

Q. Please describe DCF analysis.

A. For a utility to attract common equity capital, it must provide a rate of return on common equity sufficient to meet investor requirements. DCF analysis establishes a rate of return directly from investor requirements. A comprehensive analysis of operating and financial risks is unnecessary to apply DCF analysis to a company since the market price of that company's stock already embodies the market consensus of those risks.

According to DCF theory, a security price equals the present value of the cash flow investors expect it to generate. Specifically, the market value of common stock equals the cumulative value of the expected stream of future dividends after each is discounted by the investor required rate of return.

Q. Please describe the DCF model with which you measured the investor required rate of return on common equity.

A. As it applies to common stocks, DCF analysis is generally employed to determine appropriate stock prices given a specified discount rate. Since a DCF model incorporates time-sensitive valuation factors, it must correctly reflect the

[1] Co. Ex. 10.0, pp. 14-15.

timing of the dividend payments that stock prices embody. As such, incorporating stock prices that the financial market sets on the basis of quarterly dividend payments into a model that ignores the time value of quarterly cash flows constitutes a misapplication of DCF analysis. The companies in my Utility sample pay dividends quarterly; therefore, I applied a multi-stage non-constant-growth quarterly DCF model to measure the annual required rate of return on common equity.

Q. Why did you apply a non-constant growth DCF model in this proceeding?

A. In comparison to the constant-growth DCF model, the non-constant growth DCF model has additional unobservable growth rate variables that *could be* subject to greater measurement error than the analyst growth rate estimates Staff uses in constant-growth DCF analyses. Specifically, no observable estimates of common stock investor "transitional" and "steady-state" growth rate expectations for individual companies exist.[2] Nevertheless, under certain circumstances, measurement error associated with a constant-growth DCF analysis exceeds that associated with a non-constant growth DCF model, making the latter model preferable.

A single-stage, constant growth DCF model employs a single growth rate estimate, which is assumed to be sustainable infinitely. Thus, the cost of common equity calculation derived from a constant growth estimate is correct if the near-term growth rate forecast for each company in the sample is expected

[2] The "steady-state" is defined as a period of long, indefinite length during which a company's expected rate of return on new investment does not vary. (A constant growth DCF model assumes a company is already in the "steady-state;" that is, the growth rate is the "steady-state" growth rate). The "transitional" phase is a bridge between the current, near-term period and the "steady-state" level during which the company's rate of return on new investment adjusts from the current level to the "steady-state" level.

to equal its average long-term dividend growth. However, the level of growth indicated by the average 3-5 year growth rates for my Utility sample is not sustainable over the long-term. Therefore, I implemented a multi-stage, non-constant growth DCF model.

Q. Why did you conclude that the 3-5 year growth rates for the Utility sample were not sustainable over the long-term?

A. The average Zacks growth rate for my Utility sample was 6.64%. Two of the seven companies have growth rates of 8.0% or greater. As I discuss later, the current expectations of long-term economic growth, as measured by GDP, is only approximately 5%. In theory, no company could sustain into infinity a growth rate any greater than that of the overall economy, or it would eventually grow to become the entire economy. Moreover, since utilities in particular are generally below-average growth companies, the sustainability of an above average growth rate is particularly dubious. Given the difference between the growth rates for my Utility sample companies and the overall growth of the economy, the continuous sustainability of the Zacks growth rates for my Utility sample is highly unlikely. Thus, I used a non-constant growth DCF model that employs distinct growth rate estimates for each of three discrete time periods.

Q. Please describe how you modeled your non-constant growth DCF analysis.

A. I modeled three stages of dividend growth. The first, a near-term growth stage, is assumed to last five years. The second stage is a transitional growth period lasting from the end of the fifth year to the end of the tenth year. Finally, the third, or “steady-state,” growth stage is assumed to begin after the tenth year and continue into perpetuity. An expected stream of dividends is estimated by

applying these stages of growth to the current dividend. The discount rate that equates the present value of this expected stream of cash flows to the companies' current stock price equals the market-required return on common equity. Schedule 6.02 mathematically presents the relationship between the cash flow stream, stock price, and market required rate of return on common equity.

Q. How did you estimate the growth rate parameter?

A. Determining the market-required rate of return with the DCF methodology requires a growth rate that reflects the expectations of investors. Although the current market price reflects aggregate investor expectations, market-consensus expected growth rates cannot be observed directly.

For the first stage, which is assumed to last five years, I used Zacks growth rate estimates as of July 22, 2008. Zacks summarizes and publishes the earnings growth expectations of financial analysts employed by the research departments of investment brokerage firms. Zacks provides 3-5 year forward-looking estimates of earnings growth.

To estimate the long-term growth expectations for the third, steady-state stage, I utilized the implied 20-year forward U.S. Treasury rate in ten years, which reflects current expectations of the long-term overall economic growth during the steady-state growth stage of my non-constant DCF model.[3] An implied 20-year

[3] Excepting a small premium for interest rate risk, the implied 20-year forward U.S. Treasury rate in ten years represents the risk-free rate of return during the 20-year period beginning in 10 years and ending 30 years from today, as implied by current 10- and 30-year U.S. Treasury rates. As I explain later, the overall economic growth rate and the risk-free rate of return should be similar since both are a function of production opportunities and consumption preferences.

forward U.S. Treasury rate in ten years of 5.0% was derived from the 4.14% 10- and 4.67% 30-year U.S. Treasury rates as of July 22, 2008 using the following formula:

$$_{20}f_{10} = [(1+_{30}r_0)^{30} / (1+_{10}r_0)^{10}]^{1/20} - 1$$

Where $_{20}f_{10}$ = the implied 20-year forward U.S. Treasury rate in ten years;

$_{30}r_0$ = the current 30-year U.S. Treasury rate; and

$_{10}r_0$ = the current 10-year U.S. Treasury rate

The growth rate employed in the intervening, five-year transitional stage equals the average of the Zacks growth rate and the steady-state stage growth rate. Schedule 6.03 presents the growth rate estimates for the companies in my Utility sample.

Q. Is an estimate of the long-term overall economic growth rate a reasonable estimate for the steady-state stage growth for your Utility sample?

A. Ideally, company-specific steady-state growth rate estimates are preferable. Unfortunately, company specific steady-state growth rate forecasts are not available. Further, for the reasons presented above, it is evident that investors cannot reasonably expect utilities to sustain growth over the very long term equal to analysts' current 3-5 year growth rate estimates. Thus, while the overall economic growth rate might be biased upward for generally low-growth companies such as utilities, it is much closer to the growth rate that investors could reasonably expect utilities to sustain over the long term.

Q. How did you measure the stock price?

A. A current stock price reflects all information that is available and relevant to the market; thus, it represents the market's assessment of the common stock's current value. I measured each company's current stock price with its closing market price from July 22, 2008. Those stock prices for the companies in my Utility sample appear on Schedule 6.04.

Since stock prices reflect the market's concurrent expectation of the cash flows the securities will produce and the rate at which those cash flows are discounted, an observed change in the market price does not necessarily indicate a change in the required rate of return on common equity. Rather, a price change may reflect investors' re-evaluation of the expected dividend growth rate. In addition, stock prices change with the approach of dividend payment dates. Consequently, when estimating the required return on common equity with the DCF model, one should measure the expected dividend yield and the corresponding expected growth rate concurrently. Using a historical stock price along with current growth expectations or combining an updated stock price with past growth expectations would likely produce an inaccurate estimate of the market-required rate of return on common equity.

Q. Please explain the significance of the column titled "Next Dividend Payment Date" shown on Schedule 6.04.

A. Estimating the present value of each dividend requires measuring the length of time between its payment date and the stock observation date. For the first dividend payment, that length of time is measured from the "Next Dividend Payment Date." Subsequent dividend payments occur in quarterly intervals.

Q. How did you estimate the expected future quarterly dividends?

A. Most utilities declare and pay the same dividend per share for four consecutive quarters before adjusting the rate. Consequently, I assumed the current declared dividend rate will remain in effect for a minimum of four quarters and then adjust during the same quarter it changed during the preceding year; if the utility did not change its dividend during the last year, I assumed the rate would change during the next quarter. The expected growth rate was applied to the current declared dividend rate to estimate the expected dividend rate. For my Utility sample, Schedule 6.04 presents the current quarterly dividends for the prior year and Schedule 6.05 presents the expected quarterly dividends for the coming year. This technique was applied to produce dividend projections for the next 11 years, substituting the appropriate growth rate estimate for each of the three stages of my non-constant growth DCF analysis.

Q. Based on your DCF analysis, what are the estimated required rates of return on common equity for your Utility sample?

A. My DCF analysis estimates a required rate of return on common equity of 9.25% for my Utility sample, as shown on Schedule 6.06. The DCF estimates for the Utility sample are derived from the growth rates presented on Schedule 6.03, the stock price and dividend payment dates presented on Schedule 6.04, and the first four expected quarterly dividends presented on Schedule 6.05.

Risk Premium Analysis

Q. Please describe the risk premium model.

A. The risk premium model is based on the theory that the market-required rate of return for a given risk-bearing security equals the risk-free rate of return plus a risk premium that investors expect in exchange for assuming the risk associated with that security. Mathematically, a risk premium equals the difference between the expected rate of return on a risk factor and the risk-free rate. If the risk of a security is measured relative to a portfolio, then multiplying that relative measure of risk and the portfolio's risk premium produces a security-specific risk premium for that risk factor.

The risk premium methodology is consistent with the theory that investors are risk-averse. That is, investors require higher returns to accept greater exposure to risk. Thus, if investors had an opportunity to purchase one of two securities with equal expected returns, they would purchase the security with less risk. Similarly, if investors had an opportunity to purchase one of two securities with equal risk, they would purchase the security with the higher expected return. In equilibrium, two securities with equal quantities of risk have equal required rates of return.

The Capital Asset Pricing Model ("CAPM") is a one-factor risk premium model that mathematically depicts the relationship between risk and return as:

$$R_j = R_f + \beta_j \times (R_m - R_f)$$

where R_j ≡ the required rate of return for security *j*;

R_f ≡ the risk-free rate;

R_m ≡ the expected rate of return for the market portfolio; and

β_j ≡ the measure of market risk for security *j*.

In the CAPM, the risk factor is market risk, which is defined as risk that cannot be eliminated through portfolio diversification. To implement the CAPM, one must estimate the risk-free rate of return, the expected rate of return on the market portfolio, and a security or portfolio-specific measure of market risk.

Q. How did you estimate the risk-free rate of return?

A. I examined the suitability of the yields on four-week U.S. Treasury bills and thirty-year U.S. Treasury bonds as estimates of the risk-free rate of return.

Q. Why did you examine the yields on U.S. Treasury bills and bonds as measures of the risk-free rate?

A. The proxy for the nominal risk-free rate should contain no risk premium and reflect similar inflation and real risk-free rate expectations to the security being analyzed through the risk premium methodology.[4] The yields of fixed income securities include premiums for default and interest rate risk. Default risk pertains to the possibility of default on principal or interest payments. The federal government's fiscal and monetary authority makes securities of the United States Treasury virtually free of default risk. Interest rate risk pertains to the effect of unexpected interest rate fluctuations on the value of securities.

[4] The real risk-free rate and inflation expectations compose the non-risk related portion of a security's rate of return.

Since common equity theoretically has an infinite life, its market-required rate of return reflects the inflation and real risk-free rates anticipated to prevail over the long run. U.S. Treasury bonds, the longest term treasury securities, are issued with terms to maturity of thirty years; U.S. Treasury notes are issued with terms to maturity ranging from two to ten years; U.S. Treasury bills are issued with terms to maturity ranging from four weeks to six months. Therefore, U.S. Treasury bonds more likely incorporate within their yields the inflation and real risk-free rate expectations that drive, in part, the prices of common stocks than either U.S. Treasury notes or Treasury bills.

However, due to relatively long terms to maturity, U.S. Treasury bond yields also contain an interest rate risk premium that diminishes their usefulness as measures of the risk-free rate. U.S. Treasury bill yields contain a smaller premium for interest rate risk. Thus, in terms of interest rate risk, U.S. Treasury bill yields more accurately measure the risk-free rate.

Q. Given the similarity in the inflation and real risk-free rate expectations that are reflected in the yields on U.S. Treasury bonds and the prices of common stocks, does it necessarily follow that the inflation and real risk-free rate expectations that are reflected in the yields on U.S. Treasury bills and the prices of common stocks are dissimilar?

A. No. To the contrary, short and long-term inflation and real risk-free rate expectations, including those that are reflected in the yields on U.S. Treasury bills, U.S. Treasury bonds, and the prices of common stocks, should equal over time. Any other assumption implausibly implies that the real risk-free rate and inflation are expected to systematically and continuously rise or fall.

Although expectations for short and long-term real risk-free rates and inflation should equal over time, in finite time periods short and long-term expectations may differ. Short-term interest rates tend to be more volatile than long-term interest rates.[5] Consequently, over time U.S. Treasury bill yields are less biased (i.e., more accurate) but less reliable (i.e., more volatile) estimators of the long-term risk-free rate than U.S. Treasury bond yields. In comparison, U.S. Treasury bond yields are more biased (i.e., less accurate) but more reliable (i.e., less volatile) estimators of the long-term risk-free rate. Therefore, an estimator of the long-term nominal risk-free rate should not be chosen mechanistically. Rather, the similarity in current short and long-term nominal risk-free rates should be evaluated. If those risk-free rates are similar, then U.S. Treasury bill yields should be used to measure the long-term nominal risk-free rate. If not, some other proxy or combination of proxies should be used.

Q. What are the current yields on four-week U.S. Treasury bills and thirty-year U.S. Treasury bonds?

A. Four-week U.S. Treasury bills are currently yielding 1.51%. Thirty-year U.S. Treasury bonds are currently yielding 4.72%. Both estimates are derived from quotes for July 22, 2008.[6] Schedule 6.07 presents the published quotes and effective yields.

[5] Fabozzi, ed., The Handbook of Fixed Income Securities, Fifth Edition, Irwin, p. 827.
[6] The Federal Reserve Board, *Federal Reserve Statistical Release: Selected Interest Rates, H.15 Daily Update*, http://www.federalreserve.gov/releases/H15/update/, July 22, 2008.

Q. Of the U.S. Treasury bill and bond yields, which is currently a better proxy for the long-term risk-free rate?

A. In terms of the gross domestic product ("GDP") price index, the Energy Information Administration ("EIA") forecasts the annual inflation rate will average 2.0% during the 2008-2030 period.[7] In comparison, Global Insight forecasts that annual GDP price inflation will average 1.9% during the 2008-2038 period.[8] In terms of the Consumer Price Index ("CPI"), the *Survey of Professional Forecasters* ("*Survey*") forecasts that inflation rate will average 2.6% during the next ten years.[9] Although EIA, Global Insight and the *Survey* do not forecast the real risk-free rate, they do forecast real GDP growth, which is a proxy for the real risk-free rate. EIA forecasts real GDP growth will average 2.5% during the 2008-2030 period.[10] Global Insight forecasts real GDP growth will average 2.5% during the 2008-2038 period.[11] The *Survey* forecasts real GDP growth will average 2.7% during the next ten years.[12] Those forecasts imply a long-term, nominal risk-free rate between 4.4% and 5.4%.[13] Therefore, EIA, Global Insight,

[7] Energy Information Administration*, Annual Energy Outlook 2008,* Table A19. Macroeconomic Indicators, www.eia.doe.gov/oiaf/aeo/, March 2008.
[8] Global Insight, *The U.S. Economy: The 30-Year Focus,* May 2008, Table 1: Summary of the U.S. Economy.
[9] Federal Reserve Bank of Philadelphia, *Survey of Professional Forecasters*, www.phil.frb.org/files/spf/survq208.html, May 13, 2008. The *Survey* aggregates the forecasts of approximately thirty forecasters.
[10] Energy Information Administration*, Annual Energy Outlook 2008,* Table A19. Macroeconomic Indicators, www.eia.doe.gov/oiaf/aeo/, March 2008.
[11] Global Insight, *The U.S. Economy: The 30-Year Focus,* May 2008, Table 1: Summary of the U.S. Economy.
[12] Federal Reserve Bank of Philadelphia, *Survey of Professional Forecasters*, www.phil.frb.org/files/spf/survq108.html, February 12, 2008.
[13] Nominal interest rates are calculated as follows:

$$r = (1 + R) \times (1 + i) - 1.$$

where $r \equiv$ nominal interest rate;
$R \equiv$ real interest rate; and
$i \equiv$ inflation rate.

and *Survey* forecasts of inflation and real GDP growth expectations suggest that, currently, the U.S. Treasury bond yield of 4.72% more closely approximates the long-term risk-free rate. It should be noted, however, the U.S. Treasury bond yield is an upwardly biased estimator of the long-term risk-free rate due to the inclusion of an interest rate risk premium associated with its relatively long term to maturity.

Q. Please explain why the real risk-free rate and the GDP growth rate should be similar.

A. Risk-free securities provide a rate of return sufficient to compensate investors for the time value of money, which is a function of production opportunities, time preferences for consumption, and inflation.[14] The real risk-free rate does not include premiums for inflation; therefore, only production opportunities and consumption preferences affect it. The real GDP growth rate measures output of goods and services excluding inflation and, as such, also reflects both production and consumers' consumption preferences. Therefore, both the real GDP growth rate and the real risk-free rate of return should be similar since both are a function of production opportunities and consumption preferences without the effects of a risk premium or an inflation premium.

Q. How was the expected rate of return on the market portfolio estimated?

A. The expected rate of return on the market was estimated by conducting a DCF analysis on the firms composing the S&P 500 Index ("S&P 500") as of June 30, 2008. That analysis used dividend information reported in the July 2008 edition of S&P's *Security Owner's Stock Guide* and closing market prices and growth

[14] Brigham and Houston, Fundamentals of Financial Management, 8th edition.

rate estimates reported by Zacks on July 1, 2008. Firms not paying a dividend as of June 30, 2008, or for which Zacks growth rates were not available were eliminated from the analysis. The resulting company-specific estimates of the expected rate of return on common equity were then weighted using market value data from Zacks on July 1, 2008. The estimated weighted average expected rate of return for the remaining 371 firms, composing 82.68% of the market capitalization of the S&P 500, equals 13.49%.

Q. How did you measure market risk on a security-specific basis?

A. Beta measures risk in a portfolio context. When multiplied by the market risk premium, a security's beta produces a market risk premium specific to that security. I used Value Line's betas and a regression analysis to estimate the beta of my Utility sample.

Value Line estimates beta for a security with the following model using an ordinary least-squares technique:[15]

$$R_{j,t} = a_j + \beta_j \times R_{m,t} + e_{j,t}$$

where $R_{j,t}$ ≡ the return on security j in period t;

$R_{m,t}$ ≡ the return on the market portfolio in period t;

a_j ≡ the intercept term for security j;

β_j ≡ beta, the measure of market risk for security j; and

[15] Statman, Meir, "Betas Compared: Merrill Lynch vs. Value Line", *The Journal of Portfolio Management*, Winter 1981.

$e_{j,t}$ ≡ the residual term in period *t* for security *j*.

A beta can be calculated for firms with market-traded common stock. Value Line calculates its betas in two steps. First, the returns of each company are regressed against the returns of the New York Stock Exchange Composite Index ("NYSE Index") to estimate a raw beta. The Value Line regression employs 259 weekly observations of stock return data. Then, an adjusted beta is estimated through the following equation:

$$\beta_{adjusted} = 0.35 + 0.67 \times \beta_{raw}.$$

The regression analysis applies an ordinary least-squares technique to the following model to estimate beta for a security or portfolio of securities:

$$R_{j,t} - R_{f,t} = \alpha + \beta (R_{m,t} - R_{f,t}) + \varepsilon_t$$

where $R_{j,t}$ ≡ the return on security *j* in period *t*;

$R_{f,t}$ ≡ the risk-free rate of return in period *t*;

$R_{m,t}$ ≡ the return on the market portfolio in period *t*;

α ≡ the intercept term for security *j*;

β ≡ beta, the measure of market risk for security *j*; and

ε_t ≡ the residual term in period *t* for security *j*.

The regression analysis beta estimate for my Utility sample was calculated in three steps. First, the U.S. Treasury bill return was subtracted from the average percentage change in the sample's stock prices and the percentage change in

the NYSE Index to estimate the portfolio's return in excess of the risk-free rate. Second, the excess returns of the Utility sample were regressed against the excess returns of the NYSE Index to estimate a raw beta. The regression analysis employs sixty monthly observations of stock and U.S. Treasury bill return data. Third, an adjusted beta is estimated through the following equation:

$$\beta_{adjusted} = 0.33743 + 0.66257 \times \beta_{raw}.$$

Q. Why do you adjust the raw beta estimate?

A. I adjust the raw beta estimate for two reasons. First, betas tend to regress towards the market mean of 1.0 over time; therefore, the adjustment should increase the accuracy of the beta estimate. Second, some empirical tests of the CAPM suggest that the linear relationship between risk, as measured by raw beta, and return is flatter than the CAPM predicts. That is, securities with raw betas less than one tend to realize higher returns than the CAPM predicts. Conversely, securities with raw betas greater than one tend to realize lower returns than the CAPM predicts. Adjusting the raw beta estimate towards the market mean of 1.0 results in a linear relationship between the beta estimate and realized return that more closely conforms to the CAPM prediction.[16] Securities with raw betas less than one are adjusted upwards thereby increasing the predicted required rate of return towards observed realized rates of return. Conversely, securities with raw betas greater than one are adjusted downwards thereby decreasing the predicted rate of return towards observed realized rates of return.

[16] Litzenberger, Ramaswamy and Sosin, "On the CAPM Approach to the Estimation of a Public Utility's Cost of Equity Capital," *Journal of Finance,* May 1980 and Blume, M., "Betas and Their Regression Tendencies," Journal of Finance, June 1975.

Q. What is the beta estimate for the Utility sample?

A. As shown in Schedule 6.07, the average Value Line beta for the Utility sample is 0.87.[17] The regression beta estimate for the Utility sample is 0.69. The average of those two estimates is 0.78.

Q. What required rate of return on common equity does the risk premium model estimate for the Utility sample?

A. The risk premium model estimates a required rate of return on common equity of 11.56% for my Utility sample. The computation of that estimate appears on Schedule 6.07.

Cost of Common Equity Recommendation

Q. Based on your entire analysis, what is your estimate of the Company's cost of common equity?

A. A thorough analysis of the required rate of return on common equity requires both the application of financial models and the analyst's informed judgment. An estimate of the required rate of return on common equity based solely on judgment is inappropriate. Nevertheless, because techniques to measure the required rate of return on common equity necessarily employ proxies for investor expectations, judgment remains necessary to evaluate the results of such analyses. Along with DCF and risk premium cost of common equity analyses, I have considered the observable 6.25% rate of return the market currently requires on less risky A-rated long-term utility debt.[18] Based on my analysis, in

[17] The Value Line Investment Survey, "Summary and Index," July 18, 2008, pp. 4-23.
[18] The Value Line Investment Survey, "Selection & Opinion," July 18, 2008.

my judgment the Company's investor-required rate of return on common equity equals 10.16%.

Q. Please summarize how you estimated the investor-required rate of return on common equity for the Company.

A. First, I estimated the investor required rate of return on common equity for my Utility sample, which is a simple average of the DCF-derived results (9.25%) and the risk premium-derived results (11.56%) for the Utility sample, or 10.41%. Second, I adjusted the Utility sample's investor required rate of return downward 25 basis points to reflect the lower risk of the Company relative to the Utility sample. Thus, the investor-required rate of return on common equity is 10.16% for Nicor Gas.

Q. How did you minimize measurement error in your cost of equity analyses?

A. The models from which the company estimate was derived are correctly specified and thus contain no source of bias. Moreover, excepting the use of U.S. Treasury bond yields as proxies for the long-term risk-free rate and overall economic growth, I am unaware of bias in my proxy for investor expectations. In addition, measurement error has been minimized through the use of a sample, since estimates for a sample as a whole are subject to less measurement error than individual company estimates.

Q. Why did you adjust your estimate of the investor-required rate of return on common equity downward to estimate the Company's cost of common equity?

A. The Utility sample serves as a proxy for the target company, Nicor Gas, and should therefore reflect the risks of the Company. If the proxy does not accurately reflect the risk level of the target company, an adjustment should be made. Since the operating risks of the Utility sample and the Company are similar, any difference in their credit ratings or implied credit ratings would be largely a function of financial risk. Therefore, a review of the relative financial risks of the Utility sample and the Company is required. The Utility sample average credit rating is approximately Baa1 from Moody's, as shown on Schedule 6.01. To estimate the risk of the Company going forward, I compared the financial strength implicit in the revenue requirement Staff recommends for the Company to utility benchmarks.

I compared the values for the financial guideline ratios that result from Staff's proposed revenue requirement to Moody's guidelines for the regulated gas distribution industry. Although Moody's does not rigidly adhere to a formula for assigning credit ratings, Moody's provides ratio ranges that may generally be seen at different rating levels for regulated gas distribution utilities. Moody's focuses on four ratios to assess financial strength: (1) earnings before interest and taxes ("EBIT") to interest coverage; (2) retained cash flow ("RCF") to total debt coverage; (3) debt to capitalization; and (4) free cash flow ("FCF") to funds from operation ("FFO") coverage.[19] Staff's recommended revenue requirement

[19] Moody's Investors Service, *Rating Methodology: North American Regulated Gas Distribution Industry (Local Distribution Companies)*, October 2006, p. 16.

for Nicor Gas results in a EBIT to interest coverage ratio of 3.97X and a debt to capitalization ratio of 42.47%, which fall within the benchmark range of an A credit rating. In addition, Staff's recommended revenue requirement results in an RCF to total debt coverage ratio of 23.44% and a FCF to FFO ratio of 21.99%, which fall within the benchmark range of an Aa and Aaa credit ratings, respectively. Together, those four ratios are consistent with an Aa3 credit rating. The financial guideline ratios from Moody's for gas distribution companies are shown below in Table 1. In summary, I conclude that Staff's revenue requirement recommendations, including my cost of equity recommendations, are indicative of a level of financial strength that is commensurate with an Aa3 credit rating for Nicor Gas.

Table 1 – Moody's Guideline Ratios

	Aaa (1)	Aa (3)	A (6)	Baa (9)
Financial Guideline Ratios				
EBIT/Interest	> 7X	5.0 – 7.0X	3.0-5.0X	2.0-3.0X
RCF/Debt	> 26%	21- 26%	15-21%	10-15%
Debt to Book Capitalization	< 30%	30 – 40%	40-50%	50-65%
FCF/FFO	> 10%	10 – (15%)	(15)-(30%)	(30)-(45%)
Staff Proposal				
EBIT/Interest			3.97X	
RCF/Debt		23.44%		
Debt to Book Capitalization			42.47%	
FCF/FFO	21.99%			
Utility sample				
EBIT/Interest			3.21X	
RCF/Debt				14.95%
Debt to Book Capitalization				55.58%
FCF/FFO		-14.57%		

The Utility sample's ratios above are indicative of a level of financial strength that is commensurate with an A3 credit rating. The Utility sample's lower level of

financial strength indicates that it is riskier than Nicor Gas. Financial theory posits that investors require higher returns to accept greater exposure to risk. Conversely, the investor-required rate of return is lower for investments with less exposure to risk. Thus, in my judgment, given the difference between the implied forward-looking credit ratings for the Company and the average credit rating of the Utility sample, the sample's average cost of common equity needs to be adjusted to determine the final estimate of the Company's costs of common equity.

Q. How are the coverage ratios calculated?

A. The EBIT to interest coverage ratio equals interest divided into the product of the before tax weighted average cost of capital and rate base. The RCF to debt coverage ratio equals total debt divided into the sum of the funds available to shareholders, non-cash items (i.e., depreciation, amortization, deferred taxes and investment tax credits) minus cash dividends. The debt to capitalization ratio equals total debt divided by the sum of total capital and an inventory adjustment. The FCF to FFO coverage ratio equals the sum of the funds available to shareholders, non-cash items and changes in working capital minus cash dividends and capital expenditures divided by the sum of the funds available to shareholders and non-cash items. The calculation of those ratios is presented in Schedule 6.08.

Q. How did you estimate the components of the above coverage ratios?

A. Each component was based on its contribution to Staff's recommended revenue requirement for Nicor Gas.[20] "Funds available to shareholders" equals Staff's recommendations for the sum of the weighted costs of common equity and preferred stock times rate base.[21] Depreciation, amortization, deferred taxes and investment tax credits, and capital expenditures equal Staff's recommended amounts for those items.[22] The interest component equals the product of Staff's recommendations for cost of short term debt and the short-term debt balance plus long-term debt interest.[23] Total debt equals the sum of Staff's recommended balance of short-term debt and long-term debt. The common stock cash dividend equals the product of funds available to shareholders and the Company's forecasted 2009 payout ratio of 100%.[24]

Q. How did you estimate the adjustments to the cost of common equity of the Utility sample?

A. The 25 basis point adjustment equals the spread between Baa1 and A2 30-year utility debt yields.[25] The spreads for 30-year utility debt yields as of July 23, 2008, are presented on Schedule 6.10. To determine the credit rating Nicor Gas' financial ratios fall within relative to the Utility sample, I subtracted the average financial strength of Nicor Gas of 4.0 (Aa3) from the Utility sample average financial strength of 6.75 (A3). I then multiplied the 2.75 result by 60%, which is

[20] The inventory adjustment does not effect the revenue requirement. It is based on the Co. Supplemental Resp. to Staff DR JF 8.01.
[21] Staff's recommended common equity ratio for the Company can be found in Staff Ex. 5.0, Sch. 5.1; Staff's recommended rate base can be found in Staff Ex. 1.0, Schedule 1.03.
[22] Depreciation, amortization, and deferred taxes and investment tax credits are from Staff Ex. 1.0, Sch. 1.01. Capital expenditures are derived from Staff Ex. 4.0, Sch. 4.02.
[23] Staff's recommended cost of short term debt and short-term debt balance for the Company can be found in Staff Ex. 5.0, Sch. 5.01. The interest on long-term debt can be found in Staff Ex. 5.0, Sch. 5.5.
[24] Co. Resp. to Staff DR SK 5.02.
[25] Reuters Corporate Spreads for Utilities, www.bondsonline.com, July 23, 2008.

the percent of the overall credit rating that Moody's assigns to the financial ratios. I then subtracted the product of 2.75 and 60%, or 1.65, from the score of 8 that Moody's assigns to Utility sample's average credit rating Baa1 to get a score of 6 (rounded from 6.35 credit rating for Nicor Gas), which is equivalent to an implied A2.

Q. Does your cost of common equity recommendation take into account Riders VBA, UEA, CUA or QIP that the Company is proposing in this case?

A. No. My cost of common equity recommendation does not account for the lower risk associated with the revenue decoupling mechanism (Rider VBA), the bad debt expense adjustment (Rider UEA), the company use adjustment (Rider CUA) or the accelerated infrastructure replacement mechanism (Rider QIP) the Company proposes in this proceeding. If the Commission approves any of the Company's proposed riders, then a downward adjustment to my cost of equity recommendation would be appropriate since my cost of common equity recommendations is based on the Company's risk going forward without Commission approval of any new riders.

Q. How would Rider VBA affect the risks and costs of capital of the Company?

A. The gas decoupling rider the Company proposes would effectively separate the gas utility's fixed cost recovery from the amount of gas that it sells, which would result in actual utility revenues that more closely track its projected revenue requirement.[26] This revenue stabilization would increase the probability that the utility will earn its authorized rate of return and reduce cash flow volatility. Moody's states that rate designs that compensate the gas utility for margin

[26] Co. Ex. 14.0, pp. 43-46.

losses caused by conservation and weather-related variations in gas consumption stabilize the utility's credit metrics and credit ratings.[27] Hence, use of a gas decoupling mechanism would reduce the risk of the gas utility. A downward adjustment to the rate of return on common equity is appropriate to recognize the reduction in risk associated with the use of a decoupling mechanism.

Q. How would Rider UEA affect the risks and costs of capital of the Company?

A. The uncollectible expense adjustment rider ("bad debt rider") the Company proposes would reduce the volatility in bad debt expense, which would result in actual utility costs that more closely track its projected revenue requirement. This cost recovery provides the utility greater assurance that the authorized rate of return will be earned. Rider UEA includes a provision for credits to customers if the actual amount of uncollectible expense is less than 95% of the amount approved in this rate case.[28] Had Rider UEA been in effect the past ten years, the Company would not have credited customers even once. In fact, nine of the past 10 years the Company would have increased customer bills since uncollectible expense exceeded the amount approved in the prior rate case by more than 105%.[29] Since Rider UEA would reduce the volatility in cash flow, it would reduce the risk of the gas utility. Therefore, a downward adjustment to the rate of return on common equity is appropriate to recognize the reduction in risk associated with the use of a bad debt rider.

[27] Moody's Investors Service, *Special Comment - Impact of Conservation on Gas Margins and Financial Stability in the Gas LDC Sector*, June 2005.
[28] Co. Ex. 14.0, pp. 34-35.
[29] Co. Resp. to Staff DR SK 2.02

Q. How would Rider CUA affect the risks and costs of capital of the Company?

A. The company use adjustment rider proposed by the Company would ensure that the Company will recover the price of company use gas even if the price of gas deviates from that used to develop base rates.[30] Thus, the Company's exposure to gas price volatility will be significantly reduced.[31] This price stabilization provides the utility greater assurance that the authorized rate of return will be earned. Hence, use of a company use adjustment rider would reduce the risk of the gas utility. A downward adjustment to the rate of return on common equity is appropriate to recognize the reduction in risk associated with Rider CUA.

Q. How would Rider QIP affect the risks and costs of capital of the Company?

A. Rider QIP's effect on the Company's risk (and thus, its costs of capital) is a function of how it would operate. In comparison to rate base cost recovery, the recovery of the capital costs of projects run through Rider QIP would be timelier. All else equal, this reduction in regulatory lag reduces the risk of Rider QIP projects. In addition, the Company is proposing that the rider include a true-up. All else equal, a true-up increases the probability that the utility will recover all of QIP costs, including a return on the capitalized costs, relative to rate base costs. This increased certainty of more timely cost recovery would decrease the risk of Rider QIP projects. Thus, a downward adjustment to the Company's costs of common equity would be appropriate for Rider QIP.

[30] Co. Ex. 14.0, pp. 38-42.
[31] Co. Ex. 14.0, p. 39.

Q. How should the cost of common equity for Nicor Gas be adjusted if the Commission approves any of the riders?

A. Each rider should be examined individually to asses the appropriate reduction in risk for the Company for each rider. Moody's analysis of gas utilities focuses on four core rating factors: sustainable profitability, regulatory support, ring fencing, and financial strength and flexibility.[32] To determine the ratings of gas utilities, Moody's measures each of these core factors using a set of metrics or "sub-factors" and applies a weight to each sub-factor based on relative importance. Next, the potential outcomes for each sub-factor are assigned to a Moody's rating category (i.e., Aaa, Aa, A, Baa, Ba, B, Caa). To determine the overall rating, each of the eight assigned sub-factor ratings is converted into a numeric value[33] and multiplied by its assigned weight. The weighted average is then translated into the overall rating.[34]

The sustainable profitability factor includes two sub-factors, return on equity ("ROE") and operating income relative to customer base, which assess a firm's ability to remain profitable and efficient despite the inherent volatility associated with the gas sector. Moody's assigns the ROE factor a 15% weight in determining the overall credit rating score.

Regulatory support considers the strength of the utility's relationship with the regulatory commission. Moody's states that the ability of the utility to recover

[32] Moody's Investors Service, *Rating Methodology: North American Regulated Gas Distribution Industry (Local Distribution Companies)*, October 2006.
[33] Aaa = 1, Aa = 3, A = 6, Baa = 9, Ba = 12, B = 15 and Caa =18.
[34] The overall rating might differ from the actual, assigned rating due to the utilities being in a state of transition. (Moody's Investors Service, *Special Comment - Impact of Conservation on Gas Margins and Financial Stability in the Gas LDC Sector*, June 2005, p. 19).

allowed expenses in a timely manner and earn its authorized rate of return is a very important component of the utility/regulator relationship. A utility's score on this factor would improve with approval of a mechanism that allows it to timely adjust rates to cover all costs of service since its ability to earn its authorized rate of return would be enhanced. Moody's assigns a 10% weight to the regulatory support factor when determining the overall credit rating score.

Although Moody's does not identify the precise impact that each rider would have on these two factors, enhancing the utility's ability to earn its authorized rate of return would be viewed favorably and could increase the scores assigned to the ROE and regulatory support factors. Hence, I assumed that the credit ratings assigned to each of these factors would improve by one credit rating (i.e., 3 points on the numeric scale) if either Rider VBA or UEA is approved, a half a credit rating (i.e., 1.5 points on the numeric scale) if Rider CUA is approved and a quarter rating (i.e., 0.75 points on the numeric scale) if Rider QIP is approved. My recommendations are based on the estimated potential contributions of each rider to revenue. Riders VBA and UEA have a greater potential to influence the revenues of the Company and thus improve the credit rating for each factor by one credit rating.[35] Over the past five years, the average revenue impact for Riders VBA and UEA, had they been in effect, would have been $13.5 million and $16.5 million, respectively. However, Riders CUA and QIP have a smaller impact on the Company's earnings; therefore, I assumed that the credit rating for each factor would improved by half a credit rating and a quarter credit rating, respectively.[36] Over the past five years, the average revenue impact for Rider

[35] Co. Resp. to Staff DR SK 2.01 and 2.02.
[36] Co. Resp. to Staff DR SK 2.03; Co. Resp. to Staff DR DLH 10.05.

CUA, had it been in effect, would have been $7.5 million. The Company estimates that the impact of Rider QIP on revenue would be $3.4 million. Since the ROE and regulatory support factors comprise 25% of the overall weighting, raising the scores for these two factors by the number of rating points I described above (i.e., 3 ratings points for Riders VBA and UEA, 1.5 ratings points for Rider CUA, and 0.75 ratings points for Rider QIP) would result in the following improvements in the overall credit rating:

Rider	Overall Credit Rating Adjustment	Recommended Adjustment for Rider
VBA	.75	.065%
UEA	.75	.065%
CUA	.375	none
QIP	.188	none

Specifically, if the overall credit rating for a company is A2 and all four riders are approved, then the same A2 company before rider approval would likely improve just over two notches[37] to Aa3. Hence, I recommend that the return on common equity for Nicor Gas be reduced by the 13 basis point spread[38] between the Company's going forward credit rating of A2 and Aa3 if the Commission approves all four riders.

[37] The 2 notches is determined by adding .75 (VBA) + .75 (UEA) +.375 (CUA) +.188 (QIP), then rounding the sum of 2.063 to 2.
[38] The spread is presented in Schedule 6.08.

RESPONSE TO COMPANY WITNESS MAKHOLM

Q. Please evaluate Dr. Makholm's analysis of Nicor Gas' cost of common equity.

A. Dr. Makholm's analysis contains significant errors that lead him to over-estimate Nicor Gas' cost of common equity:[39]

1. The sustainable growth rate is overstated because it assumes all new equity is issued at market prices.

2. He failed to make a downward adjustment to his cost of common equity estimate to reflect the lower risk of Nicor Gas relative to the proxy sample from which his estimate was based.

3. He made an unwarranted upward adjustment to his cost of common equity estimate to compensate for flotation costs that he neither demonstrated to have been incurred for the benefit of Nicor Gas' utility operations nor verified to remain unrecovered.

Growth Rate Estimate

Q. How is Dr. Makholm's sustainable growth rate methodology flawed?

A. The "SV" component of the sustainable growth rate estimates is flawed. The SV component of Dr. Makholm's sustainable growth rate estimates, which is intended to measure the expected growth from new common stock issuances, is

[39] My decision not to address any particular aspect of Dr. Makholm's analysis should not be construed as agreement with that aspect.

overstated due to his assumption that all new common stock will be issued at the prevailing market price. Dr. Makholm states that investors can expect growth through the sale of new stock, S, at a premium over book value, V.[40] To estimate that premium, Dr. Makholm divided the year-end 2006 book value per share into the adjusted closing market price as of January 30, 2008.[41, 42] That data produces an average market value to book value ratio for Dr. Makholm's sample of approximately 1.7x. However, the Company has not provided any documentation to support the assumption that the new common stock *was*, let alone *will be*, issued at a 70% premium to book value. Indeed, when asked to provide information relating to the price at which companies in his sample issued new common stock, Dr. Makholm stated that he "did not collect such information."[43] Thus, the 1.7x average book value to market value ratio assumed for Dr. Makholm's sample and the resulting sustainable growth rate estimates are upwardly biased. In fact, given the use of stock options for officer and employee compensation, some, if not all, of the new common stock issuances for the companies in Dr. Makholm's sample represent exercised stock options, which were issued at a price below the prevailing market price. To the degree that any new common stock is issued at less than a 70% premium over book value, the SV component of the sustainable growth rate estimates is overstated.

[40] Co. Ex. 10.0, p. 24.
[41] He adjusts the January 30, 2008 closing market price data to remove the accrued portion of the next expected dividend. Co. Ex. 10.0, pp. 20-22.
[42] Co. Exs. 10.6 and 10.10.
[43] Co. Resp. to Staff DR SK 4.08.

Relative Risk Adjustment

Q. Why is a downward adjustment to the results of Dr. Makholm's sample necessary?

A. As I noted previously, it is necessary to asses the financial strength of the Company and of the sample. As shown on Schedule 6.01, Dr. Makholm's Utility sample has an average credit rating of A3/Baa1. To estimate the risk of the Company going forward, I compared the financial strength implicit in Nicor Gas' recommended revenue requirement to the Moody's gas utility financial benchmarks discussed previously.

Nicor Gas' recommended revenue requirement results in an EBIT to interest coverage ratio of 6.05X and a debt to capitalization ratio of 33.82%, which fall within the benchmark range of an Aa credit rating. In addition, the Company's recommended revenue requirement results in a RCF to total debt coverage ratio of 33.76% and an FCF to FFO ratio of 10.36%, which fall within the benchmark range of Aaa and Baa, respectively. Together, those four ratios are consistent with an Aa3 credit rating. The financial ratios are shown below in Table 2. In summary, I conclude that Nicor Gas' revenue requirement recommendations, including its cost of equity recommendations, are indicative of a level of financial strength that is commensurate with an Aa1 credit rating.

Table 2

	Nicor Gas 2009 Forecasted Ratios	Rating Category Indicated
Company Proposed		
EBIT/Interest	6.05X	Aa (5.0-7.0X)
RCF/Debt	33.76%	Aaa (>26%)
Debt to Book Capitalization	33.82%	Aa (30-40%)
FCF/FFO	10.36%	Aaa (>10%)
Indicated Financial Strength	**Aa1**	

Nicor Gas's proposed rates would result in an overall credit rating of Aa3[44] for the Company. In contrast, Dr. Makholm's proxy sample has an average credit rating of A3/Baa1. A comparison of the average credit ratings indicate that Dr. Makholm's sample is riskier, overall, than the target company, Nicor Gas, for which it serves as a proxy. Thus, to estimate the required rate of return on common equity for Nicor Gas, a downward adjustment to the results of Dr. Makholm's sample is necessary. Dr. Makholm's failure to make such an adjustment causes him to overestimate the required rate of return on common equity for Nicor Gas.

Q. Dr. Makholm states that his sample selection criteria satisfy his first basic objective to assemble a group of companies with publicly-traded stock that are representative, on average, of the business risk faced by Nicor Gas' natural gas distribution operations.[45] Please comment.

A. A company's overall risk is composed of two types of risk, business risk and financial risk. Dr. Makholm's sample selection criteria only address the business

[44] I used the same methodology to assess the relative overall risk of Nicor Gas resulting from the Company's proposed revenue requirement as I did to assess the relative overall risk of Nicor Gas resulting from Staff's proposed revenue requirement.
[45] Co. Ex. 10.0, p. 14.

risk portion of total risk. Moreover, Dr. Makholm's sample selection criteria, which limited his sample to gas and electric utility companies covered by Value Line that derive at least 80 percent of operating revenues from regulated utility operations, provides a general comparison of business risk faced by Nicor Gas and the companies in his sample. However, Nicor Gas is financially stronger than the Utility sample, which indicates that Dr. Makholm's sample has a higher degree of financial risk than Nicor Gas. The cost of equity adopted for setting Nicor Gas' rates should reflect the total risk of Nicor Gas, not just its business risk.

Flotation Cost Adjustment

Q. Why is Dr. Makholm's adjustment for flotation costs inappropriate?

A. The Commission Order from Commonwealth Edison Company, Docket No. 94-0065, states that "The Commission has traditionally approved [flotation cost] adjustments only when the utility anticipates it will issue stock in the test year or when it has been demonstrated that costs incurred prior to the test year have not been recovered previously through rates."[46] Moreover, that Order states that "[the utility] has the burden of proof on this issue." Thus, flotation costs are to be allowed only if a utility can verify both that it has incurred the specific amount of flotation costs for which it seeks compensation and that those costs have not been previously recovered through rates. The Company has done neither.

Dr. Makholm's common stock flotation cost adjustment would compensate Nicor Gas for an assumed issuance cost of 4.18%, based on issuance costs incurred

[46] Order, Docket No. 94-0065, pp. 93-94.

by Nicor Gas' parent, Nicor, Inc., and a generalized flotation cost estimate based on a study of electric utilities.[47] The Company has not demonstrated that it actually incurred common stock flotation costs of that magnitude. First, the 4.18% issuance cost estimate includes Nicor, Inc. common stock issuances, the proceeds from which the Company has failed to demonstrate were used for Nicor Gas' utility operations. Second, Nicor Gas has provided no documentation that verifies the "Estimated Company's Expenses" shown on Co. Ex. 10.12 for which it seeks compensation. Third, the Commission has repeatedly rejected generalized flotation cost adjustments in previous cases as an inappropriate basis for raising utility rates.[48]

The above discussion notwithstanding, even if the Company had verified that it incurred 4.18% flotation costs, it has not demonstrated that the issuance costs it has incurred have not previously been recovered through rates. The Company implies that it has not previously recovered its flotation costs through rates, stating that the Commission has not previously allowed recovery of flotation costs. However, the Company has provided no documentation to support this claim. Moreover, the Commission has stated that the lack of a reference to recovery of such costs in previous orders is not sufficient evidence to support an adjustment for flotation costs.[49] Thus, Dr. Makholm's argument for a flotation cost adjustment is unsubstantiated and should be rejected.

[47] Co. Ex. 10.0, p. 30 and Nicor Gas workpaper WP (D-5).
[48] Order, Docket No. 01-0696, September 11, 2002, pp. 23-24; Order, Docket Nos. 02-0798/03-0008/03-0009 (Cons.), October 22, 2003, pp. 83 and 89; Order, Docket Nos. 01-0465/01-0530/01-0637 (Cons.), March 28, 2002, pp. 75 and 79; Order, Docket No. 04-0779, p.94; Order, Docket Nos. 07-0241/07-0242, February 5, 2008, p. 102.
[49] Order, Docket No. 91-0193, March 18, 1992, p. 106.

Q. If the Commission authorizes a flotation cost adjustment in the instant proceeding, how should it be calculated?

A. If the Commission would allow Nicor Gas to recover a return on flotation costs incurred, but not recovered, then it should be calculated using the following formula:

$$\text{Issuance Cost Adjustment} = \frac{\text{ROE x Unrecovered Issuance Cost}}{\text{Common Equity Balance}}$$

where *ROE* is the investor required rate of return on common equity and *unrecovered issuance cost* only includes those costs that the Company has verified (1) were incurred to raise funds for utility purposes, and (2) have not been recovered. The Commission has previously accepted this methodology.[50]

For example, using Nicor Gas' average 2009 balance of common equity of $651,055,254, an investor-required rate of return on common equity of 10.16%, and assuming $478,277 in unrecovered common equity issuance costs, the common equity issuance cost adjustment would equal 0.01%.

Q. Does this conclude your direct testimony?

A. Yes, it does.

[50] Order, Docket No. 02-0837, October 17, 2003, p. 40; Order, Docket No. 01-0444, March 27, 2002, p. 16; and Order, Docket No. 99-0130, August 25, 1999, p. 10.

VERIFICATION

I, Sheena Kight-Garlisch, being first duly sworn, depose and state that I am a Senior Financial Analyst in the Finance Department of the Financial Analysis Division of the Illinois Commerce Commission; that I sponsor the foregoing Direct Testimony of Sheena Kight-Garlisch; that I have personal knowledge of the information stated in the foregoing Direct Testimony; and that such information is true and correct to the best of my knowledge, information and belief.

Sheena Kight-Garlisch
Illinois Commerce Commission

Subscribed and sworn to before me
this 27th day of August, 2008.

Notary Public

OFFICIAL SEAL
LISA BOWMAN
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES 12-9-2011

Northern Illinois Gas Company

Staff's Utility Sample

	Company	Ticker	Moody's Credit Rating
1	Avista Corp.	PNY	A3
2	Nicor Inc.	NWN	A3
3	Northwest Natural Gas Co.	GAS	A3
4	Piedmont Natural Gas	SWX	Baa3
5	Southwest Gas Corp.	VVC	Baa1
6	Vectren Corp.	AVA	Baa3
7	Wisconsin Energy Corp.	WEC	A3
	Average		Baa1

Makholm's Utility Sample

8	MGE Energy Corp.	MGEE	Aa3
	Makholm's Sample Average		A3/Baa1

Northern Illinois Gas Company	A2

Northern Illinois Gas Company

The Non-Constant Growth Discounted Cash Flow Model

The formula for measuring the cost of common equity, *k*, when growth, *g*, does not become constant until period φ, is as follows:

$$k = \left[\frac{D_{1,1}(1+k)^{\varphi-0.25} + D_{1,2}(1+k)^{\varphi-0.50} + D_{1,3}(1+k)^{\varphi-0.75} + \ldots + D_{\varphi,4} + P_{\varphi,4}}{P} \right]^{\left(\frac{1}{x+\varphi-0.25} \right)} - 1$$

where: P ≡ the current market value;

$D_{\varphi,q}$ ≡ the expected dividend at the end of quarter q in year φ, where q = 1 to 4 and φ = the number of periods until the steady-state growth period;

k ≡ the cost of common equity;

x ≡ the elapsed time between the stock observation and first dividend payment dates, in years; and

$P_{\varphi,4}$, the market value at the beginning of the steady-state growth stage, is calculated from the following equation:

$$P_{\varphi,4} = \frac{\sum_{q=1}^{4} D_{\varphi,q}(1+g_l)(1+k)^{1-[x+0.25(q-1)]}}{k - g_l}$$

where: $D_{\varphi,q}$ ≡ the dividend paid in quarter q during the last year of the transitional growth stage; and

g_l ≡ the steady-state growth rate.

Docket No. 08-0363
ICC Staff Exhibit 6.0
Schedule 6.03

Northern Illinois Gas Company

Utility Sample

Growth Rate Estimates

	Company	Growth Rates Stage 1[1]	Stage 2[2]	Stage 3[3]
1	Avista Corp.	5.00%	5.00%	5.00%
2	Nicor Inc.	5.75%	5.38%	5.00%
3	Northwest Natural Gas Co.	6.50%	5.75%	5.00%
4	Piedmont Natural Gas	5.40%	5.20%	5.00%
5	Southwest Gas Corp.	8.00%	6.50%	5.00%
6	Vectren Corp.	6.26%	5.63%	5.00%
7	Wisconsin Energy Corp.	9.60%	7.30%	5.00%

[1] Zacks 3-5 year earnings per share growth rate estimate (Zacks Investment Research, Inc.)

[2] Equals the average of Stage 1 and Stage 3 growth rates.

[3] The implied 20-year forward U.S. Treasury rate in ten years ($_{20}f_{10}$), based on the 10- and 30-year U.S. Treasury rates as of July 22, 2008. (The Federal Reserve Board, Federal Reserve Statistical Release: Selected Interest Rates, H.15 Daily Update, http://www.federalreserve.gov/releases/H15/update/, July 22, 2008.)

Northern Illinois Gas Company

Utility Sample

Prices and Dividends

	Company	Current Dividend $D_{0,1}$	$D_{0,2}$	$D_{0,3}$	$D_{0,4}$	Next Dividend (D1) Payment Date	7/22/2008 Stock Price
1	Avista Corp.	$ 0.150	$ 0.150	$ 0.165	$ 0.165	9/15/2008	$ 20.95
2	Nicor Inc.	0.465	0.465	0.465	0.465	11/1/2008	$ 39.74
3	Northwest Natural Gas Co.	0.355	0.375	0.375	0.375	8/15/2008	$ 45.23
4	Piedmont Natural Gas	0.250	0.250	0.260	0.260	10/15/2008	$ 26.07
5	Southwest Gas Corp.	0.215	0.215	0.215	0.225	9/2/2008	$ 28.25
6	Vectren Corp.	0.315	0.325	0.325	0.325	9/2/2008	$ 29.33
7	Wisconsin Energy Corp.	0.250	0.250	0.270	0.270	9/1/2008	$ 43.74

Docket No. 08-0363
ICC Staff Exhibit 6.0
Schedule 6.05

Northern Illinois Gas Company

Utiltiy Sample

Expected Quarterly Dividends

	Company	$D_{1,1}$	$D_{1,2}$	$D_{1,3}$	$D_{1,4}$
1	Avista Corp.	$ 0.165	$ 0.165	$ 0.173	$ 0.173
2	Nicor Inc.	0.492	0.492	0.492	0.492
3	Northwest Natural Gas Co.	0.375	0.399	0.399	0.399
4	Piedmont Natural Gas	0.260	0.260	0.274	0.274
5	Southwest Gas Corp.	0.225	0.225	0.225	0.243
6	Vectren Corp.	0.325	0.345	0.345	0.345
7	Wisconsin Energy Corp.	0.270	0.270	0.296	0.296

Docket No. 08-0363
ICC Staff Exhibit 6.0
Schedule 6.06

Northern Illinois Gas Company

Utility Sample

Non-Constant Growth DCF Cost of Common Equity Estimates

	Company	Estimate
1	Avista Corp.	8.35%
2	Nicor Inc.	10.32%
3	Northwest Natural Gas Co.	8.96%
4	Piedmont Natural Gas	9.34%
5	Southwest Gas Corp.	9.04%
6	Vectren Corp.	10.21%
7	Wisconsin Energy Corp.	8.51%
	Average	9.25%

Docket No. 08-0363
ICC Staff Exhibit 6.0
Schedule 6.07

Northern Illinois Gas Company

Risk Premium Analysis

Interest Rates as of July 22, 2008

U.S. Treasury Bills		U.S. Treasury Bonds	
Discount Rate	Effective Yield	Equivalent Yield	Effective Yield
1.48%	1.51%	4.67%	4.72%

Risk Premium Cost of Equity Estimate

Risk-Free Rate		Beta		Risk Premium		Cost of Common Equity
4.72%	+	0.78	*	(13.49% - 4.72%)	=	11.56%

Northern Illinois Gas Company

Ratios

Components

Before Tax Weighted Average Cost of Capital =	Weighted Cost of Short-Term Debt + Weighted Cost of Long-Term Debt + Weighted Cost of Preferred Stock ÷ (1 - Composite Tax Rate) + Weighted Cost of Equity ÷ (1 - Composite Tax Rate)
Funds Available to Shareholders =	(Weighted Cost of Equity + Weighted Cost of Preferred Stock) * Rate Base
Non-Cash Items =	Depreciation & Amortization + Deferred Taxes and Investment Tax Credits
Funds From Operations =	Funds Available to Shareholders + Non-Cash Items
Cash Dividends =	Cash Preferred Stock Dividends + (Funds Available to Shareholders * Payout ratio)
Free Cash Flows =	Funds From Operations + Changes in Working Capital -Cash Dividends - Capital Expenditures
Interest =	(Weighted Cost of Short-term Debt * Short-Term Debt Balance) + Long-term Debt Interest
Total Debt =	Short-term Debt Balance + Long-term Debt Balance
Adjusted Capitalization =	Total Capital + Inventory Adjustment[1]

Ratios

EBIT / Interest Coverage =	(Before Tax Weighted Average Cost of Capital * Rate Base) ÷ Interest
RCF /Debt =	(Funds From Operations - Cash Dividends) ÷ Total Debt
Debt/ Captialization =	Total Debt ÷ Adjusted Capitalization
Free Cash Flows / Funds From Operations =	Free Cash Flows ÷ Funds From Operations

1 The Inventory Adjustment is the 2009 adjustment presented in the Company's supplemental response to Staff DR JF 8.01 adjusted for taxes.

Docket No. 08-0363
ICC Staff Exhibit 6.0
Schedule 6.09

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Components

Before Tax Weighted Average Cost of Capital = 0.36% + 2.39% +(0.007% ÷ (1-0.39745)) + (4.95% ÷ (1-0.39745)) = 10.97%

Funds Available to Shareholders = (4.95% + 0.00%) x $1,317,678 = $65,225

Non-Cash Items = $177,904 + -10,055 = $167,849

Funds From Operations = $65,225 + $167,849 = $233,074

Cash Dividends = $67 + (65,225 * 100%) = $65,292

Free Cash Flows = $233,074 + $84,142 - $65,292 - $200,666 = $51,258

Interest = ($235,917 * 2.09%) + $31,485 = $36,416

Total Debt = $235,917 + $479,978 = $715,895

Adjusted Capitalization = $1,368,335 + $317,381 = $1,685,716

Ratios

EBIT / Interest Coverage = (10.97% * $1,317,679) ÷ $36,416 = 3.97X

RCF /Debt = ($233,074 - $65,292) ÷ $715,895 = 23.44%

Debt/ Captialization = $715,895 ÷ $1,685,716 = 42.47%

Free Cash Flows / Funds From Operations = $51,258 ÷ $233,074 = 21.99%

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Northern Illinois Gas Company

Reuters Corporate Spreads for Utilities

Ratings	30-year
Aaa/AAA	107
Aa1/AA+	155
Aa2/AA	158
Aa3/AA-	181
A1/A+	171
A2/A	194
A3/A-	205
Baa1/BBB+	219
Baa2/BBB	241
Baa3/BBB-	246