

American Gas



Foundation

Regulatory Policy of Return on Equity

*Review and Analysis of the
Natural Gas Utility Sector*

December 9, 2008

American Gas Foundation

400 North Capitol St., NW
Washington, DC 20001
www.gasfoundation.org

Regulatory Policy of Return on Equity

*Review and Analysis of the
Natural Gas Utility Sector*

December 9, 2008

Prepared for the American Gas Foundation by:



**Navigant Consulting
909 Fanin Street
Suite 1900
Houston, TX 77010**

Copyright © American Gas Foundation, 2008. All rights reserved. Some materials herein may be the copyrighted works of others produced with permission of the copyright holder.

DISCLAIMER

Legal Notice: Navigant Consulting prepared this report for the American Gas Foundation. Neither the American Gas Foundation, Navigant Consulting nor any person acting on their behalf:

1. Makes any warranty or representation, express or implied with respect to the accuracy, completeness, or usefulness of the information contained in this report, or that the use of any information, apparatus, method, or process disclosed in this report may not infringe privately-owned rights,
2. Assumes any liability, with respect to the use of, damages resulting from the use of, any information, method, or process disclosed in this report, or
3. Recommends or endorses any of the conclusions, methods or processes analyzed herein. Use of this publication is voluntary and should be taken after an independent review of the applicable facts and circumstances.

Further, Navigant Consulting has not been requested to make an independent analysis, to verify the information provided to Navigant Consulting, or to render an independent judgment of the validity of the information provided by others. As such, Navigant Consulting cannot, and does not, guarantee the accuracy thereof to the extent that such information, data, or opinions were based on information provided by others. Any projected financial, operating, growth, performance, or strategy merely reflects the reasonable judgment of Navigant Consulting at the time of the preparation of such information and is based on a number of factors and circumstances beyond their control. Accordingly, Navigant Consulting makes no assurances that the projections or forecasts will be consistent with actual results or performance.

American Gas Foundation

Founded in 1989, the American Gas Foundation is a 501(c)(3) organization that focuses on being an independent source of information research and programs on energy and environmental issues that affect public policy, with a particular emphasis on natural gas. For more information, please visit www.gasfoundation.org or contact Jay Copan, executive director, at (202) 824-7020 or jcopan@gasfoundation.org.

Navigant Consulting

Navigant Consulting, Inc. is a specialized, international consulting firm with industry expertise and integrated solutions to assist companies and their legal counsel in enhancing stakeholder value, improving operations, and addressing conflict, performance and risk related challenges. The Company focuses on industries undergoing substantial regulatory or structural change, including energy and many others. Navigant has offices in over 40 cities in North America, Europe and Asia.

Navigant Consulting's Energy Practice focuses on helping clients strengthen their enterprises by increasing performance, opportunity and growth. The Company's professionals deliver expertise includes understanding of regulatory processes, pricing, supply and demand dynamics, market design, fuel sourcing, financing, technologies and operations. Navigant Consulting's natural gas modeling and forecasting practice has extensive experience advising investors and developers in facilities for electric power generation, liquefied natural gas, pipelines and gas storage as to the forward-looking expectation for industry supply, demand, and pricing.

Table of Contents

I.	Executive Summary	1
II.	Introduction.....	8
	A. Background.....	8
	B. Process and Structure of Study	8
III.	LDC Allowed Rates of Return.....	9
	A. Allowed LDC Rates of Return over Time	9
	B. Perceptions of the Industry – Implications for Utility Sector	16
IV.	Reasons for Declines in Allowed RoE.....	28
	A. Discounted Cash Flow	29
	B. Equity Risk Premium and the Capital Asset Pricing Model	33
V.	Potential Changes and Adjustments.....	37
	A. Broaden Proxy Groups.....	37
	B. Use FERC Decisions as Reference Point, Maintain Historic Gap	37
	C. Variations on CAPM, Particularly Fama-French.....	38
	D. Restore Growth Deficiency in DCF.....	38
	E. Thresholds for Adjustments to Be Contemplated by Regulators.....	39

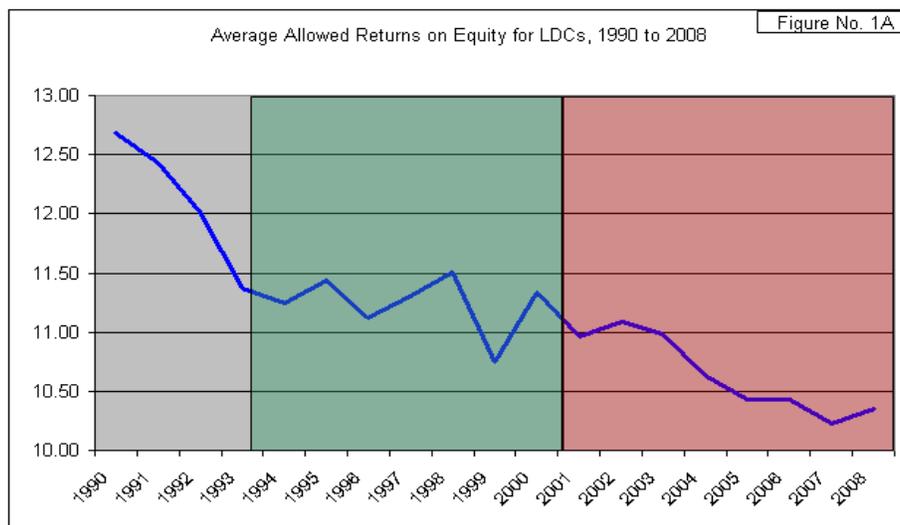
I. Executive Summary

The continued success of the utility sector to deliver natural gas safely and reliably depends upon a strong and viable infrastructure that will meet growing local distribution company (LDC) customer demands. The infrastructure development needed to address new and aging infrastructure relies heavily upon the ability of the industry to attract strong capital investment. As such, the American Gas Foundation (AGF) engaged Navigant Consulting Inc. (NCI) to examine the current processes utilized by the state public utility commissions to determine allowed returns on equity (RoE) for natural gas utilities in an effort to determine if the RoE rates being approved and established are adequate and sufficient to address U.S. pipeline and distribution infrastructure needs.

Given the diversity of state jurisdictions and policies, the effort undertaken for this study examines all state decisions over an extended period of time and relies upon statistical examinations of that large population of cases, informed by extensive interviews with financial analysts and senior industry executives, to identify and interpret trends and reasons for those trends and determine whether there is a perceived problem within the financial community. The core question posed by the study's mission statement and objectives, the impact of RoE decisions and policy on LDC infrastructure adequacy, is largely addressed through the interview process. This AGF study is intended to be an examination, and evaluation of the issues. While it observes various trends, impacts, and reasons for those impacts, it is up to other efforts to support the need for specific changes in individual proceedings. The study is intended as a backdrop to inform such efforts.

Background -- Trend in Allowed Returns

The phenomenon of steady declines in allowed LDC returns is clear, based upon an examination of some 377 PUC decisions nationwide, over the period from 1990 through 2008. In particular, the most recent period, from 2000 through 2008, has seen a steady decline from the mid 11 percent range to the low 10 percent range, with several recent decisions falling below 10 percent.



Further, the study analysis shows that this perceived decline was pervasive, with the overall distribution of returns moving to the lower levels. It also shows that there is a growing gap between the actual LDC equity ratios and the equity ratios that are actually recognized in rates – as is explained more fully in the study. Therefore, either approximately \$2 billion of LDC equity investment is treated as if it is financed with debt, thus significantly reducing the recognized cost of that investment recovered in rates, or LDCs must adopt a higher debt level, which would increase financial risk. The LDC industry is generally facing RoE decisions and policies that result in returns around and below the 10 percent level.

Summary of Findings

Multiple interviews were conducted with financial analysts (both equity and debt) and senior industry executives (primarily chief executive officers of either LDC holding companies or the LDC subsidiaries of those holding companies). To encourage the candor of those interviews and to avoid singling out specific companies or jurisdictions, the interviews are summarized and explained in the body of this study, without attribution to specific individuals. Observations and conclusions include:

- Equity analysts expressed concern that when allowed returns drift below 10 percent, financial markets see that as a “red flag” that could turn substantial investment away from the industry. This risk is particularly valid now, according to the analysts, since changes in the population of large investors toward a greater weight of hedge funds and private equity firms allows large blocks of money to move much faster than in the past in departing from an industry.
- Equity analysts also stressed that if there are other indications of a favorable regulatory environment, one of mutual trust with collaborative development of comprehensive service and rate structures by the LDC and the regulator, the perception that low allowed returns indicate an unfavorable regulatory environment is largely ameliorated. However, there is a strong concern that a jurisdiction will work to develop such balanced, collaborative approaches, use that as a basis for low returns, and then, over time, erode the quality of the balanced approaches without revisiting return. This concern strongly validates the importance of open and honest dialogue between the utilities and their regulators, such that a mutuality of trust can stay in place long-term.
- Uniformly, the executives running LDCs are committed to safety and reliability of service, and thus will strive to invest what is required to maintain those objectives, as long as they are in the LDC business. However, low returns create incentives for them to avoid discretionary investment, and for their holding companies to exit the LDC business.

- It is only in jurisdictions where allowed returns have remained at higher levels more consistent with history, or where the LDC and its regulator have developed collaborative, more holistic approaches to services and rates supplanting traditional usage-based and cost-based regulation, that these incentives are not creating negative pressure on investment.
- Except for the jurisdictions where returns have remained higher, or where other arrangements have successfully supplanted more traditional regulation, the LDCs are experiencing increasing difficulty in competing for capital. The measure of such difficulty is not the relationship to debt cost, but the relationship to alternative equity investments.
- To date, much investment and even some merger and acquisition consolidation of the LDC industry have continued, but the continuation does not mean there is not a deep concern over allowed returns – rather, the various businesses are seizing opportunities as they present themselves, with the expectation that currently depressed allowed returns are a short-term phenomenon – the managers trust the system to “self-correct” over time. If that turns out not to be the case, the risk the industry and regulators run is a fundamental loss of trust in the regulatory system, one that would have a strongly negative impact on investment.
- Thus, although low returns have created a negative pressure on investment in LDC infrastructure, little impact has been seen to date. Public markets for capital have still been accessible for LDCs, in the opinion of the analysts and senior executives because of two factors: (1) the faith in the regulatory system recited above; and (2) the currently favorable tax treatment of dividends. However, continuing downward trends in allowed returns undermine the first rationale, and political uncertainty undermines the second. In addition, the recent large concentration of equity investment in such vehicles as hedge funds is expected to make financial markets quicker to react negatively if the current negative perceptions of LDC investment persist. In short, the threat to infrastructure adequacy is a looming threat, exacerbated by low returns, a threat that could be ameliorated by some corrective action.
- Various rate-design changes, in particular “decoupling,” can provide some stabilization of LDC revenues, if properly applied. However, there is concern that regulators accord inordinate weight to these mechanisms’ impact on risk when setting returns. Further, it is believed that many times there is a potential double-counting of the effect, since regulators apply a decrement to returns developed by reference to proxy companies that have similar de-risking mechanisms. Uniformly, the interviewees believed such decrements were ill-advised and unfair.

- At the same time, other risks of the LDC business have been increasing—specifically unfunded government mandates, precipitous run-up in the cost of critical materials such as steel and in the cost of contract labor, the regulatory risk of cost disallowance, especially in periods of rapid gas-cost increase, and asymmetric regulation of uncollected gas cost (e.g., paying interest on overcollections but collecting no interest on undercollections). Additionally, in the competitive, unbundled world of today’s interstate pipelines, the risk of bypass for LDCs’ highest-volume loads is pervasive. Thus, to the extent that decoupling might tend to stabilize revenues and thus ameliorate that area of risk, these other evolving risks offset or even reverse that effect. Further, unlike the revenue volatility addressed by decoupling (which volatility could go either way – reducing earnings or increasing earnings, depending on weather), these evolving risks are “one-way,” strictly acting to the detriment of the LDC.
- The debt rating community is generally not deeply concerned with allowed return on equity, unless it gets low enough to threaten required debt coverage. That coverage cushion may be relatively smaller if the whole regulatory scheme enhances stability of revenues.
- However, the debt analysts do become concerned when allowed RoE drops to a level that forces company management to reorient investment into riskier areas to meet Wall Street expectations of growth. In other words, the allowed returns for the LDC must meet a risk-adjusted comparison with alternative investments, or the company’s stockholders will tend to push reorientation to the point that its overall revenue profile becomes more volatile, and thus its corporate debt becomes less secure.
- There is much more depth in these and other observations in the body of the AGF Study. Overall, it is fair to say that there is widespread concern over the industry’s ongoing ability to raise and retain capital. Generally senior executives feel that in the current market, returns below 10 percent are very problematic, that returns in the mid-10s are adequate to keep the businesses on an even keel, but not to win contested capital in competition with investments in other businesses with similar risk, and that returns in the low 11s, e.g., 11.25, can generally reach risk-adjusted parity with the investments with which LDCs must compete for capital.
- Clearly, the concerns raised by both financial analysts and senior executives in the industry have grown a great deal in importance in the current credit and financial turmoil. The rapidly evolving difficulties in raising all types of capital, both debt and equity, would suggest that any negatively perceived factor, such as inadequate or declining allowed rates of return, could exacerbate an already problematic situation in funding new infrastructure.

Reasons for Declines in Allowed Return

The study examines the two dominant methodologies used to set allowed RoE: Discounted Cash Flow (DCF) and the Capital Asset Pricing Model (CAPM), along with Equity Risk Premium (ERP), of which CAPM is a variation.

Very simply, the fundamental inputs to these longstanding methodologies have declined, so the resulting indicated rates of return have declined. In the case of DCF, the decline has been driven by reduced growth rates among proxy companies. In the case of CAPM (and ERP), the decline has been driven directly by the decline in interest rates over the last decade. While it is easy to identify the reasons the longstanding formulae are yielding lower results, the more difficult question is whether this effect highlights what may be infirmities in the methodologies, infirmities that were less apparent during periods of higher growth and higher interest rates.

This study explains the fundamental theory and operation of DCF and CAPM, with some generic calculations of the impact at today's input numbers. These calculations are based on a sample group of twelve proxy LDCs extracted from PUC staff testimony in a recent rate case (both the state and the LDCs are unnamed, to avoid any prejudicial reference to individual situations). Both DCF and CAPM yield average indicated returns on equity of 9.7 percent, over the twelve proxy companies. However, while the average is equal as between the methods, individual results varied by as much as 460 basis points.

These examples were useful in analyzing some of the issues presented by the application of DCF and CAPM.

- There was very wide diversity in the outcome indicated returns among the companies in the sample group: 740 basis points from the high to the low under DCF, and 630 basis points from the high to the low under CAPM. Given that the twelve-company proxy group consists of relatively similar LDCs, it is difficult to see a justification for these wide swings.
- For both DCF and CAPM, there is an inherent circularity in the use of proxy groups, in that if all the companies in the proxy group are similarly regulated, the Wall Street expectations for all of them will be similar – however, there is no test as to whether this uniform expectation is in fact adequate to compete for capital with non-LDC businesses having similar risks.
- As for DCF, there is a test performed in this study to determine whether the end result meets its own premises – that is, the DCF result is based on an investor expectation of a specific rate of growth in earnings and book value per share. It is demonstrated that, if retained earnings are the primary driver of such growth, the use of the DCF return as an allowed RoE does not generate enough cash to pay required dividends and still generate the assumed growth.

- The 9.7 percent average indicated RoE would generate only 3.5 percent and 3.4 percent growth in book value and earnings per share, respectively.
 - However, within the development of the 9.7 percent, there is a determination that investor-expected growth is 6.4 percent, leaving a 3 percent deficiency in the growth rate.
- In the case of CAPM, as noted it is just a modified version of ERP – a fixed equity risk premium over risk-free debt is assumed to exist, regardless of the current interest-rate regime. The CAPM refinement to this assumption is merely to modify that fixed risk premium by multiplying it by a “Beta” factor to reflect a particular stock’s volatility vs. the stock market at large.
 - The open issue regarding either CAPM or ERP is whether a fixed equity risk premium is a valid assumption in the first place – many experts expect that risk premium to expand at low interest rates and contract at high interest rates.
 - In other words, a broad school of thought believes the relationship between the cost of equity and the cost of debt is partial and tenuous. Even in Canada, where RoE is set by a formula tracking corporate bond rates, the “elasticity” or relationship between changes in the interest rate and changes in the RoE is less than one, presently 75 percent. Meanwhile, the Canadian gas industry strongly believes it should be even lower, probably about 50 percent.
 - The result is that CAPM or ERP will give low RoE when interest rates are low, without taking account of the equity-vs.-equity competition discussed earlier.

Potential Adjustments

This study explores several potential adjustments to the return-setting process that could work to restore allowed RoE to the levels thought by the industry and analysts to be sufficient. These potential adjustments include:

- Broadening the proxy groups to reach beyond LDCs who are regulated under the same rules and methodologies as the company being examined. This would address the circularity of current proxy approaches.
- Using FERC decisions as a benchmark, recognizing that historically LDC RoE has generally been approximately 125 basis points lower than the RoE allowed to interstate pipelines. Maintaining this historic gap would help equilibrate the competition for capital between the LDC and the pipeline in the same corporate family.

- Considering variations on CAPM, such as the Fama-French Three Factor Model, which brings into the equation small-cap and high-growth companies to attempt to gain a clearer picture of investor expectations than is yielded by CAPM's averages.
- Restoring the growth deficiency identified under DCF. In the example, this would bring the indicated return up to 12.7 percent if 100 percent of the deficiency were restored. This is somewhat higher than the 11.25 percent to 11.50 percent the senior executives indicated is needed in the current environment, so methods could be explored to restore a portion of the deficiency, still assuming that some growth might come from other sources.

An overarching point is that regardless of the types of adjustments that might be sought, the industry must establish a credible case that real public damage can result from inadequate returns, in the form of inadequate investment, lost efficiencies, etc. While RoE decisions may be challenged in court, real ongoing relief requires a cooperative relationship with regulators that acknowledges the problem and identifies the solutions.

In the case of an issue such as RoE, this is difficult, since any remedy means higher rates for consumers. However, the ultimate effect of allowed RoE being below the level required by investors may be a lessened ability to maintain and develop systems and this may result in inefficient natural gas service. Thus, substantial attention must be paid by the industry to establishing and maintaining the necessary credibility, through informal outreach, public presentations, and education such as this study.

II. Introduction

A. Background

Evaluating LDC allowed rates of return is a significantly different exercise than the review of pipeline allowed rates of return. Pipelines are subject to a single decision maker, the Federal Energy Regulatory Commission (FERC), while LDCs are subject to the jurisdiction of fifty different state public utility commissions (PUCs), and in some cases to regulation by the municipalities that they serve. In short, the approaches and the results among PUC decisions are much more diverse than is the case at the FERC, and the relationships between LDCs and their state regulators are more direct than those funneled through a central national venue.

Accordingly, this AGF study avoids singling out particular jurisdictions or companies, rather working to gain a common view across the industry of those factors or issues that do exhibit some commonality. Additionally, in part because there is not a single decision maker in the national LDC arena and in part because of the nature of AGF's mission, the AGF Study is intended as an examination of the facts and opinions it has elicited.

B. Process and Structure of Study

The body of the study consists of three major sections, Sections III through V.

In Section III, a quantitative analysis is combined with extensive interviews with financial community analysts and industry senior executives, to determine whether a pervasive problem exists or is emerging as to the rates of return being allowed to LDCs, and if there is such a problem what its implications might be for public policy. Heavy emphasis is placed here on the importance of credibility to the extent the industry claims the existence of a problem, with thoughts elicited from the interview process as to how such credibility might be enhanced.

In Section IV, to the extent that any problems in levels or trends in allowed returns have been identified in Section III, the processes and approaches used by PUCs that lead to such deficiencies or trends are identified and examined. Are there chronic forces at play that will result in long-term declines in allowed returns, or are current levels a short-term phenomenon?

Section V addresses possible changes or adjustments in observed processes, to the extent such changes or adjustments might be needed to respond to chronic issues that are identified in the study.

It is fair to say that Section III, grounded in observations of the rates of return actually being allowed and in the perspectives of the financial analysts who evaluate those companies and the senior executives of the regulated companies,

is by far the most important aspect of this study. Developing the case that allowed returns have declined, that the levels at which they are being allowed are becoming problematic for the regulated companies, and that their problems will eventually become the public's problem, is critical as a threshold that must be crossed prior to questioning the specifics or the mechanics of the return-setting process.

III. LDC Allowed Rates of Return

As noted, the determination as to whether there has been a decline in allowed rates of return on equity and the development of a case as to whether such declines have long-term public-policy implications have been approached both quantitatively, through the measurement of allowed returns over time, and qualitatively, through an extensive series of industry interviews. Section A, below, presents the quantitative analysis. Section B then uses the results of the interviews to interpret the quantitative data.

A. Allowed LDC Rates of Return over Time

In order to measure changes in allowed returns on equity over the past several years, NCI gathered all reported LDC rate cases that were resolved from 1990 through mid-2008.¹ In total nationwide, there were 532 LDC rate cases closed during that 18.5 year period, spread fairly evenly over the many regions of the country. Of those 532 rate cases, many of them were resolved such that there was no stated rate of return on equity, usually as the result of a settlement. Accordingly, there were a total of 377 decisions in which a rate of return on equity was approved by the LDC's regulator. These 377 data points are broadly spread over the 18.5 year period examined, and thus give a reasonably clear picture of the trends that have emerged in state regulation of LDCs.

The NCI analysis of these trends is conducted in two parts. First, simple averages of the allowed returns have been calculated for each year in the 18.5 year period. These will be presented in Figure No. 1A, with an amplified view of the results for the most recent period, 2000 through 2008 in Figure No. 1B.

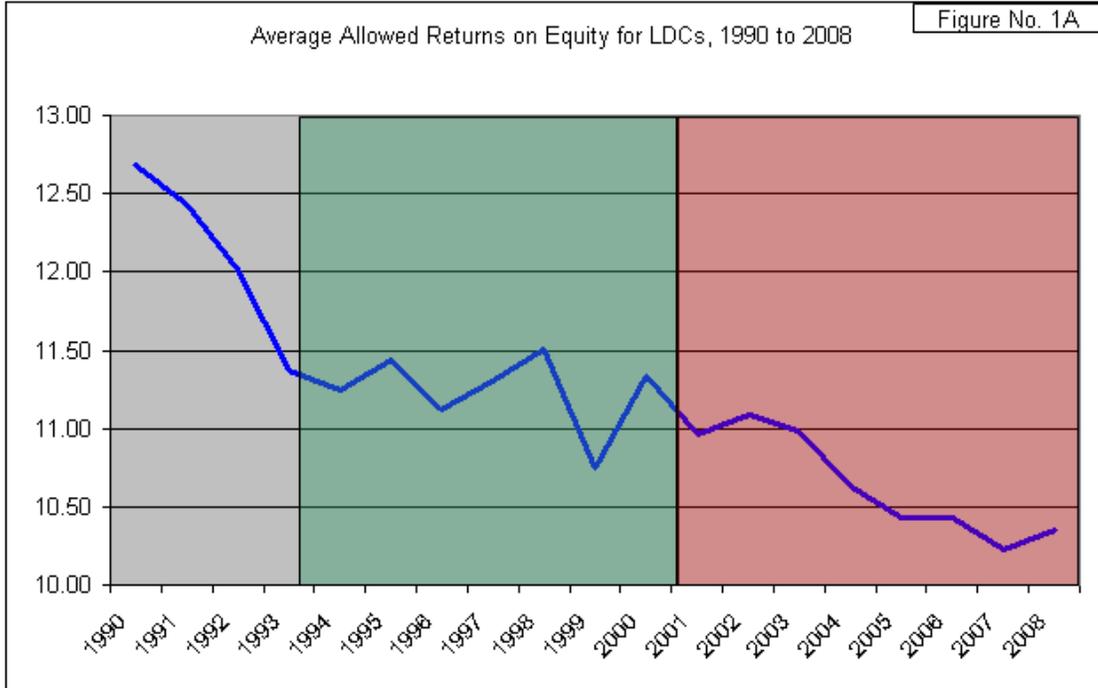
Then, recognizing that averages over diverse groups of data points might not tell the whole story, the progression of the distribution of returns is analyzed, for the Figure No. 1B period from 2000 through 2008. This progression is set forth in Figure Nos. 2A through 2C.

Then, in one additional observation, the common equity ratios to which these returns are applied have been observed over the same periods, comparing the equity ratios requested with those allowed, to determine trends in any gap between the two.

¹ Source: Regulatory Research Associates, SNL Financial, "Natural Gas, Past Rate Cases," July 2008—Data covers only the first half of 2008.

1. The Overall Average Allowed Returns, 1990 through 2007

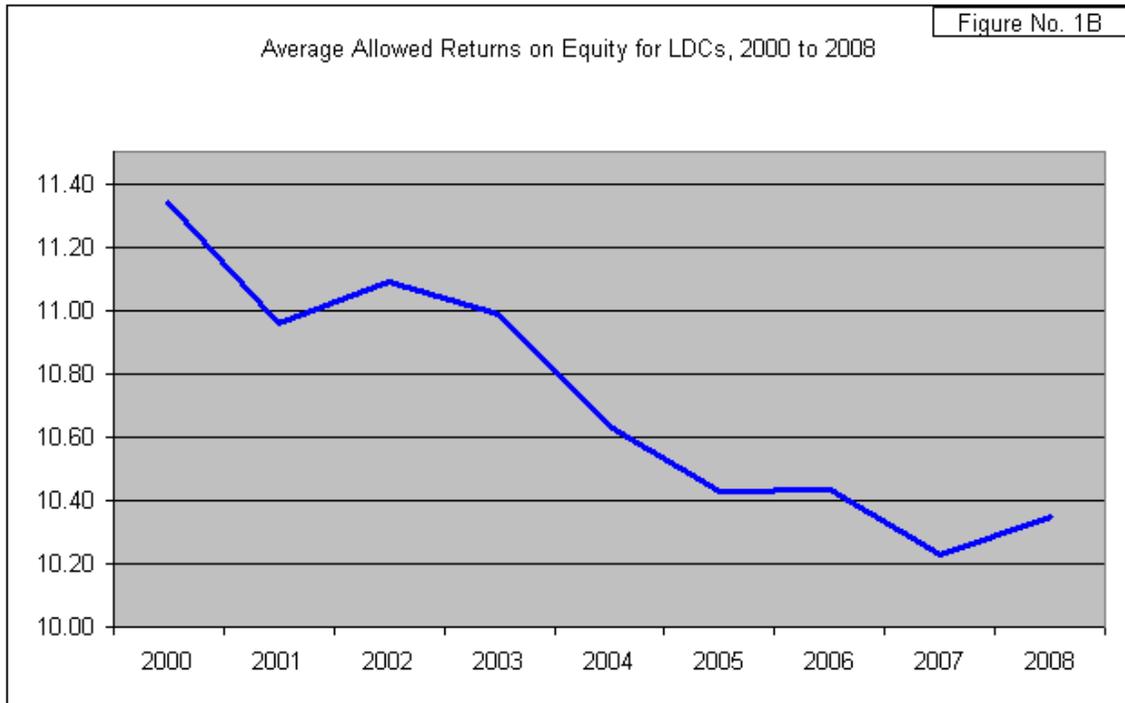
As noted, Figure 1A measures the annual averaged RoE awards across all of the 377 rate cases decided on the merits during the 1990–2008 period.²



From average levels in the 12.5 to 13 range at the beginning of the last decade, allowed returns declined into a relatively stable range between 11.0 and 11.5, from 1993 through 2000. Then a steady decline began, which has resulted in today's observed levels approaching 10 percent. In fact, there have been various recent awards below 10 percent, as will be discussed below.

² Ibid, extracted and analyzed by NCI.

The steady decline that supplanted the relative stability of the 1993–2000 period may be seen clearly with an amplified, focused observation of the 2000–2008 period, as set forth below in Figure No. 1B³:



In part, the LDC industry has experienced a phenomenon similar to that experienced by interstate natural gas pipelines: Years of stable allowed returns within a fairly predictable band, followed by sudden exposure to returns significantly lower than those observed and expected at the time large past investments were made. Whether and how this could pose a significant challenge to new investment is explored in this study, primarily through the insights gained from the interview process. It is noteworthy and encouraging that there has been a slight uptick in the first half of 2008, with allowed returns averaging approximately 10.35 percent, but still well below historic levels.

³ Same data as Figure No. 1A, stripped down to the 2000 – 2007 period only.

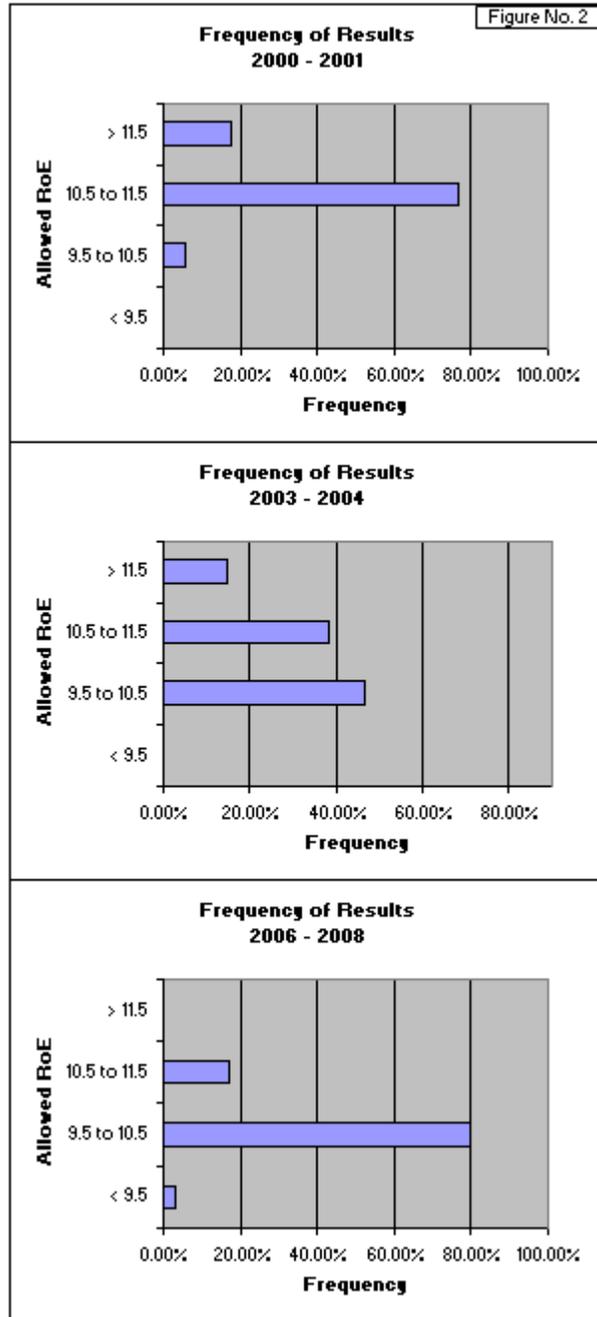
2. Distribution of the Allowed Returns

The pervasiveness of declines in allowed returns across the many jurisdictions studied is another factor that must be assessed – have the averages declined because of a few very low decisions, or has everyone’s allowed return declined significantly? Figure No. 2 explores this question, examining the frequency of various ranges of allowed returns for three periods: 2000–2001, 2003–2004, and 2006–2008⁴.

As Figure No. 2 shows, allowed returns in the first period, 2000–2001, were very tightly grouped in the 10.5 to 11.5 range – 76 percent of the allowed returns in those two years were within that range. A small group, about 18 percent, were higher, at levels above 11.5, and a much smaller group, about 6 percent, were in the 9.5 to 10.5 range. None fell below 9.5.

In the intermediate period, 2003–2004, we begin to see the decline, with the concentration moving down – to lower returns. The high (over 11.5) returns still constitute a measurable percentage, almost 15 percent of the total. However, the 10.5 to 11.5 category that dominated in 2000–2001 has dropped to 38 percent, and the lower 9.5 to 10.5 category has grown to 47 percent of total decisions.

The concentration toward significantly lower returns becomes fully apparent in the latest period, 2006–2008. Here, 80 percent of the allowed



⁴ All data are from the same source and analysis as Figure Nos. 1A and 1B—Regulatory Research Associates, SNL Financial, “Natural Gas, Past Rate Cases,” July 2008.

returns are in the 9.5 to 10.5 range (with more than half of those – 43 out of the 80 percent – being at or below 10 percent). We also see the emergence for the first time of a small percentage (one decision so far) below 9.5 percent.

Thus, there is no question that the decline in overall averages shown in Figure Nos. 1A and 1B is truly indicative of what is happening in most jurisdictions around the country. And, at a population of 377 rate case decisions, these are not anomalies.

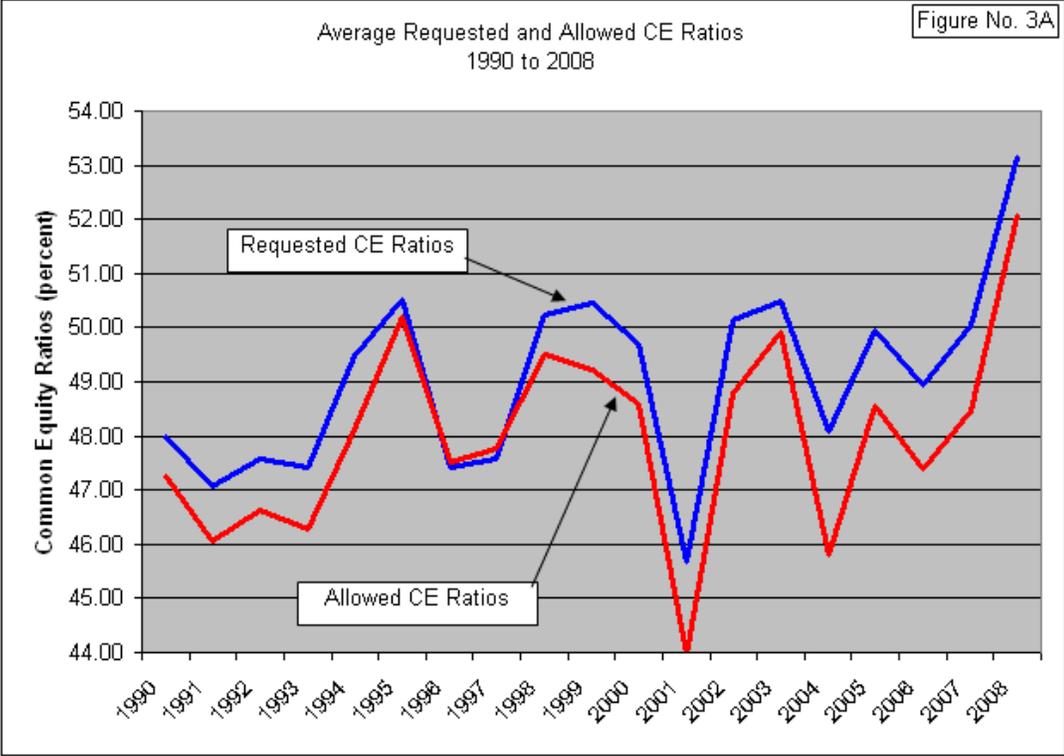
The fact of a decline in allowed returns on equity is merely that – a factual observation. The interpretation of such a decline – whether it is supportable, whether it is genuinely problematic for the industry or for public policy objectives, will depend on the actions of investors. Will they continue to invest in gas LDCs with these low returns or will they invest their capital in other businesses with similar risk that offer higher returns? An early indication of the answer to this question can be seen in the perceptions of the financial analysts and industry leaders who follow the industry.

3. Requested and Allowed Common Equity Ratios

Over the same 1990–2008 and 2000–2008 periods, the relationship between requested common equity ratios and the approved levels were examined. The common equity ratio is one of the most significant non-RoE rate elements in a rate case, in that a dollar of rate base that is deemed to be supported by debt, rather than by common equity, loses approximately 65 percent of its pre-tax earning power.⁵

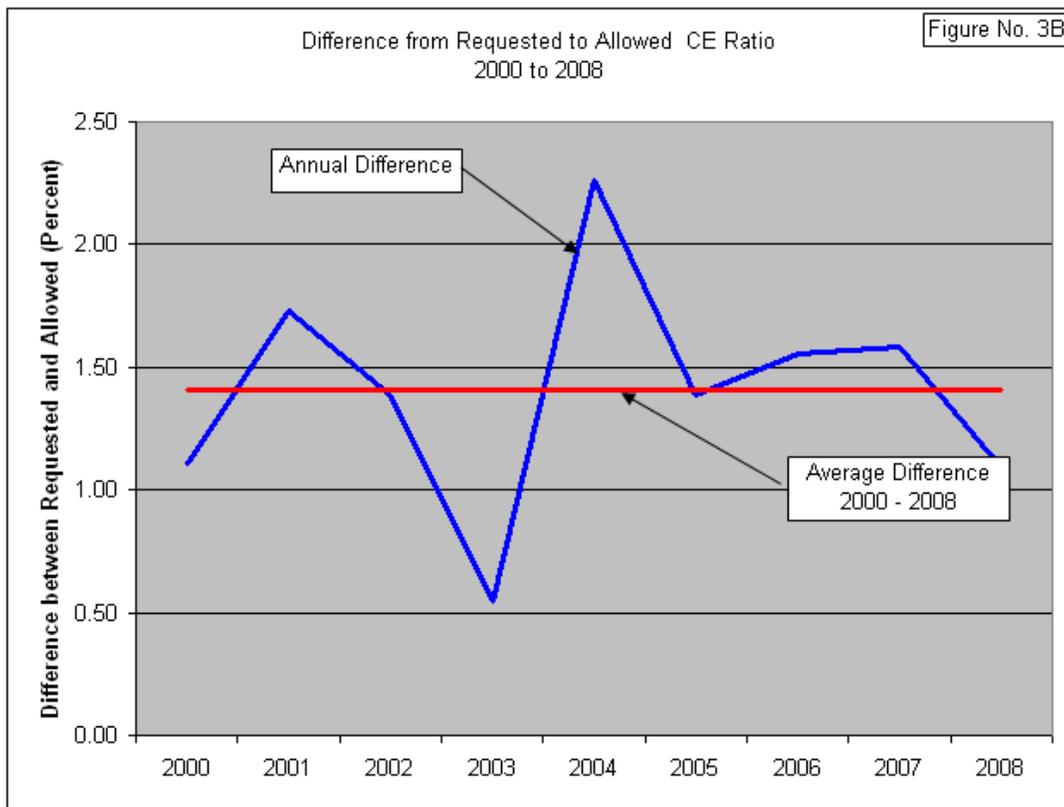
⁵Based on assumptions of an 11 percent RoE and a 6 percent interest rate, the pre-tax cost of a dollar of equity is approximately 17 percent, or 11 percentage points higher than the interest rate—thus according it only the debt cost rate under-prices the dollar of equity by 11 percent out of 17 percent, or 65 percent of its cost.

Figure No. 3A sets forth the average annual requested and allowed common equity ratios for the 348 LDC rate cases decided from 1990 through 2007 where a common equity ratio was stated. As with RoE, there were another 200 or so resolved rate cases wherein settlements did not state a number.



It is apparent from the plot that, beginning in the late 1990s, a broadening gap began emerging between the common-equity ratios represented by the LDCs themselves and those approved by regulators.

Figure No. 3B focuses on the 2000–2007 period, depicting the difference between requested and allowed common-equity ratios.



The annual decrement of allowed common–equity ratios below those requested by the LDCs has ranged between approximately 0.5 percent and slightly over 2.0 percent. The average for the eight-year period, represented by the red line, has been 1.41 percent.

This means that, on average, 1.41 percent of LDC rate base has been determined by regulators to be supported by lower-cost debt when the LDCs’ own analyses indicated that it was supported by higher-cost common equity. Using a nationwide composite rate-base value for LDCs from the middle of the observation period,⁶ this 1.41 percent difference would represent slightly more than \$2 billion of investment that is “downgraded” from equity to debt.

When this happens, the LDC is left with a difficult choice: Allow equity investors to be chronically undercompensated, earning even less than the regulator’s allowed return on equity, or refinance to higher leverage, thus incurring significantly higher financial risk. The end result of either course of action will be to disincite equity investment in the LDC.

⁶ Per AGA Gas Facts, the 2004 net investment (plant minus accrued depreciation, plus other investments such as storage) was \$168 billion for the entire US LDC industry. The total accumulated deferred income-tax balance was \$24 billion, resulting in a net rate-base value of \$144 billion. The 1.41 percent of rate base deemed to be debt rather than equity is thus worth \$2.1 billion (1.41 percent of \$144 billion).

B. Perceptions of the Industry – Implications for Utility Sector

As noted earlier, extensive interviews were conducted in 2007-2008 with equity analysts, bond rating agencies, and senior gas industry executives. The executives interviewed ranged from the chief executive officers of utility holding companies wherein the LDC business is one component, to the chief executive officers of LDC business units within holding companies, to chief executive officers of pure stand-alone LDC businesses. The geographic distribution of the selected executives spanned the lower-48 United States, from east to west and north to south. In the case of both the financial community representatives and industry executives interviewed, there is no further identification or attribution in this report, in order to avoid singling out any particular company or jurisdiction. The purpose of the interviews is to gain a sense of the industry's perception, and to gain the benefit of any insights that might have application beyond specific individual jurisdictions. Accordingly, the results of the interviews are presented within the context of thematic discussion of issues, rather than as the results of a poll.

The results are grouped around seven themes:

Theme 1 – Are allowed returns threatening capital availability?

Theme 2 – If returns are inadequate, why are you still investing?

Theme 3 – If capital gets tight, what are the consequences?

Theme 4 – How do investors view the importance of allowed RoE?

Theme 5 – How does RoE interact with other regulatory issues, such as decoupling, pass-through trackers, etc.?

Theme 6 – What is the state of LDC riskiness today, and is that level of risk reflected in allowed RoE?

Theme 7 – What sort of best practices were observed in the interaction of PUCs with the regulated LDCs?

Theme 1 – Are Allowed Returns Threatening Capital Availability?

External Competition: Certainly, favorable tax treatment of dividends has helped support utility stocks in general (although there appears to be evolving market concern over the potential for expiration of that treatment). However, concern over reductions in the allowed rate of return is beginning to show up in analyst opinions. Some of these expressions of concern see low returns as symptomatic of a broader unfavorable regulatory environment in the particular states involved, and some of the expressions of concern simply have to do with the absolute level of allowed return. One equity analyst opined that allowed returns below 10.0 percent “send up a red flag” that the LDC business may not be a good investment going forward. Additionally, analysts note that the investor population has changed substantially in recent years, with the growth of hedge funds, private equity firms, etc. These entities respond much more quickly to negative indications than did the institutional investors in the past. Thus, an

overall perception that allowed returns are inadequate could, in the view of some analysts, cause a very rapid exodus of capital from the LDC industry.

Debt-rating analysts are somewhat less concerned, depending upon the quality of regulation in a jurisdiction. From a debt perspective, the return on equity constitutes the “cushion” of cash, the coverage ratio that protects debt from fluctuations in the business. Thus, debt-rating analysts weigh the overall stability of revenues in the totality of the ratemaking system against the security they would require from the return on equity. Like equity analysts, they see low allowed returns as potentially symptomatic of overall negative regulatory environments, which would concern them greatly. However, if they are satisfied that the rest of the ratemaking process is in fact fair and conducive to stability, the debt-rating analysts are less concerned over allowed return on equity.

One major concern raised by debt-rating analysts over low allowed returns is the impact it has on the rated company’s incentives. Low allowed returns strongly incent a company to shift investment from the LDC business to higher-growth, higher-risk lines of business, in the words of one major bond-rating analyst, which then can increase the overall financial volatility of the whole company. Such increased volatility is of great concern to the debt analysts, and can rapidly lead to downgrades that then increase the cost and decrease the availability of debt.

Internal Competition: Within multi-business holding companies, it was indicated that discretionary investments in the LDC business must compete with investments in pipelines, in unregulated businesses, etc., all of which exhibit significantly higher returns than those being allowed in the regulatory process in most jurisdictions. A specific exception is California, where generically derived RoEs above 11 percent have kept LDC subsidiaries on a level playing field with the risk-adjusted returns from other business lines. In general it was indicated that allowed returns had to be above the 10.5 range to avoid causing major concern, and that it required returns above 11 percent for going-forward discretionary capital programs to be relatively secure. When allowed returns are observed or expected to drift below 10.0 percent, all of the senior executives expressed deep concern over the availability of internally competitive capital. Additionally, it was noted by at least one company that at a 10.0 percent return on book equity, there is inadequate cash generated to pay dividends while retaining enough to grow at the rate expected by investors. This phenomenon will be discussed later in Sections IV and V.

An additional issue raised by multi-state LDCs was the competition for capital within the LDC sector, but between jurisdictions. In other words, if the LDC serves two states and one of those states exhibits generally lower returns than the other, the low-return state may lose the competition for discretionary investment.

A point that was emphasized is that the internal competition for capital within holding companies is not driven at all by the cost of debt – it is driven by the expected return on equity to be derived from alternative investments. Thus, a holding company with a marginal cost of debt of 6 percent that is choosing between an LDC investment and a pipeline investment at 12.5 percent will require the LDC investment to match a risk-adjusted version of the pipeline investment, rather than some risk-premium-adjusted version of the cost of debt. Accordingly, it is the alternative equity investment, the 12.5 percent pipeline investment, which determines what the LDC must earn to be competitive. Based upon historic experience, this LDC equivalent investment would need to earn 11.25 percent or greater to meet that criterion.

An important point regarding the internal competition for capital was that most executives saw it not for the potential to deprive them of capital for needed projects—their companies will continue to invest as needed to maintain the health of their systems. Rather, they saw it as the front-line indicator, the “canary in the coal mine,” indicating looming problems in external capital markets.

Today’s current credit and financial turmoil clearly adds to the concern raised by the financial community. The rapidly evolving difficulties in raising all types of capital, both debt and equity, would suggest that any negatively perceived factor, such as inadequate or declining allowed rates of return, could exacerbate an already problematic situation in funding new infrastructure.

The overall summary of the analysts’ and companies’ assessments of the decline in allowed returns is that significant pressure is already being experienced in internally competitive investment choices, and that capital flight in public markets is a real possibility given changes in the investor population. Impacts are primarily seen in discretionary investment, in that the vast bulk of dollars invested by LDCs are required by the obligation to serve or by safety/integrity rules. As more than one senior executive put it, “As long as we are in this business, we will invest what it takes to run the business safely and reliably. However, we will not invest beyond what is necessary to do so, and we will increasingly look for ways to get out of the business if the observed declines in allowed returns are expected to continue.”

Theme 2 – If Returns Are Inadequate, Why Are You Still Investing?

In spite of the deep level of concern expressed by the bulk of the senior executives, it is clear that each of them continues to compete for both internal and external funds, and that substantial discretionary investments are being promoted, sometimes successfully. This led to one of the most frequently asked questions in response to concern over low allowed rates of return: Why are infrastructure replacement projects, market growth projects, and LDC acquisitions still taking place, if the returns are inadequate? The answers from the senior executives were

all grounded in a combination of the prevention of loss of opportunities and in a fundamental trust for the regulatory and legal process over time.

Effectively, the consistent answer was this: If an opportunity presents itself to extend into a new market, to enhance the long-term health of the system by replacing infrastructure, or to expand by acquiring another company, that opportunity has two characteristics: its availability is time-sensitive, and its impact is long-term, usually spanning multiple decades. If the opportunity is passed up because of what should be a short-term deficiency in allowed rates of return, the opportunity may be gone forever.

The corollary observation made by several of the senior executives, and by at least one equity analyst, is that low allowed returns today are being applied to investment made in past years, based upon the same level of trust in the system. Accordingly, the current steady decline in allowed returns runs the risk of undermining that trust, and threatens the credibility of the executives who promoted the past, now-embedded investment. It was made very clear that if there is not evidence of a reversal of the downward trend—that is, if the implicit belief that the regulatory and legal processes will bring allowed returns back to the more stable, higher levels that pertained in the 1993 to 2000 period, there is some point at which the combination of trust in the system and reluctance to let opportunities pass by will no longer sustain investment momentum. If that happens, the senior executives emphasized that the resulting frustration of new investment will take a long time to reverse.

Theme 3 – If Capital Gets Tight, What Are the Consequences?

As noted, the executives interviewed all committed that as long as they are in the LDC business, they will invest what is necessary to run their systems safely and reliably. Thus the question is raised as to what happens, what suffers, if low allowed returns cause LDCs to be unable to attract capital. The first victim is discretionary investment, projects such as infrastructure replacement that can have long-term operating benefits to customers, but that are not absolutely required for current system operation. Discretionary investment can also include extensions outside of a current franchise area to bring service to new customers not subject to the obligation to serve. It can include operational enhancements such as storage, technological innovation, etc., that can add long-term efficiencies to a system, but that are not necessarily required. While the senior executives running LDCs continue to promote and fight for this kind of investment, the interviews yielded multiple anecdotes wherein the investment was not forthcoming.

While the primary bases for a fair rate of return are the constitutional and statutory standards requiring fairness to investors, the important public-policy consequence of inadequate returns would be the frustration of productive investment. This frustration and its impact on consumers are much harder to

demonstrate for LDCs than for pipelines, primarily because LDCs are required to make such a large portion of their annual investment. However, from the sense of the interviews, the slowing of investment and the negative impact of that slowing are real.

One additional long-term impact on consumers of inadequate returns and a consequent reaction of investment markets was explained by the equity analysts. They described a scenario in which a combination of deteriorating debt coverage and perception by rating agencies that low returns demonstrate a negative regulatory environment ultimately lead to a downgrading of LDC debt. Characteristically, such downgrades take an extended period of time to reverse. So even if allowed returns are restored to healthier levels in response to a downgrade, the consumer cost of higher interest rates and of reduced limits on leverage could continue for years. The bottom line of this discussion was that the best answer for regulatory agencies is to “get it right in the first place.”

Theme 4 – How Do Investors View the Importance of Allowed RoE?

The investment community’s perspective on allowed RoE was best represented by the analysts interviewed. As noted, they spanned both equity analysts and bond-rating analysts. All felt fairly strongly that allowed returns are drifting down to levels that cause some alarm, but the extent of that alarm varied depending on the analyst.

In essence, the least alarmed of the analysts felt that, if a low RoE is part of a holistic package of rate and regulatory features crafted in an atmosphere of cooperation and trust between the LDC and the regulator, such a package can work. For example, the use of stabilization mechanisms such as decoupling, in concert with various types of incentive ratemaking can – again if and only if they have been the collaborative product of both the LDC and the regulator – go a long way to offset the impact of low rates of return.

However, the concern raised even by the least alarmed of the analysts is that low returns might become established when such a cooperative environment exists, then subsequent regulatory action begins to chip away at the stabilization and incentive mechanisms that balanced the low return. Additionally, as was pointed out not only by analysts but by company executives, it only takes a single major disallowance to cause major long-term financial damage to an LDC.

Beyond the holistic view expressed above, analysts are concerned that a combination of allowed RoE below 10 percent, with a demonstrated continuous downward slide for the last eight years, will cause broad disenchantment with LDC investment that could take years to reverse. The observation, expressed earlier, that shifts in the population of investors toward hedge funds and private

equity make large, sudden shifts away from an industry easier and more likely than in the past was considered important by the analysts.

Uniformly, both equity and debt analysts considered the allowed RoE to be an important barometer of the regulatory treatment of the LDC. The steady decline demonstrated earlier is thus a matter of major concern. Additionally, of course, there is concern over the absolute level of the allowed returns, as compared with comparable investments of equal risk, either internally or externally. As allowed returns have drifted to and below 10 percent, the perception is that many investments of equivalent risk could earn more.

Theme 5 – How Does RoE Interact with Other Regulatory Issues, Such As Decoupling, Pass-through Trackers, etc.?

As is discussed in Theme 4, a broad, balanced package of rate and regulatory mechanisms including such stabilizing features as decoupling and some “upside” potential through mechanisms such as incentive rates can – if constructed collaboratively between the LDC and the regulator in an atmosphere of trust – offset some deficiencies in allowed return. It was emphasized by some analysts and executives that the development of this collaborative approach leads to the healthiest long-term regulatory environment.

However, beyond the role of such other issues as part of a balanced package, there is a strong tendency by regulators to accord great weight to the “de-risking” impact of mechanisms such as decoupling, resulting in decrements in the allowed rate or return. However, where RoE is set by reference to a proxy group of other LDCs, it is important to ask whether the observed results from those LDCs already reflect the impact of the same mechanisms. That is, if a population of proxy LDCs demonstrates an investor-required RoE of, say 11 percent, and if all of those proxy LDCs already have decoupling mechanism in place, it is inappropriate to apply an additional decrement to the indicated return to reflect the introduction of a decoupling mechanism in the LDC whose rates are being set. Among those in the industry, this kind of return decrement in response to mechanisms that stabilize rates for both the LDC and its customers was a matter of concern. All of them believe that such decrements are ill-advised and unfair.

Theme 6 – What is the State of LDC Riskiness Today, and Is that Level of Risk Reflected in Allowed RoE?

LDC executives expressed significant concern over regulatory perceptions that their business is not particularly risky. In particular, statements made by the FERC in its Kern River decision⁷ to the effect that pipelines are more risky than LDCs drew a number of negative comments. However, at least when the pipeline-LDC comparison was explored more fully, it became clear that the LDC

⁷ *Kern River Gas Transmission Company*, Opinion No. 486, 117FERC61,077 (2006).

executives were not demanding that they be considered fully as risky as pipelines, but rather that differences in allowed return between the two types of businesses should be maintained at no more than their historic levels. That is, whereas interstate pipeline rates of return have remained solidly in the 12 to 14 percent range for 30 years, LDC allowed rates of return have, at least in the decade prior to the current decline, stayed in a range from 10.75 to 12.5 percent. This would imply a fairly sustainable difference in allowed return between pipelines and LDCs of approximately 125 basis points.⁸ The concern is that now, in a period when pipelines are expected to be at least at the lower end of the historically observed range of allowed returns (12 percent), LDC returns are experiencing a decrement from that level of at least 200 basis points, and in some cases 250 to 300 basis points. If pipelines prevail in their arguments at the FERC to move somewhat higher, say to 12.5 percent, the historic LDC decrement would suggest a prevailing LDC allowed return of 11.25 percent. In the view of the LDC executives, no rationale has been put forward to justify the much larger decrements being experienced.

Effect of Rate-Design Changes: As noted earlier, many regulatory authorities point to rate-design changes such as decoupling, weather normalization, etc., as having the effect of stabilizing the LDC's revenues and thus tempering volumetric risk. There is fairly broad acknowledgment among the LDC executives that, where such mechanisms are in place and are properly designed, they do have such an effect of stabilizing revenues and of stabilizing consumer costs. Of course, they point out, stability is a two-sided coin – protection against the down-side of load loss is offset by the loss of the upside of load gain. Thus, it is not as if the LDC has been unilaterally relieved of a risk, rather it has given up an upside gain opportunity for some protection against a downside risk.

It is also very important that mechanisms such as decoupling or revenue normalization be properly designed. For example, an adjustment mechanism to make up for load loss may, as is done in some jurisdictions, merely attempt to raise rates in only the same class of customer where the load was lost. Thus, for example, the impact of a lost industrial customer might be turned into a rate increase for the remaining industrial customers, but not for any of the other customers of the LDC. When that happens, the effect can easily be a death-spiral of the particular sector of load, the new rate increase driving off more industrial load, resulting in a further rate increase and so on. Thus, before the risk impact of any such revenue stabilization mechanism is built into a rate of return deliberation, the full impact of the mechanism must be understood.

A particular concern voiced by several executives was the tendency of regulators to apply a decrement either explicitly or implicitly to the allowed RoE as the trade-off for a decoupling mechanism. While the regulators justify doing so by

⁸ This basis-point difference is consistent with FERC's finding in Kern River, where a 50-basis point difference was applied because the two out of four proxies had some significant share of LDC business, along with pipelines and production.

the allegation that the LDC's risks have been reduced, the executives point out that such a decision is often "double-counting." Because LDC RoE is usually set by reference to the financial results of other, similar utilities, if those utilities themselves have revenue-stabilization mechanisms in place, the impact of those mechanisms is already subsumed in the basic data being used to set RoE. Thus, the executives say, any additional decrement is unjustified and unfair.

Evolving and Increasing Business Risks: Meanwhile, regardless of the impact of such mechanisms, LDCs are exposed to a variety of risks that have been steadily increasing. These risks include unfunded government mandates, precipitous run-up in the cost of critical materials such as steel and in the cost of contract labor, the regulatory risk of cost disallowance, especially in periods of rapid gas-cost increase, and asymmetric regulation of uncollected gas cost (e.g., paying interest on overcollections but collecting no interest on undercollections). Additionally, in the competitive, unbundled world of today's interstate pipelines, the risk of bypass for LDCs' highest-volume customers – industrial and power generation – is pervasive.

It is important to contrast the impact of these evolving risks with the impact of the revenue volatility that is addressed by rate-design changes such as decoupling. As noted above, revenue stabilization is a two-sided coin: Before it took place, volatility caused by factors such as weather could and did result in increased earnings from time to time, in addition to the periods when it led to deficient earnings. Conversely, the evolving areas of increased risk are "one-way." They work only to the detriment of the LDC without the potential for a compensating upside. These areas of evolving risk are discussed individually:

- **Unfunded Government Mandates**

Both the Federal and state governments place multiple, expensive requirements on LDCs that must be paid for not by funds provided by those governments, but by either ratepayers or investors. The most recent large-ticket examples of these requirements surround inspection and integrity evaluation. For example, under the Pipeline Safety Improvement Act of 2002 as enhanced by the Pipeline Inspection, Protection, Enforcement, and Safety Act of 2006, large scale and expensive inspections of transmission lines must be conducted, much more often than they were in the past. While much of the focus surrounding these statutes and the U.S. Department of Transportation regulations to implement them was on high-pressure interstate pipelines, there was actually an equal or larger estimated cost impact on LDCs. This is because LDC transmission lines – although far fewer and smaller than interstate transmission lines – are generally in "high-consequence" populated areas, thus triggering the most rigorous and costly requirements. The final DOT rule for distribution integrity management expected in 2009 would extend Federal inspection and integrity requirements to

distribution systems themselves, at a cost estimated to be in the billions of dollars over the next several years.

As noted, every LDC executive interviewed reiterated the commitment to invest and spend the money necessary to ensure safety and reliability. On aging distribution systems, many of the costs required by Federal legislation may have been necessary anyway. However, the concern with uniform federally imposed mandates is that it can double the cost – performing the work required by Federal rules may not supplant the cost of inspections and replacements that would have gone on in the normal course of business.

The problem created by such unfunded mandates to incur operating expense and make substantial capital investment in inspections and replacements beyond what would normally be done is that they create costs that do not have any revenue-generation capability without a rate increase to customers. That is, investment in facilities that increase efficiency or add customers creates offsetting revenue that may preclude the need for a rate increase. However, required integrity investments must be recovered through increased rates, or will be absorbed by the LDC's investors.

None of the discussion questioned the advisability of uniform safety standards, but it was emphasized frequently that the full economic risk created by compliance falls on the LDC.

- **Increases in Construction Cost**

The LDC industry nationwide has consistently invested between \$4 billion and \$5 billion annually, for the last decade. Much of this investment has been required for system integrity, to meet regulatory mandates, and otherwise simply to maintain safe, reliable distribution networks. Much of the investment has also, of course, been made for purposes of providing new gas service to consumers. The cost of the inputs for all of this investment has risen dramatically in recent years.

According to anecdotal data provided by LDCs, individual components of LDC feeder line construction costs have increase 45–74% from 2002 to 2007:

- 4"-8" valves – 45%
- Steel fittings – 85%
- 2"-4" steel pipe – 4%
- 6"-12" steel pipe – 174%

In addition, contractor costs have risen dramatically, as demand for skilled services surged over the same period. Of course, regardless of construction cost, an LDC is theoretically allowed to include prudent investment in rate base. However, when costs increase at this pace, rate formulation can rarely keep up with them, even with a forward-looking test year. Additionally, to the extent that reduced allowed returns tend to place downward pressure on the LDC's ability to raise capital, radically increased size of those capital demands because of construction cost increases exacerbates the problem and thus becomes an ongoing risk increase for the LDC.

- **Gas-Cost Volatility**

Over the last few years, the wholesale market price for natural gas has experienced degrees of volatility never before seen. For example, during the last two winters, the spot price of gas at New York City has exceeded \$30 per Dth, sometimes moving by double-digit amounts within one day. The primary industry benchmark wholesale price, Henry Hub, has generally been in a \$7.00 to \$8.00 range for some time, with significant daily and monthly volatility.

The impact of this volatility on LDCs has various aspects. Although virtually all LDCs do have a gas-cost tracking mechanism in their rates, the volatility of prices makes the forecast cost extremely difficult to predict. Thus, deviations between actual costs and forecast costs are frequent and large. If the deviation is an underrecovery, most LDCs are entitled to some manner of deferred recovery, but that recovery usually takes a full year and adds to the LDC's short-term financing requirements because in essence the unrecovered gas cost must be borrowed. If the deviation is an overrecovery, there is frequently a ratepayer backlash because of perceptions that the LDC was overcharging in past periods. Thus, volatility in gas prices has the dual effect of exposing large dollar amounts to extended recovery, financial cost and the attendant risk, combined with reaction and criticism among ratepayers and regulators when actuals deviate from forecasts, creating the risk of cost disallowance.

Most regulators view the LDC's ability to pass through gas costs as reducing risk. Certainly as compared with no such ability, such a reduction does occur. However, in RoE analyses that depend upon industry proxy groups, the risk-reducing effect of gas-cost tracking is a neutral factor, since all of the observed proxy companies have an equivalent ability. Meanwhile, it is important to recognize, as discussed above, that even a tracking mechanism cannot fully protect the LDC from the uncertainty and ratepayer backlash caused by large swings in gas cost.

- **Regulatory Disallowance**

Of all the regulation-related risks, disallowance of costs is the most direct in its impact on the LDC's risk profile. Some costs such as contributions, economic development, dues and donations which are essential to the LDC's role as a member of its community, are routinely disallowed in some jurisdictions. This creates an automatic, chronic inability for the LDC to earn its allowed rate of return, despite the apparent business necessity of the expenses. The interviewees indicated that this sort of disallowance is never considered or compensated for in the model used to determine the allowed return.

The larger risk, alluded to in discussing gas-cost volatility, is the unexpected disallowance of single major cost items, such as gas cost deemed to be excessive or the cost of treating certain supplies to meet quality specifications. The interviews cited at least one example of such a disallowance occurring in an amount equal to the LDC's full allowed return to investors for the year. That disallowance was ultimately reversed in court years later, but the financial market's perception of the risk remained. In general, PUC review of an LDC's gas cost and purchase policies is often after-the-fact, allowing attacks on past decisions with the benefit of hindsight. Accordingly, LDC sales service with its substantial gas-purchase obligation includes a good degree of risk in today's market.

- **Asymmetric Regulation of Uncollected Gas Cost**

A factor affecting a number of LDCs, both in the risk/cost of gas-cost underrecoveries and in the pressure on their short-term financing capability is the treatment of the time value of deferred underrecoveries. Among LDCs recently surveyed as to the structure of their gas-cost,⁹ it was learned that 62 percent either receive no interest on the recovery of unrecovered gas cost or they receive a lower time value of money than is paid on overrecoveries. This asymmetry adds to the financial risk entailed by gas-cost volatility and the probability of underrecoveries.

- **Risk of Bypass**

LDCs have for years been faced with the potential to lose their largest individual customers, generally large industrial and power-generation loads. If such customers have access to the same interstate pipeline that serves the LDC, they frequently enjoy the economy of size to be able to justify connecting directly – eliminating the LDC as the middleman. This is especially true when the LDC's regulators have required a "tilt" in cost allocation and rate design in order to cause the large customers to

⁹ This survey, conducted in 2005 for the American Gas Association, received responses from LDCs in 60 percent of the state jurisdictions, including all of the large, populous states.

subsidize smaller residential and commercial customers. According to the interviewees, market realities have largely forced regulators to phase out such subsidies – it has been recognized that maintaining the cross-subsidies runs the risk of losing the loads altogether.

For many LDCs, such large individual customers are still significant contributors to the LDC's total revenue profile. Yet, even if all rate cross-subsidies have been phased out of the charge to the large customer, it is still frequently cheaper to connect directly to a pipeline. Pipelines themselves are much more accessible and easily used by an industrial customer than was true in the past. FERC open-access, interconnection, capacity release, contract segmentation, and business-practice standardization have all served to make direct access to a pipeline much more feasible for an end-user than it was before those policies matured. In addition, many large marketers offer “asset management” services, whereby the end user can sign up for pipeline capacity, then hire the marketer to buy gas, manage the capacity, and make sure the correct quantities always reach the end user. Such marketers also manage large portfolios of capacity released by multiple shippers, sometimes including even the LDC's own pipeline contracts. These portfolios can allow them to serve the end user directly from the pipeline, without the end user ever being required to contract for pipeline capacity.

In short, bypass directly from pipelines to large end users has always been a risk for LDCs, but today the ease and feasibility of accomplishing that bypass are greater than ever. The impact of this risk varies widely across LDCs, depending on the degree of their reliance on large individual-customer loads.

Inability of New Business Margin to Sustain Growth: Another factor raised by some of the LDC executives, which goes partly to risk and partly to the inability of the LDC business to offset that risk, is the margin contribution from new business. When an LDC is compelled to add a new customer in its franchise area, the rules vary widely as to how the new customer's margin contribution will be set. In most jurisdictions, efforts have been made to avoid subsidization of the new customer by existing customers, so mechanisms such as capital contributions, limited-term surcharges, etc., have been used to ensure that the new customer fully covers its cost. However, this situation is at variance with many capital intensive businesses, where growth in demand actually gives a disproportionately large margin contribution. Basic capacity is put in place, and then marginal growth using that capacity has a low marginal growth and high marginal profitability. For LDCs who can barely cover the marginal cost of adding a new customer, growth does not offer this kind of contribution, which could make up for deficiencies in the earning capability of the embedded business. Thus, it is particularly important that the allowed rate of return on the embedded business be adequate.

Theme 7 – What Sort of Best Practices Were Observed in the Interaction of PUCs with the Regulated LDCs?

As noted in Theme 4, the financial community views with great favor those regulatory situations where the LDC and the regulator have worked together in an atmosphere of mutual trust, to craft balanced packages of rate and regulatory mechanisms. Such fairness and balance can offset some apparent deficiencies in allowed return since, first, such packages tend to stabilize revenues to reduce earnings volatility, and, second, where there is an atmosphere of mutual trust, the financial community can be confident that the regulator will work with the LDC to maintain financial integrity, regardless of the challenges faced – when there is a real problem, the LDC will be able to get timely relief. This is in sharp contrast to the more adversarial relationships that exist in some states, wherein the LDC faces a constant uphill struggle to achieve balance and stability in its regulated business. Thus, a definite “best practice” in both the regulator and the regulated is the development of collaborative initiatives that can foster an atmosphere of mutual trust. While this report does not generally single out specific jurisdictions, an exception is made here – according to analysts, New Jersey is an example of a state where such balance has been achieved.

Additionally, as noted in Theme 1, California has maintained mechanisms that periodically establish generic LDC returns in the state, using multiple analytical approaches to arrive at returns which the regulated LDCs have generally regarded as fair and adequate, at levels in excess of 11 percent. These were the sole LDCs interviewed that did not express concerns over capital constraints. Clearly some degree of trust and openness has evolved in the state to allow this to happen, and it is possible that other states could benefit by observing California.

IV. Reasons for Declines in Allowed RoE

There is no doubt that allowed returns on equity have steadily declined, as is measured and observed in Section III. Are the declines the result of changes in approach by regulators, or the result of the normal operation of the approved mechanisms, in the face of input numbers that have simply declined? For the most part, the reason appears to be the latter – simple evolution of the fundamental input data has been allowed to pull returns down through the mechanical operation of the favored regulatory tools for setting returns. A consistent theme sounded by industry executives in commenting on this evolution is the need for some sort of “human intervention,” or benchmarking against actual investor expectations, to recalibrate the use of the approved mechanisms. This is often referred to as a “market-based reality check.”

In particular, it is worth noting that the cost of debt built into rates is generally based upon an actual measurement of the debt instruments held by the subject utility, with the benefit of stated interest rates and other cost factors. In contrast, the cost of equity is always an estimate, based upon models that attempt to approximate investor requirements. Investors’ actual requirements (the conceptual equivalent of an interest

rate on a bond) are not directly measured. Accordingly, it would appear to be very important to find ways to ground RoE outcomes in something more than theoretical constructs that are merely assumed to mirror investor expectations.

There are three dominant mechanisms used to set allowed returns on equity in the regulatory arena: Discounted Cash Flow, Equity Risk Premium, and the Capital Asset Pricing Model. As a first step, each of the mechanisms will be explained, along with a brief description of the dynamics of the inputs to each. Then the interplay among the three mechanisms will be examined.

A. Discounted Cash Flow

Discounted Cash Flow, or DCF, is widely used throughout the state regulation of LDCs and is the exclusive method used at the FERC to set pipeline rates of return. DCF is an attempt to measure the expected cost of money for the typical investor in the stock of the regulated company. It does this by assuming that the market price of the stock is equal to the net present value of a perpetual future dividend stream, discounted to today's value at the investor's cost of money. This assumption is then turned into an equation to solve for the investor's cost of money in terms of the current stock price, the current dividend rate, and the expected rate of growth in earnings or enterprise value. Although the underlying math is fairly complex, the ultimate formula that results from the process is extremely simple:

$$\mathbf{K = D/P + g}$$

Where "K" is the investor's cost of money, "D" is the annual dividend, "P" is the stock price, and "g" is the rate of growth.

These factors are not generally directly available for an individual LDC, since most LDCs are subsidiaries of larger companies and thus are not publicly traded. So the normal practice is to use "proxy" companies, or a population of publicly traded companies with significant LDC business that are considered similar enough to the LDC in question to be used as benchmarks in determining what investors will expect out of the LDC in question.

Probably the best way to demonstrate the operation of the DCF formula by a PUC and to discuss its implicit issues is to use a real-world example. The example used here is taken from an actual LDC rate case in 2007, without naming the LDC or the jurisdiction. Similarly, the specific proxy companies used in the analysis have been designated simply as "LDC 1" through "LDC 12," to avoid any prejudice arising from their representation here. Based on the author's experience, this extract from a PUC staff witness's analysis (shown below in Figure No. 4) is quite typical of the application of DCF in the state regulatory arena throughout the United States.

DCF Example from PUC Staff Exhibits**Figure No. 4**

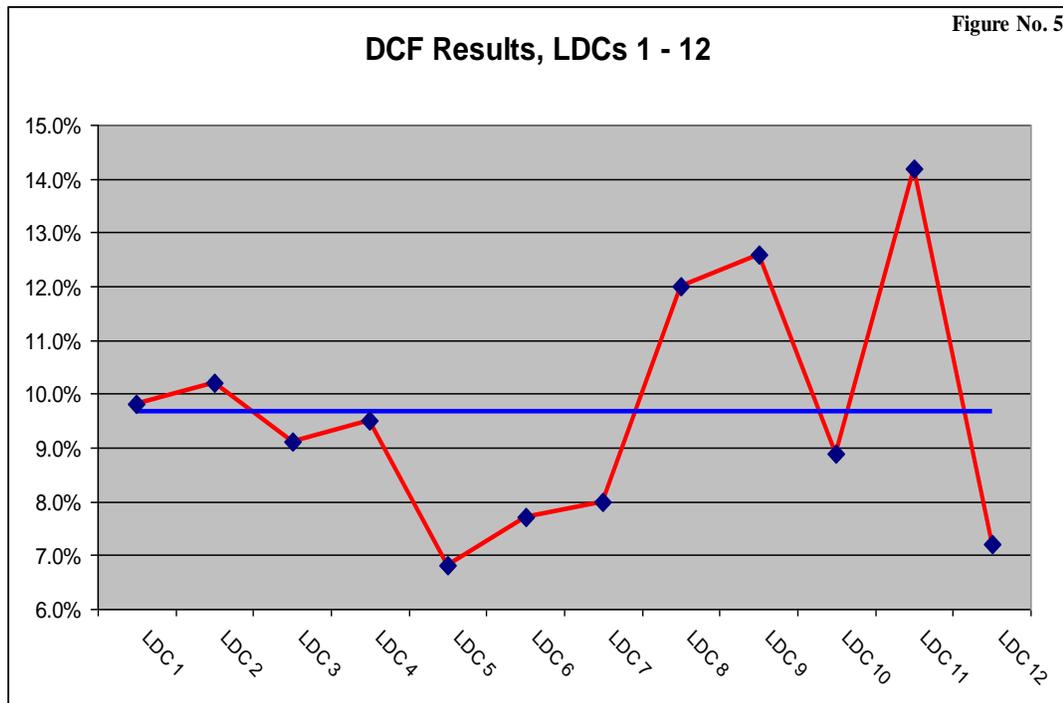
Company	13 week Avg. Price	Current Dividend	Dividend Yield	Average Growth ¹⁰ /	Cost of Equity
LDC 1	\$42.75	1.64	3.84%	5.9%	9.8%
LDC 2	\$31.80	1.28	4.03%	6.2%	10.2%
LDC 3	\$31.47	1.46	4.64%	4.4%	9.1%
LDC 4	\$52.69	1.52	2.88%	6.6%	9.5%
LDC 5	\$48.89	1.86	3.80%	2.9%	6.8%
LDC 6	\$48.45	1.42	2.93%	4.7%	7.7%
LDC 7	\$26.59	1.00	3.76%	4.2%	8.0%
LDC 8	\$38.47	0.98	2.55%	9.4%	12.0%
LDC 9	\$31.73	0.40	1.26%	11.3%	12.6%
LDC 10	\$38.24	0.86	2.25%	6.6%	8.9%
LDC 11	\$27.76	0.70	2.52%	11.6%	14.2%
LDC 12	\$33.65	1.37	4.07%	3.1%	7.2%

The DCF calculation described above is applied by first determining a dividend yield rate for each proxy (dividend divided by market price), then adding to that dividend yield rate the expected rate of growth in earnings and dividends. Then the resulting costs of equity for the proxy companies are used as a range within which the company at issue is placed, based on its relative risk. Typically, without compelling evidence to the contrary, a company is placed at the median, the midpoint, or the average of the range. In the range shown above, from a low of 6.8 percent to a high of 14.2 percent, the average would be 9.7 percent.

In other words, a typical PUC application of the DCF methodology using current market numbers yields the sort of below 10 percent result about which the industry interview subjects express such concern. Are there aspects of this calculation that argue for reexamination of the methodology? There are at least three observations that suggest something beyond this DCF calculation would be appropriate.

¹⁰ The Growth rates used are averages of four different calculations, including historic and projected growth in earnings per share, historic and projected growth in book value per share, and growth in assumed retained earnings. The end result is intended to represent the rate of growth in earnings and dividends that investors could reasonably expect from each proxy company.

First, there is simply the very wide diversity of the results, for twelve companies that should ostensibly be quite similar. Graphically, as presented in Figure No. 5, this wide diversity is quite apparent:



From the lowest result to the highest result, there is a difference of 740 basis points. Interestingly, there is very little similarity between the “proxy” results shown for these twelve individual companies, and the actual allowed rates of return determined by their own PUCs. In short, there is a real question as to whether this genuinely defines the range of real investor expectations that can simply be averaged to yield a fair return. The potential for shortcomings in this analysis have been less apparent in the past when depressed stock prices gave high yield rates, and when various measures of growth pushed the numbers somewhat higher. However, today, arguing that a measured cost of money ranges from 6.8 percent to 14.2 percent, and that therefore an average of 9.7 percent is appropriate would appear to be a misuse of averages.

The second observation as to this DCF approach is its inherent circularity. As noted, the approach set forth in Figure No. 4 is very typical of PUC applications of the methodology, both in the calculation itself and in the selection of the proxies. If all the proxy companies are LDCs whose returns are set the same way, then measuring historical performance and Wall Street expectations of growth will always reflect the outcome of the same methodology that is being applied to measure that outcome. So if the DCF methodology is yielding an inadequate result, the inadequacy would affect most or all of the proxy companies as well. Thus, even if accurate, DCF would measure the cost of money necessary to compete for capital with other LDCs, but would not measure the ability of the

whole industry to compete for capital with other businesses with similar risk not subject to this regulatory regime.

The last observation goes not to the theory or calculation of the DCF cost of money, but to the use to which it is put. By developing a cost of equity based upon stockholder expectations in the stock market, at best the methodology yields the individual investor's expectation of long-term return on a share of LDC stock. The next step, applying this number directly as a return on book equity, creates a potential disconnect – it is now limiting the specific cash return on rate base that will be available to achieve the investor's expectations. That cash be sufficient? To answer this question, we have to assess two factors: The LDC's ability to pay its current dividend and the LDC's ability to achieve the growth in earnings and net book that is required by investors. If we assume that the primary driver of growth in earnings per share or net book value per share is the growth in retained earnings, it is possible to test the DCF-derived return for adequacy.

Figure No. 6 first derives the average values for each of the building blocks and for overall return, for the proxy group from Figure No. 4. Then it adds one more piece of data, the average book value per share for the proxy group (which is 19.22 as of the time of the other data used in the analysis, for a market-to-book ratio of 2.0). In essence, we are building the hypothetical "average" LDC on which the return is based. A dividend yield of 3.3 percent is added to a growth rate of 6.4 percent, for a cost of equity of 9.7 percent.

Test for Growth Deficiency				Figure No. 6		
Price	Dividend	Yield	Growth	Cost of Equity	Average Book	Market-Book
\$37.71	\$1.21	3.3%	6.4%	9.7%	19.22	2.0
EPS	Dividend	Remaining Earnings	Growth in Book	Marginal EPS	Growth in EPS	Growth Deficiency
\$1.86	\$1.21	\$0.65	3.5%	\$0.063	3.4%	-3.0%

But then we come to the second line of Figure No. 6. What happens when the 9.7 percent return is applied to book rate base? The book value of equity rate base is only \$19.22 per share, as opposed to a market stock price of \$37.71. Thus, 9.7 percent times rate base will generate earnings of \$1.86 per share. Those earnings must first pay the current dividend of \$1.21, leaving 65¢ per share to fuel growth. How much growth will it fuel? The 65¢ represents a 3.5 percent growth in the net book value of \$19.22. As a rate of growth in earnings per share, we would multiply the 9.7 percent rate of return times that 65¢ of new equity, generating 6.3 cents of new earnings, or a rate of growth in earnings per share of 3.4 percent. According to the original study, however, investors require a rate of growth of 6.4 percent—there is an apparent growth deficiency of 3.0 percent, between the required rate and the average of the actual book and earnings growth rates. This

could be problematic – the effect over time would be for the LDC to miss investor expectations by a significant amount, causing declines in the stock price. The natural reaction of the LDC’s owners – indeed, their fiduciary responsibility to their investors – would be to invest in other activities that would make up the deficiency. Investment would flow away from the LDC.

Many of the issues raised over the use of DCF in setting returns have to do with the original purpose of DCF analysis – and the way it is still used by major investment analysts. That original purpose was and is for the comparison of alternative investments, rather than to derive an absolute level of investor-required return. For example, DCF is quite useful for distinguishing the twelve proxy companies from each other, regardless of the absolute level of return that might be appropriate. Its accuracy as to such absolute levels has been assumed more than demonstrated. It is this tension that underlies many of the concerns over the intersection between DCF financial theory and application of that theory in a cost-based regulatory arena.

Possible approaches for addressing the various observed concerns regarding DCF analysis are discussed in Section V – Potential Changes and Adjustments.

B. Equity Risk Premium and the Capital Asset Pricing Model

Equity Risk Premium (ERP) is an approach that simply assumes the cost of equity will track the interest rates for various types of debt. The realized returns in equity markets are compared over time with concurrent interest rates, to determine the premium that must be earned by stockholders in order to attract them from less risky debt to more risky equity. Sometimes the ERP is measured from “risk-free” debt, generally long-term government bonds; sometimes it is measured from various high-quality corporate bonds.

The Capital Asset Pricing Model (CAPM) is really just a further refinement of ERP. Whereas ERP determines a premium generally required of equity markets, CAPM translates it to the individual stock, using a measure of that stock’s volatility vs. the stock market at large.

It is not necessary to produce representative studies to show the role of ERP and CAPM in the current decline in allowed returns. No one questions that interest rates have declined substantially over the past decade, so any method that holds a constant relationship between equity and debt costs will result in substantially reduced returns on equity.

Equity Risk Premium

ERP is more often used as a check than as a primary source of allowed returns. However, probably its more significant impact is that even when ERP is not technically the method being applied, it is clearly behind the regulatory psychology surrounding returns on equity, regardless of how they are derived. In times of deeply reduced interest rates, regulators and consumers expect utility allowed returns to be reduced equally substantially (although, unfortunately, this logic does not always fully work in the other direction, when interest rates are high).

There are two issues often raised as to this assumption. First, the relative size of an equity risk premium over debt cost has been the subject of much debate—especially as to how that premium behaves in different interest-rate regimes. The argument is made that the ERP expands during low-interest rate periods and contracts during high-interest-rate periods. As a practical matter, this was certainly the approach taken by regulators in the early 1980s, when the prime rate was in the high teens.

It is also the approach that has evolved over time in Canada, where since the mid-1990s returns on equity have been set by automatic formulae that track long-term bond interest rates. As those interest rates change, the allowed return on equity is adjusted by just 75 percent (the “elasticity factor”) of the change, not by the full movement. This has the effect of shrinking the ERP when interest rates are high and expanding the ERP when interest rates are low. There is considerable debate in Canada over the size of the elasticity factor. Most of the industry and some prominent former regulators have suggested that the factor should have been lower—probably at approximately 50 percent. However, the concept is the same — an acceptance that market-required returns on equity do not track interest rates percent-for-percent.

The other issue, less empirical than the observed movement of the cost of equity as compared with interest rates, is the basic competition for capital in which the cost of equity is the measure of competitiveness. As the 2006 INGAA paper referenced earlier pointed out, and as was emphasized repeatedly by both senior executives and analysts in this AGF Study effort, the cost of equity is an opportunity cost issue, whether in the open market or in the capital-allocation process of a multi-business holding company. Essentially, if an investor’s only alternative to investing in an LDC stock is to buy a bond, the required risk-premium to move the decision in favor of the LDC equity is important. However, a bond is generally not the only alternative investment — in the actual market, the investor can choose among multiple equities of which the LDC stock is one. In making this choice, the only important factor is what the investor’s earnings would have been in those alternative equity investments. In other words, in the case of the stand-alone LDC the equity investor is free to move his or her capital

to other businesses with that offer better returns without a significant increase in risk.

Similarly, if a holding company is solely making a choice between investing in its LDC subsidiary and issuing or retiring debt, the difference between the expected LDC earnings rate and the interest rate on the debt in question is relevant and important. However, if the holding company is allocating a fixed capital pool (consisting in part of borrowings based on achieving a particular corporate capital structure), the holding company is making choices among competing investments, requiring the LDC to meet the risk-adjusted return from the alternatives. If the holding company could earn 12.5 percent by investing in a pipeline and, in the holding company's judgment, the risk adjustment between the pipeline and the LDC is the historically observed 125 basis points, the LDC must earn 11.25 percent to compete – regardless of what the holding company's debt cost may be.

Capital Asset Pricing Model

As noted, CAPM is primarily a refinement of ERP, in that it adjusts the risk premium for the individual stock's observed relationship to the stock market as a whole. This relationship is defined by the stock's Beta, or volatility. Like DCF, CAPM is characterized by a great deal of background mathematical analysis (its original creators won the Nobel Prize for it), but a very simple ultimate formula:

$$\mathbf{K = R_f + \beta \times ERP}$$

where "K" is the equity investor's cost of money, "Rf" is a risk-free interest rate (usually long-term Treasury bills), "β" is the individual stock's volatility vs. the overall stock market, and "ERP" is the equity risk premium for stocks generally.

The obvious issue with CAPM is that if "Beta" is less than 1.0, the company being examined will be assumed to need a lower than average risk premium. Many utilities exhibit Betas below 1.0.

Figure No. 7 sets forth the Betas for the twelve proxy companies examined in Section IV A.

Company	Beta
LDC 1	0.32
LDC 2	0.59
LDC 3	0.92
LDC 4	0.62
LDC 5	0.65
LDC 6	0.77
LDC 7	0.58
LDC 8	0.66
LDC 9	1.20
LDC 10	0.59
LDC 11	0.70
LDC 12	0.90

Of these twelve major LDC holding companies, only one has a Beta above one. There is also the same sort of extremely wide diversity observed in the DCF comparison, with Betas ranging from 0.32 to 1.20. This would mean that for an ERP of, for example, 7.1 percent,¹¹ the indicated returns for the proxy LDCs would vary by as much as 625 basis points.

Assuming a risk-free rate and a Market Risk Premium of 4.66 percent and 7.08 percent respectively,¹² the resulting returns are as shown in Figure No. 8. The average is coincidentally the same as the average of the DCF results, but the high is 100 basis points lower and the low is 200 basis points higher than the DCF results – and the individual companies vary quite widely, by as much as 460 basis points (LDC 11, at 9.60 percent here, but 14.20 percent per the DCF study).

As is discussed above with regard to ERP, CAPM follows a lock-step relationship with interest rates that does not reflect equity-to-equity competition based on opportunity cost. Thus, as with DCF, CAPM can be a useful tool for the comparison of similar investments, but may be of questionable use in deriving an absolute cost of capital.

Company	Beta	Cost of Equity
LDC 1	0.32	6.9%
LDC 2	0.59	8.8%
LDC 3	0.92	11.2%
LDC 4	0.62	9.0%
LDC 5	0.65	9.3%
LDC 6	0.77	10.1%
LDC 7	0.58	8.8%
LDC 8	0.66	9.3%
LDC 9	1.20	13.2%
LDC 10	0.59	8.8%
LDC 11	0.70	9.6%
LDC 12	0.90	11.0%
Average		9.7%

¹¹ The widely accepted Ibbotson-Sinquefeld average for 1928 through 2005 is 7.08 percent. Some other sources, such as Damodaran Online, quantify a lower MRP, at or below 5 percent.

¹² The MRP of 7.08 percent is per footnote 10, the 4.66 percent Rf is per Damodaran Online.

Obviously, if the growth objectives quantified in the DCF analysis are to be met, a 9.7 percent return derived by CAPM is just as deficient as a 9.7 percent return derived with DCF.

V. Potential Changes and Adjustments

As is noted earlier, adjustments could be made to each of the prevailing methodologies, or somewhat different approaches taken, to respond to perceived deficiencies. This section itemizes what those changes might be and the challenges in implementing such changes.

A. Broaden Proxy Groups

Along the same lines as the debate recently resolved involving pipeline proxy groups (see B. below), LDCs could look farther afield than their own industry for proxy companies. The standard to date for the selection of proxies has always started with the notion that the comparable companies must be regulated utilities, primarily in the gas business. However, this standard implicitly causes the circularity discussed in Section IV. Since the key distinguishing factor is risk, LDCs and regulators could be well served to identify unregulated infrastructure companies with risk levels analogous to those of the LDC. The measured market expectations for those unregulated companies would then be undiluted by the results of regulatory policy.

B. Use FERC Decisions as Reference Point, Maintain Historic Gap

There have been several references to the historic 125 basis point difference between pipeline returns and LDC returns. One option would be to maintain that difference. This approach has been uncertain to fix all deficiencies unless pipeline rates of return were maintained at their historic levels in the 12 to 14 percent range. The Kern River decision, cited earlier, resulted in a return on equity of 11.20 percent – application of the 125 basis-point difference to that number would fall below 10 percent, but the pipeline industry has been adamant that the Kern River decision was itself an inadequate rate of return.

The key issue in the pipeline industry has been the composition of proxy groups, with pipelines seeking the inclusion of pipelines organized as master limited partnerships (MLPs), in order to repopulate the proxy groups. On April 17, 2008, the FERC issued a statement of policy and a reopening of the Kern River case, allowing such inclusion of MLPs. The statement of policy requires some adjustment to the assumed long-term growth rate for the MLP members of the proxy group, but overall, it appears that the resulting rates of return will be restored to approximately the 12 percent level.¹³ Thus, something on the order of

¹³ FERC Docket No. PL07-2.

10.75 percent to 11.00 percent would be implied for LDCs, if the FERC level is maintained and the pipeline-LDC gap is maintained as well.

C. Variations on CAPM, Particularly Fama-French

The Fama-French methodology is a variant of CAPM that uses more than the broad, full-market average results for stocks to derive a risk premium. It includes some proportion of high-growth and small-cap stocks, thus generally resulting in significantly higher returns than unadjusted CAPM would have. Some LDCs, both in the U.S. and Canada, have tried to gain acceptance of Fama-French in their own proceedings, with mixed but very limited success.

D. Restore Growth Deficiency in DCF

The inherent deficiency of growth below that assumed to be necessary in the DCF formula should be a fertile ground to explore. Regulators can argue that growth can come from sources other than retained earnings. However, regulators appear generally to accept the notion that a buildup of retained earnings is necessary to sustain growth in either book value or earnings per share.

The adjustment to compensate for the deficiency is simple – in the example, where growth is 3.0 percent below expectations, the 3.0 percent is simply added to the indicated return, for a total of 12.7 percent (if full restoration of the growth deficiency is deemed appropriate). In the Figure No. 6 example in Section IV, using the 12.7 percent return on book equity would yield \$2.43 of earnings, which, when netted for the \$1.21 dividend, would leave \$1.22 of retained earnings. Investing the \$1.22 in the LDC business at a return of 12.7 percent would yield 15.5¢ of new earnings, which is 6.4 percent of the original \$2.43 of base earnings. In other words, the \$2.43 of earnings per share is growing at 6.4 percent, as it is supposed to. Net book, which started at \$19.22 per share, grows by \$1.22, which is also a 6.4 percent rate of growth.

How does this 12.7 percent indicated return reconcile with the earlier observations that something lower, perhaps 11.25 percent, should be adequate? The reconciliation could be based upon restoring only part of the growth deficiency, assuming that some factors other than retained earnings from return-times-rate base do contribute – 11.25 percent would represent restoring just over half of the growth deficiency.

The central rationale of the growth-deficiency restoration is that the application of a market-based DCF result to book rate base does not generate enough money to pay required dividends and generate the growth that the regulator itself has determined is expected by investors. However, there are counter arguments to making the adjustment – most notably the argument that rates are being set to sustain market share values above book. The tension between this concern and

the concern that returns be set to put LDC investment on a level playing field deserve a full policy discussion with regulators.

E. Thresholds for Adjustments to Be Contemplated by Regulators

The mechanics of changes, whether they are changes in the proxy group, references to pipeline returns, or adoptions of new methodologies such as Fama-French or growth-deficiency restoration, all require a willingness and enthusiasm on the part of regulators that is not apparent in most jurisdictions. The challenge for the industry is to generate sufficient credibility and confidence in state commissions that a steady decline in allowed returns is causing a looming public-policy problem. Certainly, each LDC can go forward based on the statutory right to a fair return, but moving toward significant changes will probably take more proactive help from regulators than can be gained from winning a court case. Clearly, the lesson learned through the analysis process was that the jurisdictions with an atmosphere of trust and collaboration appear to be fostering the healthiest LDCs.

The bottom line in all instances is credibility. If credibility is generated within the state commission, more positive changes are likely to happen, although there is no guarantee the state commission will incur the political heat of increasing rates. If credibility is generated with legislators and courts, there is more likely acceptance of the types of analyses contained within this AGF Report. In some notable instances (one leading one being the FERC conference in 1998), it has been the face-to-face interaction of senior executives and analysts with regulators, in a public arena where critics are free to criticize, that has generated enough credibility to foster significant change in rates of return. Most LDCs already have such discussions at the state level, but the trend in allowed returns suggests that more are needed.