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**BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH**

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In the Matter of the Application of Questar  
Gas Company to File a General Rate Case

**Docket No. 07-057-13**

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**PREFILED SURREBUTTAL TESTIMONY OF ROBERT H. MCKENNA**

**[RATE OF RETURN]**

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The UAE Intervention Group hereby submits the Prefiled Surrebuttal Testimony of  
Robert H. McKenna on rate of return issues.

DATED this 12<sup>th</sup> day of May, 2008.

/s/ \_\_\_\_\_  
Gary A. Dodge,  
Attorneys for UAE

## CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing was served by email this 12<sup>th</sup> day of May, 2008, to the following

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**BEFORE**  
**THE PUBLIC SERVICE COMMISSION OF UTAH**

**Surrebuttal Testimony of Robert H. McKenna**

**on behalf of**

**UAE**

**Docket No. 07-057-13**

**[Rate of Return]**

**May 12, 2008**

1 **SURREBUTTAL TESTIMONY OF ROBERT H. MCKENNA**

2 **Introduction**

3 **Q. Please state your name and business address.**

4 A. Robert H. McKenna, 215 South State Street, Suite 200, Salt Lake City, Utah, 84111.

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

6 A. I am a Senior Consultant in the firm of Energy Strategies, LLC. Energy Strategies is a  
7 private consulting firm specializing in economic and policy analysis applicable to energy  
8 production, transportation, and consumption.

9 **Q. On whose behalf are you testifying in this proceeding?**

10 A. My testimony is being sponsored by the Utah Association of Energy Users Intervention  
11 Group (UAE).

12 **Q. Are you the same Robert H. McKenna who previously filed direct testimony on Rate  
13 of Return in this proceeding?**

14 A. Yes, I am.

15 **Q. What is the purpose of your surrebuttal testimony?**

16 A. My surrebuttal testimony responds to assertions in the rebuttal testimony of the Division  
17 of Public Utilities (“DPU”) witness William A. Powell and Questar Gas Company  
18 (“QGC”) witness Robert B. Hevert concerning various aspects of my original testimony  
19 submitted on March 31, 2008.

20 **Q. How will you organize your response to the assertions made by these two parties?**

21 A. I will first respond to multiple assertions made by Dr. Powell in his rebuttal testimony  
22 and then to certain assertions made by Mr. Hevert in his rebuttal testimony.

1 **Q. Both Mr. Hevert and Dr. Powell maintain that your analysis is inconsistent with the**  
2 **guidelines established by the United States Supreme Court in the *Hope* and**  
3 ***Bluefield* cases. Will you respond directly to this assertion in your surrebuttal?**

4 A. No, I will not respond to these legal arguments, other than to refer the Commission to the  
5 surrebuttal filed by UAE witness Kevin C. Higgins, which points out that the arguments  
6 made by Mr. Hevert and Dr. Powell on this topic completely miss the point of my  
7 testimony.

8 **Q. What is the first assertion made by Dr. Powell in his rebuttal testimony to which you**  
9 **will respond?**

10 A. After asserting that my testimony should not be considered due to alleged inconsistencies  
11 with the guidelines established by the United States Supreme Court in the *Hope* and  
12 *Bluefield* cases, Dr. Powell asserts that my testimony should not be considered because  
13 “there are several inconsistencies in Mr. McKenna’s hedging model.”<sup>1</sup> The first of the  
14 so-called “inconsistencies” Dr. Powell identifies is the use of data for the June 2009 test  
15 year, which he identifies as a “minor discrepancy.”<sup>2</sup> It is not entirely clear from Dr.  
16 Powell’s testimony what he means by “minor discrepancy,” nor does he provide  
17 information on how he has arrived at this conclusion. As indicated in my original  
18 testimony I have not proposed a specific return (or range of returns) on equity for QGC. I  
19 have only recommended that my analysis be considered by the Commission when

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<sup>1</sup> Rebuttal testimony of William H. Powell, PhD, p. 5, lines 68-69.

<sup>2</sup> Rebuttal testimony of William H. Powell, PhD, p. 5, lines 75-76.

1 determining where within the range of reasonable returns QGC's return on equity should  
2 be set.<sup>3</sup> Information provided by QGC for the 2009 test year was simply used as a  
3 foundation for the model to illustrate the potential impact of historic variations in usage  
4 per customer on QGC's net operating income (NOI). Information from other test years  
5 or actual years of operation would illustrate similar ranges of variability and would  
6 support the same conclusion -- that the CET provides a valuable hedge position to QGC  
7 with respect to variation in usage per customer.

8 **Q. What is the next assertion made by Dr. Powell in his rebuttal testimony to which**  
9 **you will respond?**

10 A. Dr. Powell refers to my original testimony and suggests, "Mr. McKenna states, 'that all  
11 the historical annual variations in usage per customer are equally likely as representations  
12 for potential future variations in usage per customer.'"<sup>4</sup> There are two critical points that  
13 must be made in response to this assertion by Dr. Powell. First, Dr. Powell notably  
14 omitted a critical qualifying word that preceded the above referenced statement in my  
15 original testimony: "assuming." The intention of this word in that particular location of  
16 my testimony was to indicate that the subsequent statement referenced by Dr. Powell is  
17 an assumption made by me for the purposes of the analysis. Specifically, my testimony  
18 indicated that for the purposes of my analysis I was assuming that any of the historical 25  
19 year-over-year point changes in usage per customer would be considered as being equally

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<sup>3</sup> Direct testimony of Robert H. McKenna, p. 10, lines 13-15.

<sup>4</sup> Rebuttal testimony of William H. Powell, PhD, p. 6, lines 78-81.

1 likely in the test year used in my analysis. This is very different than saying, as Dr.  
2 Powell has incorrectly suggested, that my conclusion from statistical analysis is that these  
3 historical data are “uniformly distributed.”<sup>5</sup> My testimony did not fully characterize the  
4 historic distribution of annual variations in usage per customer, but rather outlined what I  
5 assumed for my analysis.

6 Dr. Powell has simply offered an alternative potential assumption for analysis in  
7 his rebuttal. I submit, and am confident Dr. Powell will agree, that the question of the  
8 actual future variations in annual usage per customer is much more complex than simply  
9 deriving a box plot of historic variations. For example, while it is demonstrable that for  
10 the 25 year period used in my analysis the average annual decline in usage per customer  
11 was 1.6%, over the most recent 10 year period the average annual decline in usage per  
12 customer has been approximately 2.3% and an increase in usage per customer was only  
13 experienced in one of those most recent ten years. Using this more recent information,  
14 one could reasonably argue that the more recent 10-year range might be the more  
15 appropriate time period to use for considering the impact of the CET on QGC’s NOI in  
16 that it may better predict what near-term future decreases might be. If I incorporated this  
17 greater potential annual decrease into my analysis it would only illustrate that QGC is  
18 potentially getting an even greater benefit from the hedge position provided by the CET  
19 than was described in my original testimony.

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<sup>5</sup> Rebuttal testimony of William H. Powell, PhD, p. 6, line 82.

1           The second, even more important, point in response to Dr. Powell’s argument is  
2 that he made a critical mistake in his calculations. He suggests that, if his assumptions  
3 regarding variations in usage per customer were used, my model would result in a  
4 “reduction in the allowed ROE of approximately 204 basis points.”<sup>6</sup> This erroneous  
5 conclusion is based on a simple but critical mistake. As illustrated in Exhibit UAE ROE  
6 2.1S, in order to arrive at his conclusion of 204 basis points, Dr. Powell assigned  
7 probabilities to each potential outcome in such a way that the cumulative probability of  
8 all the outcomes is 636%. This is, of course, impossible. The appropriate cumulative  
9 probability for all potential outcomes must be 100%. This miscalculation can be  
10 corrected by dividing the net cost of the hedge calculated by Dr. Powell, \$8,013,261, by  
11 the cumulative probability of 636% to arrive at the accurate net cost of the hedge, per Dr.  
12 Powell’s assumptions, of \$1,259,947. This value accurately reflects the results of Dr.  
13 Powell’s analysis and results in a variance from the allowed ROE of 32 basis points,  
14 closely resembling the 35 basis points that I support in my direct testimony, not the 204  
15 basis points calculated by Dr. Powell. This is an extremely important correction that  
16 significantly alters the conclusion reached in Dr. Powell’s rebuttal testimony.

17           All of this said, the basic intention of my original analysis and testimony is to  
18 illustrate what I believe is an obvious and indisputable conclusion: because usage per  
19 customer has steadily declined for years (this point is of course a matter of record and not  
20 in question by Dr. Powell) and is at risk of continuing to decline, QGC is receiving

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<sup>6</sup> Rebuttal testimony of William H. Powell, PhD, p. 8, lines 109-110.



1 valuable protection from the hedge position provided by the CET, protection that would  
2 result in a cost to QGC if it were to attempt to replicate this position in the financial  
3 markets.

4 Another important point that I would like to address with respect to the alleged  
5 “inconsistency” identified by Dr. Powell is his misrepresentation of my assumption as  
6 reflected in Figure 2 of his rebuttal testimony. His Figure 2 could lead one to conclude,  
7 as is apparently his intention, that I have assigned annual decreases in usage per customer  
8 of less than 5%, for example, an equal probability with annual decreases in usage per  
9 customer between 1.3% and 3.2%. This is clearly not the case. Indeed, Dr. Powell  
10 actually knows that this is not the case, given his inclusion of a clarifying footnote to his

11 Figure 2:

12 The 0.04 above each corresponding bar should not be interpreted as the  
13 probability of a value falling into that corresponding range. Rather, the  
14 0.04 should be interpreted as applying to each value within the range. For  
15 example, in the middle range, -3.2% to -1.3%, there are 9 observations.  
16 According to Mr. McKenna’s assumption, each of the 9 observations has a  
17 4% chance of occurring. In contrast, the 0.36 above the opposing bar  
18 implies that there is a 36% chance of a value being between the two  
19 endpoints, -3.2% and -1.3%.<sup>7</sup>

20 Dr. Powell’s footnote correctly states that in the dataset used in my analysis there  
21 are 9 observations within the range of -3.2% to -1.3%. His footnote also correctly  
22 characterizes that I have assumed that each of these points has a “4% chance of  
23 occurring”. However, Dr. Powell’s analysis states that, “in contrast....there is a 36%

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<sup>7</sup> Rebuttal testimony of William H. Powell, PhD, p. 8, footnote 7.

1 chance of a value being between the two endpoints, -3.2% and -1.3%”. It appears to me  
2 that the body of Dr. Powell’s text and his Figure 2 is intended to suggest something  
3 contrary to the acknowledgment in his footnote, i.e., that my analysis and his analysis  
4 result in equivalent probabilities for the values between these endpoints -- 9 observations  
5 in this range multiplied by a 4% probability of occurring results in a 36% probability of  
6 the observation being in the range identified by Dr. Powell.

7           The difference between the approaches, of course, is that I have assumed a  
8 discreet value for each of the points in each range prescribed by Dr. Powell which results  
9 in each observation ultimately being assigned a 4% probability of occurring and a 100%  
10 probability that one of the 25 potential outcomes will occur. As described above, Dr.  
11 Powell used his values for each range and mistakenly applied them to each potential  
12 outcome to arrive at a cumulative probability of 636% that one of the potential outcomes  
13 will occur instead of assuming that there is only a 100% probability that one of the  
14 potential outcomes will occur. In the end, when accurately calculated, both my approach  
15 and Dr. Powell’s approach will result in essentially the same variance from the allowed  
16 ROE. Further, if my assumptions were correctly plotted on the same histogram with Dr.  
17 Powell’s, rather than obscurely referenced in a footnote, they would reflect equivalent  
18 probabilities assigned to each of his determined ranges with identical corresponding  
19 histograms.

20 **Q. Are there any other “inconsistencies” identified by Dr. Powell to which you would**  
21 **like to respond?**

1 A. Yes. Dr. Powell indicates that the projected NOI that I use in my analysis “assumes that  
2 QGC receives \$145,894,067 of DNG Volumetric Charges .....[which] does not support  
3 the NOI of \$67.6 million or the 11.25% return in Questar Gas’ model. The \$145 million  
4 only supports a NOI of \$51 million and a return of 7.01%.”<sup>8</sup> He then provides two  
5 alternative “possible solutions” which he claims result in reductions of 221 and 205 basis  
6 points, respectively, using my proposed methodology. In the end he concludes that  
7 “apparently, Mr. McKenna’s model is not robust enough to distinguish between starting  
8 points.”<sup>9</sup> While I do agree with Dr. Powell’s first “possible solution” that it may be  
9 appropriate to “substitute the prices from the Company’s model that support the 11.25 %  
10 return”<sup>10</sup> to more fully reflect the impact of the CET on QGC’s NOI, it must also be  
11 noted that Dr. Powell’s conclusion was based on 1) the flawed variance from allowed  
12 ROE calculation methodology described above and 2) an allowed ROE starting point in  
13 the second “possible solution” of 7.01%. Regarding the first point, after correcting for  
14 the flawed calculation methodology, Dr. Powell’s results would have been more modest  
15 at 35 and 32 basis points, respectively. Regarding the second point, I will reiterate that  
16 my analysis is intended to calculate a potential variance from an allowed ROE and I have  
17 only recommended that my analysis be considered by the Commission when determining  
18 where within the range of reasonable returns QGC’s return on equity should be set.<sup>11</sup> I

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<sup>8</sup> Rebuttal testimony of William H. Powell, PhD, pp. 8-9, lines 114-119.

<sup>9</sup> Rebuttal testimony of William H. Powell, PhD, pp. 9, lines 131-132.

<sup>10</sup> Rebuttal testimony of William H. Powell, PhD, pp. 9, lines 120-121.

<sup>11</sup> Direct testimony of Robert H. McKenna, p. 10, lines 13-15.

1 am certain that Dr. Powell is not suggesting that an allowed ROE of 7.01% is a  
2 reasonable return on QGC's equity and thus would never be a "starting point" for my  
3 analysis. For these reasons, the Commission should discount the value of Dr. Powell's  
4 flawed analysis and unsupported conclusions.

5 **Q. Do you have any other responses to Dr. Powell's rebuttal testimony?**

6 A. Yes. On page 10 of his rebuttal testimony Dr. Powell suggests that because QGC's model  
7 already assumes an approximate 1.6% decline in usage for the test period, my model  
8 arguably should have examined the net decline in usage from this level. I disagree. QGC  
9 *does* assume a decline in usage-per-customer for the test period; however, the test period  
10 is Calendar Year 2008. The benefit of the CET to QGC is that it provides revenue  
11 stability *in between* rate cases. This means that once rates are reset pursuant to this  
12 general rate case, the benefit of the CET will inure to QGC in 2009. QGC's rates are *not*  
13 being set based on another 1.6% decline in usage in 2009. If usage-per-customer  
14 declines another 1.6% in 2009, the CET will provide the revenue stability adjustment for  
15 this *full change* from 2008 projected levels. Consequently, the measure I used is the more  
16 appropriate one.

17 **Q. Do you also have a response to any assertions made by Mr. Hevert?**

18 A. Yes. In his rebuttal testimony, Mr. Hevert states that "as Mr. McKenna correctly points  
19 out (*see* Exhibit UAE ROE 2.8) the combination of a held put option and a written call

1 option produces an expected payout that is equal to holding the underlying asset itself.”<sup>12</sup>  
2 This is actually *exactly opposite* to what I concluded in my direct testimony. My  
3 testimony indicates that the combination of a held put and a written call option produce  
4 an expected payoff that is exactly equal and opposite to the value of holding the  
5 underlying asset and is exactly equal to the value of the CET. The CET replicating  
6 portfolio, a held put and a written call, offsets the gains and losses that result from  
7 changes in the value of the underlying asset.

8 To reiterate, in this case the underlying asset is the QGC NOI. If the value of the  
9 underlying asset is above the “exercise price,” e.g., the allowed NOI, instead of taking the  
10 windfall the company will have to pay the holder of the call option, the ratepayers. If the  
11 value of the NOI is below the “exercise price,” instead of suffering the losses due to the  
12 decrease in the value of the underlying asset, the issuer of the put option, the ratepayers,  
13 will pay the company extra. As stated multiple times in my direct testimony, the result of  
14 this position is a risk free position for QGC with respect to uncertainty in NOI as a result  
15 of variation in usage per customer.

16 In spite of his erroneous interpretation of the CET replicating portfolio, Mr.  
17 Hevert later indicates that he has “replicated Mr. McKenna’s analysis”<sup>13</sup> and that he  
18 understands and agrees that “in the final analysis, Mr. McKenna’s analysis simply  
19 demonstrates that absent the CET, the Company’s earned return will be reduced as a

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<sup>12</sup> Rebuttal testimony of Robert B. Hevert, p. 99, line 2377-2380.

<sup>13</sup> Rebuttal testimony of Robert B. Hevert, p. 99, line 2383.

1 result of declining use per customer,”<sup>14</sup> a notion that “has never been in dispute.”<sup>15</sup> I  
2 agree with Mr. Hevert that this conclusion has never been in dispute. The question at  
3 hand is an assessment of the potential impact on QGC’s NOI and ROE if the company  
4 were required to pay for the hedging portfolio that has been granted to them in the form  
5 of the CET, and the corresponding value to QGC of the elimination of this risk through  
6 the CET.

7 Mr. Hevert also asserts that my testimony “implies that the Company alone  
8 should bear the costs of declining use.”<sup>16</sup> That conclusion is not the intent of my  
9 testimony. As stated above, the intent of my testimony is to identify and characterize the  
10 CET as a hedging portfolio that has been granted to QGC with the ultimate  
11 recommendation that this characterization be used by the Commission in the assessment  
12 of where within the range of reasonable returns QGC’s return on equity should be set.<sup>17</sup>

13 Mr. Hevert also states that “adjusting the return on equity by an amount equal to  
14 the portion of the revenue requirement that the CET is intended to stabilize, eliminates  
15 the entire benefit from the CET.”<sup>18</sup> There are two points that I would like to address  
16 here. First, this statement continues to highlight that Mr. Hevert agrees that QGC  
17 benefits from the CET. This benefit can be valued in the marketplace as a hedging  
18 position. If the company were required to pay for this position it would reduce the

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<sup>14</sup> Rebuttal testimony of Robert B. Hevert, p. 100, line 2387-2390.

<sup>15</sup> Rebuttal testimony of Robert B. Hevert, p. 100, line 2391.

<sup>16</sup> Rebuttal testimony of Robert B. Hevert, p. 100, line 2393-2394.

<sup>17</sup> Direct testimony of Robert H. McKenna, p. 10, lines 13-15.

<sup>18</sup> Rebuttal testimony of Robert B. Hevert, p. 100, line 2402.

1 company's NOI. The company is not being asked to pay for this hedge position so it is  
2 my position that the company's allowed ROE be adjusted within the range of reasonable  
3 ROE's to reflect this reduction in risk that will benefit the company. A theoretical  
4 maximum price the company would pay for this protection is the expected decrease in the  
5 company NOI as a result of declining usage per customer; a maximum that I have not  
6 recommended it be required to pay.

7 The second point is that Mr. Hevert is incorrect in stating that if QGC were  
8 required to pay this theoretical maximum value of the hedge position offered by the CET  
9 it would eliminate the entire benefit of the CET. Again, I have not recommended that  
10 QGC's allowed ROE be reduced by this theoretical maximum. However, I do not agree  
11 with the conclusion regarding the negation of the entire benefit of the CET. Companies  
12 all over the world pay for hedging positions relative to fuel prices, currency exchange,  
13 natural disasters, weather, etc. Part of the benefit of the resulting hedged position is  
14 operational certainty and the reduction of compound risk. When a company is exposed to  
15 multiple sources of risk the combination of those risks can sometimes amplify the  
16 combined uncertainty and risk. To the extent that a company can eliminate discrete  
17 sources of risk the company may be able to reduce the overall risk to the company  
18 potentially more than the company was exposed to by the independent discrete risks.  
19 Thus, my position is that there is a direct benefit of the CET associated with the reduction  
20 in variation in NOI associated with usage per customer, discussed in my original

1 testimony, and potentially an indirect benefit due to the decrease in correlated compound  
2 uncertainties and risks.

3 **Q. What is your ultimate conclusion with respect to Mr. Hevert's testimony?**

4 A. While Mr. Hevert has amply shown that he understands the mechanics underlying my  
5 testimony, he has chosen to discount my analysis as a simplistic approach that "only tells  
6 us what we already know, i.e., that declining use per customer will erode the Company's  
7 financial profile."<sup>19</sup> He has chosen to ignore and not directly address the stated intent of  
8 my analysis which was to demonstrate, not that declining use per customer will erode the  
9 company's financial profile, but that "QGC's Conservation Enabling Tariff ("CET") ... is  
10 essentially a hedge position that protects QGC against variations in usage per customer"<sup>20</sup>  
11 and that "purchasing a hedge position that replicates the protection provided to the  
12 company by the CET would result in a net cost to the company, given this historical  
13 downward trend."<sup>21</sup> Neither Mr. Hevert nor Dr. Powell attempts to directly address or  
14 refute these obvious and inescapable conclusions, but they rather both attempt to discount  
15 the approach that I used to illustrate them by asserting incorrect or inapposite criticisms  
16 of my methodology.

17 **Q. Does the rebuttal testimony of Mr. Hevert or Dr. Powell cause you to modify your**  
18 **recommendation to the Commission in any manner?**

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<sup>19</sup> Rebuttal testimony of Robert B. Hevert, p. 3, line 80-81.

<sup>20</sup> Direct testimony of Robert H. McKenna, p. 2, lines 9-11.

<sup>21</sup> Direct testimony of Robert H. McKenna, p. 3, lines 2-4.



1 A. No. Minor debates over valuation methodologies aside, the CET indisputably creates a  
2 “hedge position” that eliminates QGC’s risk and uncertainty with respect to variations in  
3 usage per customer. My analysis demonstrates that the CET can properly be evaluated as  
4 a hedge position that protects QGC from variation in usage per customer which, if the  
5 company were required to pay for it, would result in a decrease in the company’s  
6 earnings. My ultimate recommendation to the Commission is that the market value of  
7 this type of hedge position should be used in determining the proper company ROE  
8 within the reasonable range of possible ROEs supported by other witnesses.

9 **Q. Does this conclude your surrebuttal testimony with respect to rate of return?**

10 A. Yes, it does

Exhibit UAE ROE 2.1S – ROE Variance with Probability Substitution per Dr. Powell

1

Year	Historical Usage	Percent Change Usage	Implied usage	Implied Test		Payoff On Put	Payoff On Call	Probability	Expected Value Put	Expected Value Call
				Year NOI	Difference in NOI					
1998	130.68	-7.326%	95.55	60,970,940	-6,622,285	6,622,285	0	12%	756,833	0
1984	161.15	-5.539%	97.39	62,585,849	-5,007,376	5,007,376	0	12%	572,272	0
1986	145.14	-5.372%	97.56	62,736,808	-4,856,417	4,856,417	0	12%	555,019	0
2001	118.97	-4.824%	98.13	63,232,439	-4,360,786	4,360,786	0	8%	332,250	0
1985	153.38	-4.822%	98.13	63,234,614	-4,358,611	4,358,611	0	8%	332,085	0
2004	115.67	-2.717%	100.30	65,137,509	-2,455,716	2,455,716	0	36%	841,960	0
1982	165.02	-2.632%	100.39	65,214,338	-2,378,887	2,378,887	0	36%	815,618	0
2002	115.84	-2.631%	100.39	65,214,938	-2,378,287	2,378,287	0	36%	815,413	0
2005	112.7	-2.568%	100.45	65,272,129	-2,321,096	2,321,096	0	36%	795,804	0
1999	127.37	-2.533%	100.49	65,303,537	-2,289,688	2,289,688	0	36%	785,036	0
1989	139.65	-2.384%	100.64	65,438,491	-2,154,734	2,154,734	0	36%	738,766	0
1992	139.37	-2.231%	100.80	65,576,636	-2,016,589	2,016,589	0	36%	691,402	0
2000	125	-1.861%	101.18	65,911,176	-1,682,049	1,682,049	0	36%	576,703	0
1988	143.06	-1.846%	101.20	65,924,821	-1,668,404	1,668,404	0	36%	572,024	0
2006	111.98	-0.639%	102.44	67,015,706	-577,519	577,519	0	28%	154,005	0
1997	141.01	-0.613%	102.47	67,038,911	-554,314	554,314	0	28%	147,817	0
1994	139.62	-0.143%	102.95	67,463,919	-129,306	129,306	0	28%	34,482	0
1995	139.5	-0.086%	103.01	67,515,530	-77,695	77,695	0	28%	20,719	0
1991	142.55	-0.049%	103.05	67,548,856	-44,369	44,369	0	28%	11,832	0
1993	139.82	0.323%	103.43	67,885,103	291,878	0	-291,878	28%	0	-77,834
1987	145.75	0.420%	103.54	67,973,152	379,927	0	-379,927	28%	0	-101,314
1996	141.88	1.706%	104.86	69,135,494	1,542,269	0	-1,542,269	16%	0	-235,012
1990	142.62	2.127%	105.29	69,515,754	1,922,529	0	-1,922,529	16%	0	-292,957
2003	118.9	2.642%	105.83	69,981,148	2,387,923	0	-2,387,923	16%	0	-363,874
1983	170.6	3.381%	106.59	70,649,941	3,056,716	0	-3,056,716	16%	0	-465,785
	Avg	-1.609%	101.44				Total	636%	9,550,038	-1,536,776
									Pre-Hedged "Allowed NOI	67,593,225
									Net Cost of Hedge	8,013,261
									Post-Hedge NOI	59,579,964
									Implied Return on Rate Base	7.94%
									Implied Return on Common Equity	9.21%
									Variance From Allowed ROE (%)	-2.04%
									Mr. Powell's "Adjusted" Variance From Allowed ROE (Basis)	-204

\* Mr. Powell's analysis assigned probabilities in such a way that the cumulative probability of all future states is 636% (see Probability Total).