Docket No. 02-057-02
POST-HEARING BRIEF OF QUESTAR GAS COMPANY

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— BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH —

IN THE MATTER OF THE APPLICATION OF QUESTAR GAS COMPANY FOR A GENERAL INCREASE IN RATES AND CHARGES	))))))	Docket No. 02-057-02 **POST-HEARING BRIEF OF QUESTAR GAS COMPANY**

Pursuant to the briefing schedule established by the Commission at the close of the hearings on October 21, 2002, Questar Gas Company (QGC or the Company) respectfully submits its Post-Hearing Brief on the issues that are yet to be decided by the Commission.

A. Background

As a result of the successful efforts of the parties in this case to stipulate and settle a wide variety of issues, the only litigated issues before the Commission are the determination of the proper level of return on equity capital (ROE) and the appropriate capital structure that is to be used to determine the overall rate of return on the Company's rate base. The rate base itself is not at issue, as it has been stipulated by the Company, Division of Public Utilities (Division) and the Committee of Consumer Services (Committee) to be $555,389,000 for the test year.

The primary positions of the parties on the remaining two issues are:

Return on equity.

Questar Gas: 12.6%, recommended by Professor J. Peter Williamson.
Division: 10.5%, recommended by Dr. Artie Powell.
Committee: 10.0%, recommended by Mr. David Parcell.

Capital structure.

Questar Gas: Actual long-term debt and equity; no short-term debt.
Division: Actual long-term debt and equity; no short-term debt.
Committee: Inclusion of 10.2% short-term debt at a rate of 2.27%.

There is also a minor issue related to which party will chair the task force that is to be established under the terms of the Allocation and Rate Design Stipulation and Settlement.

B. Return on Common Equity.

Introduction. QGC's application in this proceeding was founded in part on the evidence that the cost of equity capital under today's conditions for a utility company comparable to QGC was substantially in excess of the 11.0% currently authorized. Professor J. Peter Williamson, Emeritus Professor of Finance at Dartmouth College, conducted a comprehensive analysis of the issue and concluded that an appropriate rate of return in current markets is **12.6%**.[1] This return would be consistent with returns that have been authorized for, and achieved by, other distribution companies—companies operating in jurisdictions that recognize a well-run utility company that strives to provide quality service by adopting and pursing efficiencies of operations and cost-cutting where possible.

[1]In his rebuttal testimony, Professor Williamson updated his calculations and found a small reduction

Questar Gas Company is a company that has struggled mightily to meet the challenges of debilitating regulatory lag by implementing wide-sweeping cost-cutting measures and technological efficiencies and advancements, while continuing to provide outstanding service. Yet the Division and Committee witnesses would "reward" this performance with a *reduction* from its current equity return of 11%—a reduction that would place QGC near the absolute bottom of the list of recent authorized-return results from around the country. In the case of the Committee, its 10.0% proposal is *below all 12* of the companies reported on Exh. 2nd Rev. QGC 1.13R (attached as Appendix A), and the Division's 10.5% proposal is below all but one of the authorized levels.

Even apart from the flaws in the analyses and derivations that gave rise to these recommendations, authorizing 10.5% would be a devastating signal to Company management, to its employees, to its direct and indirect shareholders, and to the investment community at large. It would send the message that Questar Gas Company is held in low regard by its regulators and is not entitled to earn at a rate that is competitive with its peers—that it has less to offer to equity investors than do those companies with whom it must compete for equity funds as it continues to meet and satisfy the needs of a relentlessly increasing customer base and the concomitant need for capital expenditures.

Notwithstanding the progress made in establishing rates based on conditions extant near the end of 2002, QGC still faces the prospect that its operations during the rate-effective period beginning 2003 will not achieve the rate of return to be authorized

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to 12.47%, a number not significantly different from the 12.60% he originally derived. (Tr. 343.)

in this proceeding. Usage per customer is likely to erode further below the level to be used to determine rates in this case.[2] This, coupled with the inevitable increase in rate base and upward pressure on expenses above the values set in the Revenue Requirement Settlement, will render it unlikely that QGC will be able attain the ROE level established by the Commission.

The point is that the Company still faces the major risk of being unable to achieve its authorized return as a result of the regulatory lag that is characteristic of a utility serving a growing customer base and diminishing per-customer usage.

The General Methods. All three rate-of-return witnesses used the constant-growth discounted cash flow (DCF) model in varying forms and degrees. In addition, Dr. Powell included a "terminal value model" (TVM) model as an integral part of his derivation. All three witnesses also used ancillary methods as reasonableness or corroborative checks (CAPM and risk-premium, e.g.), but did not incorporate them directly in the derivation of their point recommendations. Therefore, the following discussion will focus primarily on the use of the Dcf and TVM models in determining the cost of equity capital.

Proxy companies. As in most recent cases before the Commission, the witnesses selected a group of proxy companies on which to perform the DCF and other analyses. However, contrary to some other cases before the Commission, there is some common

[2]"[A]s we go through the year 2003, it's pretty safe bet that usage per customer is going to drop. . . . For each decatherm the usage per customer drops from that December/November level that we set [in this case], the revenues will be— given the current number of customers—will be $1.3 million lower than would have been if the usage per customer hadn't dropped." (Tr. 208-09, Mr. Allred.)

ground among the three concerning the selection of proxy companies. Professor Williamson chose a group of nine companies that are representative of gas-distribution operations. Dr. Powell used the same set of companies to conduct his analysis. Although he provided some minor commentary about a couple of Professor Williamson's choices (Questar Corporation and National Fuel Gas Supply), Dr. Powell's analysis included all nine. Further, as Professor Williamson testified, the exclusion of the two integrated gas companies that Dr. Powell remarked about would not significantly change the results of the various DCF analyses. (Tr. 363-65; Exh. Cross-9.)

Mr. Parcell took a different approach to the selection of proxy companies by looking at three different groupings of companies: A group of 19 Value Line "Natural Gas (Distribution) Industry" companies; a subset of six of those companies designated as "Moody's Gas Distribution Group"; and Professor Williamson's group of nine, seven of which are included in the Value Line group, but only three of which overlap the Moody's group. (Exh. CCS 4.7; Tr. 406-07.) Mr. Parcell provided no explanation of why these companies constitute appropriate proxies for QGC, having conducted no independent screening or analysis of comparability. (Tr. 406; Exh. QGC 3.0R, at 26.)

As a result, there is scant evidence to conclude that the companies in the Value Line and Moody's groups reasonably approximate the relative risk levels exhibited by QGC. For example, Parcell's 19-company Value Line group includes Southern Union Co., a utility that pays no dividend (thus, producing zero for the value of $D \div P$ in the key DCF calculation of $[D \div P] + g$ for that company). It then becomes difficult to attach

any significance to the results the Mr. Parcell derives, as it is impossible to conclude appropriately representative characteristics for two out of the three groups he uses.

Dr. Powell's DCF Analysis. For all that has been written and spoken by the witnesses about the rate of return, it is apparent that the single issue that drives the large difference between Professor Williamson on the one hand and Dr. Powell and Mr. Parcell on the other is the proper role of dividend growth rates in the DCF calculations. There is no dispute that calculations of equity return based only on dividend growth yield extremely low numbers—so low that they do not provide a credible measure of the cost of capital and should be discarded (as Professor Williamson does) or minimized, as discussed below.

The obvious place to focus this discussion is the prominent role that Dr. Powell assigns to dividend growth forecasts in his DCF analysis, giving his 7.21% DCF/dividend growth computation a full one-third (33⅓%) weighting along with two other discounted cash flow methods—constant-growth DCF with earnings estimates, and a composite TVM estimate.[3]

From several points of view, it is quite clear that Dr. Powell's calculation of 7.21% does *not* provide a realistic or rational estimate of the cost of equity capital for a gas distribution company. Contrary to his testimony, it is *not* plausible that 7.21% is a "lower bound" for investors' expectations of returns from such a company. That's

[3]The TVM is itself a discounted cash flow model; it looks only to a finite time horizon and calculates the "internal rate of return" for that finite period by analyzing the cash flows generated by the dividends and the final sale of the security at the end of the time horizon chosen. (Tr. 457-62.)

evident from the comparison of this level with the current yields of A and Aa utility bonds shown in Exhibit CCS 4.2, page 2.[4] (*See also* Tr. 429-30, Parcell; 465-67, Powell.) Dr. Powell even admitted that he would not invest in an equity with such expectations when bonds in the same kinds of companies are providing the same level of returns at demonstrably lower risk. (Tr. 467-69.[5])

It is not reasonable to claim an ROE method that yields a value actually less than the return from typical, corresponding utility bonds is a credible candidate to be averaged with results of other methods. The most obvious solution to this problem is to set aside the method as giving anomalous results—at least until dividend growth projections return as reliable indicators of what investors analyze in forming their expectations for total returns on their equity investments. You can't impart credibility to a corrupt result by hiding it in the average of other, more reasonable results.

Dividend Growth Rates. The DCF model $K = (D \div P) + g$ is founded on the assumption that a company's dividends will grow at constant rate g to infinity. In order to produce a stable model, this assumption requires that earnings also grow, over time, at the same constant rate. Over the past several years, it has become apparent that dividend growth and earnings growth rates for utility companies are not only growing at different rates, but they have been diverging, with actual and expected dividend growth rates sharply lower than earnings growth rates.

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[4]For July 2002, Mr. Parcell reports 7.22% for A-rated utility bonds, 7.31% for Aa's, and 8.07 for Baa's.

[5]"And no, I don't think there's any investor that is going to invest in an equity where on average he would expect only to get what he could get with a bond."

This is not a surprising result, as investors have come to rely more and more on earnings growth expectations and less on dividend growth expectations. Although this condition may not last indefinitely, it has been developing over many years and is the current state of affairs. The views of Alan Greenspan, Chairman of the Federal Reserve Board, have been invoked favorably in the course of the proceedings, and his views on the relationship of dividends and investors' expectations is instructive:

> [D]ividend payout ratios, which in decades past averaged about 55 percent, have in recent years fallen on average to about 35 percent. But because share prices have risen so much more than earnings in recent years, dividend yields—the ratio of dividends per share to a company's share price—have fallen appreciably more than the payout ratio. A half-century ago, for example, dividend yields on stocks typically averaged 6 percent. Today such yields are barely above 1 percent.
>
> The sharp fall in dividend payout ratios and yields has dramatically shifted the focus of stock price evaluation toward earnings. Unlike cash dividends, whose value is unambiguous, there is no unambiguously "correct" value of earnings.[6]

Professor Williamson made the point as well:

> There was a time—and actually this is expressed rather well in a speech made by Alan Greenspan that was provided to us by Dr. Powell in answer to a data request. As Alan Greenspan points out . . . if you go back to the 1950's anyway, dividends were very important, and people were much concerned about dividends and perhaps dividend growth rates, but by now, the focus is on earnings. It's not on dividends. Payout ratios have gone way down, dividend yields have gone way down, and it's earnings that matter to investors.

(Tr. 326.)

Other commentators have made similar observations. Writing in the *Public*

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[6]Remarks by Chairman Alan Greenspan at the Stern School of Business, New York University,

Utilities Fortnightly, Robert J. Rosenberg concludes: "During the period of changing [dividend] payout policy, these circumstances make growth in dividends a poor proxy of expected future growth of utilities."[7]

Closer to home, the information submitted by Dr. Powell corroborates this trend. As shown in his direct testimony (Exh. DPU 6.0, at 12), the separate DCF calculations of *g* using Value Line dividend and earnings growth rates were 400 basis points apart in Docket No. 99-057-02 (3.33% *v.* 7.33%) and have diverged even further to 542 basis points in this case (2.33% *v.* 7.75%). (Tr. 456-57.)

This divergence indicates two things: (a) currently, the dividend growth calculations are simply unreliable indicators of the cost of capital; (b) perhaps it is appropriate to look to another model to supplement the information that the constant-growth (to infinity) DCF model provides.

Even though the Commission has relied heavily on the DCF as the primary tool for determining a utility's cost of equity capital, it has in past cases recognized the possible unreliability of dividend growth estimates as inputs to the DCF model. Indeed, the Commission has allowed that the time may come when dividend growth estimates should be discarded entirely. In *U.S. West Communications, Inc.*, 1995 WL 798880, at *50 (Docket No. 95-049-05 Utah P.S.C. 1995), the Commission noted "the witness who chooses to use only earnings growth should carefully rationalize the decision." The time

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March 26, 2002. <www.federalreserve.gov/boarddocs/speeches/2002/default.htm>.

[7]Robert J. Rosenberg, *Cut the Pay-Out, Boost the Buyback?*, PUBLIC UTILITIES FORTNIGHTLY, Oct. 15, 2002, at 46. *See also* Gustavo Grullon and David Ikenberry, *What Do We Know About Stock Repurchases*?, J. Applied Corp. Fin., Spring 2000, at 31.

has arrived to use only earnings growth, and Professor Williamson has carefully explained—i.e., "carefully rationalized"—why dividend growth rates that produce cost-of-capital estimates in the seven-percent range are simply not reliable or credible and should be discarded. It's time to recognize this divergence of dividend growth from investors' expectations of equity returns and eliminate, or at least minimize, the reliance on such information.

Mean Versus Median and What's an "Outlier?" As in previous cases, the issue of whether to base the derivation of the cost of equity capital on medians or means (averages) of the various data and derivations has surfaced in this case as well. As noted, Dr. Powell took the opposite view in this case concerning the use of medians or means. Whereas in Docket No. 99-0570-20, he adamantly insisted that only medians were appropriate for the data, he has decided that the data in this case warrant the use of means.

We might ponder if, as Professor Williamson suggests (Exh. QGC 3.0R, at 21), this was driven by the fact that medians in the Docket No. 99-057-20 case gave almost uniformly lower estimates of the cost of capital, while means in the current case give the lower numbers.

With respect to this issue as it applies to the nine proxy-company data points in the Williamson group, the differences are not worth quibbling about. However, the mean-v.-median issue does become significant when one tries to decide which technique to use on Dr. Powell's three estimates of cost of capital on Exhibit DPU 6.3: 7.21%,

12.11%, 12.31%. Because of the "influence" of the extremely low 7.21 value, the mean value is 10.54%, while the median is 12.11%—a 157 basis-point difference that translates to a revenue-requirement difference of about $7.5 million. Using the mean in this situation produces an unreasonably low number,[8] while the median yields a reasonable cost-of-capital value that is consistent with values authorized for similar companies, as shown in Appendix A.

Dr. Powell rationalizes his change from medians in the last case to means in this case on the basis of whether or not there are "outliers" in the data. If there are, so goes his approach, then the median is appropriate; if not, the mean is the way to go. Thus, in order to average these three numbers rather than select the 12.11% median, Dr. Powell must conclude that there are no outliers among these three. But, by any reasonably chosen criterion or by simple examination of these numbers, his claim that 7.21% is not an outlier is preposterous.[9]

In QGC's last case, Dr. Powell claimed that QGC's witness, Dr. Charles Moyer, was "naive" to criticize Powell's use of medians and went on to carefully explain, "[I]f one suspects the presence of outliers or unusual values in a sample, the median is the better representative of the 'typical' or 'representative' value." *Questar Gas Co.*, Docket No. 99-057-20, Exhibit DPU SR2.0, at 8. If Dr. Moyer was "naive," Dr. Powell is equally so for claiming that 7.21% is not an outlier and for not applying his own

[8]Significantly lower than all but one of the 12 results shown in Appendix A.
[9]QGC hesitates to use such strong terms, but some situations warrant a blunt characterization. This is one of them.

criterion to apply the median of the three models' results.

What is an "outlier," anyway? Professor Williamson's view is that it is "a number that looks very different from the other numbers."[10] Even though there may be a variety of techniques for quantifying them,[11] they are truly in the eye of the beholder. There is no universally accepted analytic definition of "outlier," but it is difficult to believe that *any* reasonable person would not know this is one such.[12] No reasonable test for an outlier would fail to identify 7.21% as such a value. This is particularly so in the context in which this number arises—ostensibly as a measure of expected return on equity—when an investor could expect the same return from the far-less-risky bond holding in similar companies. It just "doesn't fit."[13]

The "Box Plot." Dr. Powell claimed to have "tested" this set of three values for outliers by using something called a "box plot," concluding that there was no outlier. Even *if* such a test had any theoretical foundation,[14] it has absolutely no application to a

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[10]"Perhaps the best analogy are those children's books that give you five pictures and say, "Which one does not belong?" . . . . You look at [these] three numbers, and you say, 'One clearly doesn't belong'." (Tr. 365-66.)

[11]Dr. Powell finally admitted that there were multiple techniques for considering the question. (Tr. 473-74.)

[12]To stretch an analog a bit, the test is not much different from that found in the late Justice Potter Stewart in another context: "I shall not today attempt further to define [pornography] . . . and perhaps I never could succeed in intelligibly doing so. But I know it when I see it." So, too, with "outliers."

[13]And the Commission has adopted the view that outliers should left out of these kinds of analyses: "In past cases, the Commission has opted to eliminate outliers. We continue to believe an adjustment for outliers is appropriate." *Questar Gas Co.*, 203 P.U.R.4th 356, 366 (Utah P.S.C. 2000, Docket No. 99-057-20.)

[14]This is a tenuous assumption, at best. Dr. Powell admitted that he knew of no application of this method other than his own in the area of analyzing cost-of-capital data and models (Tr. 475), and Professor Williamson—an expert who has been testifying in rate-of-return proceedings for 25 years—not only knew of no such applications, but had never heard of it before this case (Tr. 366).

In addition. technically speaking, application of this marginally interesting manipulation of

set of three points. The very source of authority that Dr. Powell cites for the explanation and development of this technique states: "[T]he smallest sample size that allows for comparison is five." Indeed, Dr. Powell admitted that the reason that you can't perform a "box plot" exercise on three points is that the first step in the technique is to divide the data into four groups—obviously impossible with only three points. (Tr. 477-78.) Dr. Powell's purported application of this technique to his three cost-of-capital outcomes is—in a word—impossible.

Finally, on this issue, Cross Exhs. 13 and 14 illustrate the point graphically. If the various values (including both means and medians) that Dr. Powell considers in his overall analysis are plotted on a linear scale, it is difficult to see how any reasonable approach to the outlier question could fail to exclude the two values on the extreme left of the scale. These are, of course, the mean and median values of Dr. Powell's dividend growth DCF result.[15]

Range of Reasonableness. In response to questions from Commissioner Campbell, Dr. Powell claimed that his "range of reasonableness" was 7.21% to 12.31%. (Tr. 505-06.) To use Professor Williamson's characterization, this in nonsensical. The

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data would not pass the *Rimmasch* scientific-evidence test under Rule 702 of the Utah Rules of Evidence. *State v. Rimmasch*, 775 P.2d 388, 398-400 (Utah 1989). However, we needn't make a major point of it; it is a harmless exercise with respect to the nine proxy companies in this case and is completely inapplicable to the three-point group of Dr. Powell's methodologies, as will be shown.

[15]Admittedly, not all the data points on Exhs. Cross-13 and -14 represent independent results, but the relative spread still makes the point that the dividend growth results are clear outliers; the presence of outliers favors the use of medians; and the median of Dr. Powell's three outcomes is 12.11%. Yet another way to see this obvious result is found in Professor Williamson's rebuttal testimony, where he examines five of Dr. Powell's results. With 7.21% as a clear doesn't-fit value, the median of Dr. Powell's five median values is 12.04%. (Exh. QGC 3.0R, at 19.)

Utah Supreme Court has generally given the Commission some license to set the authorized return on equity within a range of reasonableness,[16] but the values within such a zone must first satisfy the *Hope* and *Bluefield* capital-attraction and fair-compensation tests. *All* of the witnesses stated in one way or another—primarily with regard to the subordinated nature of equity vis-á-vis debt instruments and current bond returns in the 7-8% range[17]—that an expected equity return of 7.21% would not attract capital.[18] In other words, proposals based on such a premise would flunk the basic capital-attraction test.

In the parlance of the Supreme Court and this Commission, a 510-basis-point "range of reasonableness" is not credible. Dr. Powell cannot rescue his untenable 7.21% lower-bound claim by cloaking it an artificially constructed "range of reasonableness" that is anything but reasonable.

Dr. Powell's Change of Methodologies. As became clear at the hearing, Dr. Powell not only changed from medians in the last QGC case to means in this case, but he also modified his methodology for combining the results from the TVM model and the DCF model between the two cases. In particular, in Docket No. 99-057-20, he gave equal weighting to the TVM and DCF model results. (Tr. 461.) Within the DCF portion of this equal weighting in the prior case, he also equally weighted the two estimates derived from earnings growth rates and from dividend growth rates.

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[16]*Mountain Fuel Supply Co. v. Public Serv. Comm'n*, 861 P.2d 414, 426 (Utah 1993).
[17]Exh. CCS 4.2, page 2.
[18]*E.g.*, Mr. Parcell (Tr. 429-30); Professor Williamson (Tr. 299-300); Dr. Powell (Tr. 468, line 23, through 469, line 1).

This effectively gave a 25% weighting to the dividend growth estimate of the cost of equity. On the other hand, Dr. Powell's 10.5% recommendation in this case is based on a 33⅓% weighting of the dividend growth forecasts. (Tr. 511.) Dr. Powell gave no justification for having increased the relative importance of dividend forecasts from 25% to 33⅓%, but rather claimed that he had intended *just the opposite*. (Tr. 511-12.) Thus, even if one were to conclude that there is simply no reason to increase the weighting of dividend growth forecasts relative to the last case, a straightforward calculation replicating Dr. Powell's Docket No. 02-057-02 weighting would produce an ROE result of 10.98%.[19] (Tr. 482-83.)

However, that doesn't end the matter. Another methodological change that Dr. Powell made relative to the last QGC case was to weight the earnings projections from Value Line and Zacks by the relative number of analysts who provided those earnings growth estimates. Indeed, this is a sensible and meaningful way to reduce a potentially undue influence that a single Value Line forecaster would have on the overall result.[20]

Comporting Dr. Powell's Analysis with the Evidence. Questions to Dr. Powell from Commissioner Campbell highlighted the point that, in Dr. Powell's weighting of dividend and earnings growth, the forecast of a single Value Line dividend growth forecaster was given as much weight as from three to seven earnings growth forecasters

[19]Once more, Chairman Greenspan's observations about the diminishing role of dividends in investors' decision-making process suggests that increasing the weighting on dividend forecasts is quite the wrong direction to take. See footnote and accompanying text, *supra.*

[20]Note: The Value Line analysts' earnings growth forecasts are, on average, greater than those of the Zacks forecasters. One wonders if Dr. Powell would have employed the same weighting if the relative positions had been reversed.

reported by Zacks. (Tr. 507-08.) Implicit in this line of inquiry is the question of what would be the result if one were to weight the Value Line dividend forecasters' results in the same way that Dr. Powell weighted the Value Line earnings forecasters' results with the Zacks forecasters' results in Docket No. 99-057-02.

The answer is easily derived from Dr. Powell's Exhibit DPU 6.3 (attached as Appendix B[21]) by giving a weight of 1.0 for the number of Value Line dividend forecasters for each company [col.(a)], 1.0 for the number of Value Line earnings forecasters [col.(b)], and 4.0 for the average number of Zacks earnings forecasters [col. (d)].[22] If the resulting DCF estimate of cost of capital is then weighted equally with the TVM estimate of 12.31% [from row (3) of Exh. DPU 6.3]—as Dr. Powell did in the last QGC case, the following is the resulting ROE estimate:

$$[\ (7.21\% \times 1.0) + (12.72\% \times 1.0) + (12.04\% \times 4.0)\ ] \div 6.0 = 11.35\%^{23}$$

$$[11.35\% + 12.31\%] \div 2 = \mathbf{11.83\%}$$

Thus, weighting the DCF estimates according to the relative number of analysts providing dividend and earnings growth estimates, as suggested by Commissioner Campbell's questions, and giving equal weight to Dr. Powell's DCF and TVM estimates yields

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[21]Row and column indicators have been added to Exh. DPU 6.3 in Appendix B to facilitate this discussion.

[22]Possible point of confusion: There are several Value Line forecasters, but only one for each given company. In contrast, there are several forecasters for *each* company that Zacks reports on. The median number of Zacks analysts is 4.0; the average is 4.22. (Exh. DPU 6.3.) We will use 4.0 here, as it is not clear what .22 of an analyst would be.

[23]From Exh. DPU 6.3, 7.21% is Dr. Powell's DCF w/Value Line dividends estimate; 12.72% is his DCF w/Value Line earnings; 12.04% is his estimate with Zacks earnings estimates. (To avoid the confusion of multiplicity of similar calculations, only averages are presented here; similar results hold for the medians.)

11.83%. This is consistent with the Company's view that, under the particular circumstances that have developed in this case related to settlement of certain issues, the Company and investment community would find an ROE in this range to be an acceptable outcome. It would place QGC in the company of other natural gas utilities with which it competes for investment funds.

The importance of this derivation cannot be overemphasized. It is not just an eclectic combination and manipulation of a variety of the numbers found in the testimony and exhibits. It has major significance because:

1. It is grounded entirely on the analysis and derivations that Dr. Powell has presented;

2. It employs the same weighting between DCF and TVM methods used by Dr. Powell in the last QGC case. There has been no showing that there has been a change in the overall conditions that would justify a change in weighting between the two.[24]

3. It eliminates the need to decide whether to use the mean or median of Dr. Powell's primary set of estimates, 7.21%, 12.11% and 12.31%, or to decide the associated "outlier issue";

4. It reflects Dr. Powell's stated intent to reduce the influence of dividend growth forecasts relative to the last QGC case. Notwithstanding that his computations *increased* the reliance on dividend growth forecasts relative to the last QGC case, he testified that he had intended to *decrease* the weighting.[25]

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[24]This is additionally important because the Commission implicitly adopted the Division's 11.0% recommendation in the last QGC case and, inferentially, adopted Dr. Powell's weighting between the two methods.

[25]The following exchange took place:

> COMMISSIONER CAMPBELL: And that wasn't a conscious decision on your part to say I'm going to move dividends to give them greater weight in this case?
>
> DR. POWELL: Not in particular. In fact, my intent was actually the opposite. . . . And so *I was attempting to weight dividends less* than the results from the earnings models.

(Tr. 511-12, emphasis added.)

5. It incorporates the clearly demonstrable changes to the financial-evaluation landscape in which dividend growth forecasts have become less and less reliable as a component of the DCF model,[26] but it does not eliminate dividend growth entirely from consideration;

6. It adds a level of consistency to Dr. Powell's evaluation by recognizing that, for a given proxy company, there is but one dividend growth forecaster, while there are four to eight analysts forecasting earnings growth (one from Value Line and between three and seven from Zacks). (Exh. DPU 6.2.)

In summary, if the Division's equity-return position is conformed to (a) the methodology that it presented to the Commission in Docket No. 99-057-20, and (b) Dr. Powell's cross-examination testimony concerning weighting of analysts and dividend growth forecasts, that position is not only well above the 10.5% the Division initially filed, but—at **11.83%**—gives a result that is consistent with recent results around the country reported in Appendix A to this Brief.

The Parcell Position. As indicated above, Mr. Parcell's analysis begins with an amorphous overlap of three groups of companies, some of which are common to all three groups, some belonging to only one group, and none of them the subject of any screening or independent evaluation by Mr. Parcell for suitability as proxy companies. (Tr. 406-07.)

Mr. Parcell's DCF analysis has similar difficulties. This can be seen by examining Exh. CCS 4.7, page 4, where Mr. Parcell displays the information from which he obtains his DCF estimate of the cost of capital. He averages five different values to obtain the

[26]See discussion at pages -, *supra.*

annual growth rate *g* in the DCF formula.[27] However, two of those values are *historic* indices that are not consistent with DCF theory. All witnesses agreed that the DCF is a *forward-looking* model (Tr. 403, Parcell; Tr. 453, Powell; Exh. QGC 3.0R, at 29, Williamson) that tries to measure investors *expectations*—not to measure what took place one to five years ago.[28]

In recent cases before the Commission, historical information has not been used to measure investors expectations. The very fact that there currently are extremely large differences between the historic and forecasted growth rates is all the more reason to reject the use of backward-looking historic trends as reliable predictors of the infinite future.[29] The only justification for using such dated information would be a showing or demonstration that these data provide a reasonable model for the future. Mr. Parcell provided no such evidence; indeed, the evidence points in the other direction.

Accordingly, the columns in page 4 of Parcell's Exh. CCS 4.7, titled "Historic retention growth" and "Historic per share growth," should not be considered reliable indicators for DCF evaluation purposes.

In addition, the "Prospective per share growth" column is made up of an average of the expected growth rates of earnings, dividends and book value (from page 3 of Exh.

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[27]Historic retention growth, prospective retention growth, historic per share growth, prospective per share growth, and First Call EPS growth.

[28]Neither Dr. Powell (Tr. 454-55) nor Professor Williamson used any historic information in their DCF analyses.

[29]Page 3 of Exh. CCS 4.7 shows this dramatically:

	Historic growth	*Estimated growth*	*% difference*
Value Line composite	3.8%	5.6%	+ 47%
Moody's Group composite	2.2%	4.7%	+114%

4.7). Including dividend growth rates at an equal weight with earnings growth rates incorporates the same difficulties as discussed above in connection with Dr. Powell's analysis. To get a fair measure of investor's expectations of returns, this component should also be eliminated.

Finally, the lack of foundation for establishing that the Moody's and Value Line groups are appropriate proxies or that they provide independent information suggests that Mr. Parcell's analysis be limited to the nine proxy companies used by Professor Williamson and Dr. Powell.

The failure of Mr. Parcell to perform any analysis to establish the comparability of the Moody's and Value Line companies; his reliance on historic indicators of dividend and earnings growth; and his use of unrealistic dividend growth forecasts as a significant component in his DCF analysis render his overall ROE to be unreliable and unrealistic in today's capital marketplace and should be rejected.[30]

ROE Conclusion. Questar has set forth persuasive evidence that the cost of equity capital for a well-run gas utility company that continues to meet its customers needs under a variety of difficult conditions is over 12%. For the reasons discussed above, the

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Williamson Group composite 4.3% 5.8% + 26%

[30]Application of these various observations to Mr. Parcell's data would yield the following:

- Limit the analysis to the proxy companies that have been shown to be comparable — namely, the Williamson Proxy Group.
- Remove the DPS column from the prospective growth rates on page 3 of Exh. CCS 4.7 for the Williamson Proxy Group, raising the average from 5.8% to 7.3%.
- Transfer this 7.3% to page 4 of Exh. CCS 4.7 and eliminate the two historic-growth columns (i.e., eliminate the 4.4% and 4.3% averages for the Williamson Group), increasing the "Average growth" average (next to last column) for the Williamson Group from 5.3% to 6.5%.
- Add this 6.5% value for g to the "adjusted yield" ($D \div P$) average of 4.8%, producing a

Division's and Committee's recommendations fall short of providing adequate compensation to Questar Gas Company's equity owners.

A more structural way to summarize the collective evidence on this issue is to address Commissioner Campbell's inquiry to Dr. Powell about a "range of reasonableness." (Tr. 504-06.) Given the evidence in the case, what *is* the range of reasonableness? It certainly is not a range that is over 500 basis points wide, as Dr. Powell claimed. (Tr. 504.) A more reasonable approach is to consider the evidence presented by Professor Williamson, as well as that of Dr. Powell and Mr. Parcell adjusted to reflect the demonstrated difficulties with their conclusions (e.g., inordinate reliance on dividend growth forecasts, unjustified change of methodologies from last QGC case, use of out-of-date historic dividend and earnings growth rates). From this evidence, one can draw a zone of reasonableness that ranges from Professor Williamson's **12.6%** (or, later, 12.47%) to **11.83%** based on Dr. Powell's data and methods,[31] to **11.3%** based on Mr. Parcell's basic data.[32]

The three typical values considered from such a range are: the average, **11.91%**; the median, **11.83%**; and the mid-point, **11.95%**. These values are all compatible with values in the Appendix A table, falling in the upper part of the third quartile of those values. Although it is below the 12+% QGC believes is justified, an authorized ROE value even in this range will provide a positive message to the Company, its employees

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DCF cost-of-equity of 11.3%.

[31]See page , *supra*.

[32]See note and accompanying text, *supra.*

and the investment community that the Commission recognizes the Company's accomplishments as a well-run utility operation that must compete with similar companies for capital and compensate their respective investors properly.

C. Capital Structure.

Introduction. The Committee, through Mr. Parcell, proposes that the Commission break with its uniform past practice and include in QGC's capital structure a major component of short-term debt. Because short-term debt rates are at near-record lows of less than 2.5%, this would have an enormous and devastating impact on QGC's annual revenue requirement—approximately $5.7 million. (Tr. 394.[33]) Mr. Parcell's proposal simply does not reflect how QGC obtains and spends the capital it needs to conduct the various parts of its business. To adopt this proposal would ascribe a 2.27% cost to over 10% of the Company's rate base that is actually being currently financed by a combination of financial instruments that cost the Company an average of over 9.5%.[34]

The Committee's proposal completely misperceives the foundational connection between overall rate of return and rate base. Whether purposefully or otherwise, it mismatches the Company's total need for capital with its rate base. The total capital requirement—long- and short-term debt and equity—is needed to fund not only the Company's utility rate base but its construction work in progress (CWIP) and the purchase of natural gas supplies that it—in its merchant role—must obtain. However, QGC's rate base does *not* include CWIP nor any amount related to the gas supplies that it

[33]*See also* Settlement Exh. 1 to the Revenue Requirement Stipulation and Settlement, page 2, line 58.

procures, facts that are not in dispute. (*E.g.*, Tr. 397-98.) Still, having admitted that these major requirements for capital funding are not included in rate base, Mr. Parcell disconnects from this fundamental fact and attaches the total capital structure of the Company *only* to the Company's rate base.

Not only is this traditionally wrong, it is both theoretically incorrect and patently inequitable. The key concept here is the *rate base*. For rate-making purposes, capital structure is the total capital needed to support the rate base, *not* the total capital obtained by the Company.[35] The only fair *and legal* way to implement Mr. Parcell's proposal would be to include *all* of QGC's assets—current rate base, CWIP, purchased gas worth up to $80 million—in the investment base to which the Company-wide capital structure would apply. This would, of course, involve a complex analysis of the various cash flows and capital investments needed to support all aspects of the Company's operations, not just rate base. Mr. Parcell provided no such analysis.

To do as Mr. Parcell proposes would constitute an unlawful "taking" under the U.S. Constitution, as it would mismatch the entire capital aggregation of the Company with the smaller, permanent-asset rate base and leave a major component of QGC's capital with a non-compensatory return.

The Legal Requirement in Utah. It is well-established that the Commission may not make a major change in the methods and policies for setting a utility's rates without

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[34]This assumes current embedded cost of long-term debt and 11.0% ROE.

[35]"The capital structure simply represents the funds used to finance the rate base." J. C. BONBRIGHT, A. L. DANIENSEN, D. R. KAMENSCHEN, PRINCIPLES OF PUBLIC UTILITY RATES 237 (1988).

a full justification of the change. It may not, for example, modify or change the effects of its prior decisions and orders "until either the Commission specifically overrule[s] the decision or the decision [is] changed or set aside by formal rule, statute, or court decision."[36]

The Committee has not met the legal threshold that would justify the Commission's adopting this revolutionary approach to capital structure for a Utah utility company. It has not provided *any* concrete justification for its proposal, and certainly nothing that would satisfy Section 17 of the Utah Administrative Procedures Act for a major change to a prior Commission practice.[37] To the Company's institutional recollection, its capital structure has *never* included short-term debt, a fact that Mr. Parcell conceded. (Tr. 393.) It follows that there must be substantial justification for making any such material change in the foundation for the utility's rates.

Has Mr. Parcell offered any sustainable reason to do so? No. What *are* his reasons?

(a) That QGC uses short-term debt for part of its ongoing operations? That's not a "reason." The Company readily admits that it uses short-term debt; it has done so openly and properly since the *Bluefield* case became a touchstone. But that simple fact, by itself, does not establish any relationship between short-term debt and the Company's

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[36]*Salt Lake Citizens Congress v. Mountain States Tel. & Tel. Co.*, 846 P.2d 1245 (Utah 1992)Salt Lake Citizens Congress v. Mountain States Tel. & Tel. Co., 846 P.2d 1245, 1253 (Utah 1992).

[37]Utah Code Ann. § 63-46b-16(4)(h)(iii) (1997) (appellate relief to be granted if agency action is "contrary to the agency's prior practice, unless the agency justifies the inconsistency by giving facts

rate base. As Professor Williamson points out, Mr. Parcell conducted no analysis to show that short-term debt finances any part of the Company's rate base. (Exh. QGC 3.0R, at 5-6.)

(b) That a few other states' commissions have done so? Mr. Parcell provided no evidence or explanation of the facts and circumstances that are involved in cases in other jurisdictions. (*Id.* at 6.) No inference about QGC can be drawn from this observation.

The long and short of it is that there is not a shred of legitimate justification for attaching short-term debt to QGC's rate base.

QGC Capital Structure Supports Rate Base. Mr. Parcell devotes just two questions and answers in his prepared direct testimony (Exh. CCS 4, at 23-24) to explain why the Commission should deny QGC almost $6 million in annual revenues related to this issue with no more than the observations that QGC uses short-term debt in some unspecified way in its operations and that rating agencies look at this index for some purpose. He provided no analysis of what role short-term debt has played or will play in the Company's operations.

He later augmented his reasons for including short-term debt by noting that there are companies in other jurisdictions whose short-term debt is included in their capital structures, but—again—he provided no analysis of those companies' use of short-term debt, their respective commissions' reasoning, or any other information that would link them to QGC's situation.

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and reasons that demonstrate a fair and rational basis for the inconsistency").

Professor Williamson and Dr. Powell concluded that the proper test-year capital structure for QGC should be the actual mix of equity and long-term debt reported by the Company: 52.61% equity, 47.39% debt. (Exhs. QGC 7.0R, at 8-12; QGC 3.0R, at 4-6; DPU 6.0, at 13-14.) More specifically, Dr. Powell testified: "Since rate-base consists of long-term assets, the Division has maintained the position that long-term debt and equity are the appropriate supporting instruments." (Exh. DPU 6.0SR, at 15.)

In contrast to Mr. Parcell's minimal two-question/answer treatment of this $5.7 million issue, Professor Williamson and Mr. Curtis have provided a detailed explanation of both the theory and the factual context of capital structure, utility rate base, and QGC's particular operations.

Professor Williamson first explained the theoretical underpinning of the connection between rate base and the capital structure to be associated with that rate base. The capital structure used to determine the overall rate of return on rate base *is* in general the aggregation of funds used to finance the rate base. (*See* Exh. QGC 3.0R, at 5.[38])

Mr. Curtis provided extensive detail to show the relationships between (a) the Company's rate base, its CWIP expenditures, its massive need for capital to finance short-term purchases of gas, and (b) the use of long-term debt, equity capital and short-term

[38]Even Mr. Parcell cites a similar characterization, and then proceeds to advance a proposal that is squarely at odds with it: "The rate base – rate of return concept recognizes the assets which are employed in providing utility services and provides for a return on those assets . . . which are used to finance those assets. . . . The inherent assumption in this procedure is that the dollar values of the capital structure and the rate base are approximately equal and the former is utilized to finance the latter." (Exh. CCS 4, at 21.)

debt. (Exhs. QGC 7.0R, at 8-12; QGC 7.3R.)

Mr. Curtis's own summary is the best tutorial of what is going on with short-term debt:

> First of all, the most important reason that we use short-term debt is for very dramatic monthly swings in cash balances. Typically Questar Gas pays its gas supply bills, its gas transportation bills, and other very major bills on the last few days of each month, and that requires a very significant increase in borrowing needs over just a very few-day period of time. [O]n a typical basis, that change in cash balance is at least $20,000,000. If you look back in time when gas prices were very high during the winter of 2000 and 2001, that change in cash requirements over a very few days in some cases was $80,000,000.
>
> . . . We don't need permanent financing for that $80,000,000 or $20,000,000 . . . but we do need a very significant amount of short-term debt to finance that monthly requirement. . . . [A]s cash is received from customers on receivables throughout the month, of course that need for financing drops off on a regular basis.
>
> The second reason we need short-term debt is because there's a seasonal need. In addition to the monthly peaks, there's a seasonal peak. As I mentioned before, working gas storage is typically at its highest balance at the end of the year. That's also true for gas receivables. The largest balances in receivables are at the end of the year, what customers owe us, and so there's a seasonal pattern to the use of short-term debt as well as it goes . . . throughout the year, and the December 31 point that the Committee used for its recommendation here for the $66,000,000 happens to coincide with both a month-end peak and a seasonal peak.
>
> Other reasons . . . short-term debt is used to finance construction work in progress until permanent financing can be put into place, so while a project is being built and constructed, short-term debt can be used to finance that.
>
> I might note that construction work in progress is not included in rate base. The Company is allowed to earn an allowance for funds used during construction on construction work in progress, and that is calculated at the short-term debt rate, so in a project, the allowance for funds would be added to the cost of that project. If the Company has had short-term debt outstanding during the year, the short-term debt rate is

used for that calculation.

> One final reason why the Company uses short-term debt is, of course, we have the gas balance account, and that account can swing rather dramatically on us, and at periods of time when the gas balance account is a debit balance, which means that we have not received all of the gas costs from customers, short-term debt has been used to finance that balance.
>
> I might note that for most of the test year from the period basically the end of February through the end of September, short-term debt balance at Questar Gas has been at zero during this test year period.

(Tr. 371-73.)

This evidence is entirely uncontroverted and firmly establishes that short-term debt plays no role in the capital structure that supports the Company's rate base. Mr. Curtis's explanation is consistent with the general theory, as indicated by Professor Williamson and Mr. Parcell, that capital structure is the financial wherewithal that supports the permanent assets the Company uses to provide utility services to its customers.

Finally, Mr. Curtis prepared a table that established perhaps even more clearly that QGC's rate base is not financed by short-term debt. That table shows December 2001 rate base of $595 million and long-term financing[39] of $591 million, with additional short-term debt financing of over $66 million. (Exh. QGC 7.0R at 11.) It also shows June 2002 rate base to be $580 million, long-term financing of $599 million and *no* short-term debt. Mr. Parcell's claim that short-term debt is a part of the capital structure that finances rate base is completely crosswise with these facts.

[39]The sum of long-term debt and equity.

In short, the Committee's attempt to lop almost $6 million from the Company's annual revenue requirement by attributing the company's CWIP- and gas-cost-related short-term borrowing to the capital structure that supports rate base has no basis in theory, fact or law and must be rejected.

D. Pending Settlements.

The parties to this proceeding have submitted four Stipulations and Settlements to resolve all of the issues except those addressed in this brief. Most directly connected with the ROE/capital-structure issues is the Revenue Requirement Stipulation and Settlement, the approval of which is an important element of some of the discussion of ROE set forth above. QGC urges the Commission to approve those settlements as a part of a comprehensive treatment of just and reasonable rates for the Company.

E. Task Force Organization and Chair.

While testifying in support of the Allocation and Rate-Design Stipulation and Settlement, Committee witness Dan Gimble urged that a Committee representative should chair the rate-design task force that is provided for in the settlement. QGC believes it is improper for an advocate of any particular customer group to head the task force. Because the subject matter of the study will be QGC's natural gas tariff, one logical entity to provide direction for the task force would be the Company. Further, because the issues to be addressed do not generally affect the Company's revenue requirement, it does not approach the project with an agenda favoring any particular class or group of customers. For similar reasons, a representative of the Division would

also be appro- priate to chair the task force.

F. Conclusion.

For the reasons given above, Questar Gas Company believes that the Commission should (a) approve the four currently pending Stipulations and Settlements, (b) adopt QGC's actual capital structure in the determination of the overall rate of return on rate base, as set forth and explained by the Company and supported by the Division, (c) reject the capital-structure proposal of the Committee, and (d) incorporate in the determination of QGC's revenue requirement a return on equity capital that is consistent with the testimony and evidence of Professor Williamson and allows Company to be competitive for equity capital among similar utility companies.

RESPECTFULLY SUBMITTED this 12th day of November 2002.

QUESTAR GAS COMPANY

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Appendices

A: 2nd Rev. Exhibit QGC 1.13R (Mr. Allred's compilation of recent authorized and earned returns)
B: Exhibit DPU 6.3 (Dr. Powell's recommendation and summary)

Certificate of Service Docket No. 02-057-02

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing Post-Hearing Brief of Questar Gas Company was mailed, postage prepaid, this ___ day of November, 2002 to the following:

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— BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH —

IN THE MATTER OF THE APPLICATION OF QUESTAR GAS COMPANY FOR A GENERAL INCREASE IN RATES AND CHARGES	))))))	**Docket No. 02-057-02**

POST-HEARING BRIEF OF QUESTAR GAS COMPANY

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