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Cost of Capital Donald A. Murry, Ph.D. Surrebuttal Testimony Laclede Gas Company GR-2010-0171

July 20, 2010

LACLEDE GAS COMPANY

GR-2010-0171

SURREBUTTAL TESTIMONY

OF

DONALD A. MURRY, Ph.D.

JULY 20, 2010

TABLE OF CONTENTS

I. INTRODUCTION	1
II. SURREBUTTAL TESTIMONY	1
III. CAPITAL STRUCTURE	3
IV. MARKET CONTEXT	5
V. MR. MAREVANGEPO'S REBUTTAL	12
VI. MR. GORMAN'S REBUTTAL	13
VII. CAPM AND DCF IN CURRENT MARKETS	15

	1		I. INTRODUCTION
	2	Q.	PLEASE STATE YOUR NAME.
	3	A.	My name is Donald A. Murry. My business address is 5555 North Grand
	4		Boulevard, Oklahoma City, Oklahoma 73112.
	5	Q.	ARE YOU THE SAME DONALD A. MURRY WHO FILED DIRECT
	6		AND REBUTTAL TESTIMONIES IN THIS PROCEEDING?
	7	A.	Yes, I am.
	8	Q.	WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?
	9	A.	I am providing surrebuttal testimony that offers conceptual and factual
1	0		responses and corrections to the rebuttal testimonies of Mr. Gorman and
1	1		Mr. Marevangepo in this proceeding. In some respects, these witnesses
1	2		made similar conceptual errors and misrepresentations in their rebuttal
1	3		testimonies. In some instances, matters that I wish to address are directed
1	4		to just one of these witnesses. I am also addressing some issues of risk
1	5		raised in rebuttal testimony.
1	6		II. SURREBUTTAL TESTIMONY
1	7	Q.	PLEASE SUMMARIZE YOUR SURREBUTTAL TESTIMONY.
1	8	A.	In their rebuttal testimonies, both Mr. Gorman and Mr. Marevangepo
1	9		continue to essentially disregard the exceptional circumstances of the
2	0		recent volatile financial markets. Their rebuttals of my direct testimony
2	1		confirm this analytical deficiency. In this respect, their rebuttal comments
2	2		regarding my direct testimony miss the mark because they have taken my
2	3		calculations out of context.
2	4	Q.	PLEASE EXPLAIN.
2	5	A.	Both Mr. Gorman and Mr. Marevangepo have used the CAPM and DCF

1 methodologies very mechanically without recognizing the impact of the 2 current markets on these methods and the data used by these 3 methodologies. Such a narrow analytical approach is inadequate and 4 unreliable for measuring the cost of capital in these volatile markets and 5 periods of financial turmoil.

6 Q. WHAT IS THE PURPOSE OF THESE ANALYSES?

7 A. The objective of these analyses is to determine the cost of common equity 8 in the current markets. Stated another way, the rate necessary to attract and 9 maintain common equity capital for the near-term is the goal to be determined by this process. Given the extreme fluctuations and 10 11 sensitivities of current market values, however, mechanical calculations alone cannot be effectively employed to make this cost of common equity 12 13 determination. The most obvious demonstration of this fact is simple: at 14 this time, no experienced analyst or investor would risk his or her own funds in the current market based on calculated results from these 15 methodologies without, at least, putting them into the context of the 16 17 existing economic and financial environment and considering prospective returns from investments of comparable risks. 18

19 Q. ARE THERE OTHER MATTERS TO WHICH YOU WISH TO20 RESPOND?

A. Yes. In addition to the above conceptual shortcomings, both Mr.
 Marevangepo and Mr. Gorman have committed some computation
 missteps in their cost of capital calculations. Both took my direct
 testimony out of context. In addition, Mr. Gorman, in commenting on
 Laclede Gas' proposed capital structure in this proceeding, misrepresented

my direct testimony	<i>'</i> .
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2		III. CAPITAL STRUCTURE
3 4	Q.	HOW DOES MR. GORMAN MISREPRESENT YOUR TESTIMONY?
5	A.	Mr. Gorman, on page 14, lines 6-15 of his rebuttal testimony, indicates
6		that I mistakenly led him to believe that the capital structure in my direct
7		testimony was that of Laclede Gas Company and not Laclede Group. He
8		cites my direct testimony at pages 11-12 as support for his claim that he
9		was misled.
10	Q.	WAS THERE ANY REASON FOR MR. GORMAN TO BE MISLED
11		BY YOUR TESTIMONY?
12	A.	No. Right in the middle of page 12 of my direct testimony on capital
13		structure, I refer to Schedule DAM-6. That schedule clearly identifies the
14		common equity ratio of the "Laclede Group," as compared to comparable
15		companies. In addition, in his direct testimony, Mr. Gorman's citations are
16		not to my direct testimony, but to Laclede witness Glenn W. Buck's
17		testimony and Laclede accounting schedules, both of which also clearly
18		indicate that the Laclede Group is the source for the capital structure.
19	Q.	WHAT CAPITAL STRUCTURE DOES LACLEDE PROPOSE FOR
20		THIS CASE AS INDICATED BY YOUR DIRECT TESTIMONY?
21	A.	As I set forth in my Schedules DAM-5, DAM-23, and on pages 11-12 of
22		my direct testimony, the capital structure proposed by Laclede, which is
23		the Laclede Group capital structure, contains 42.5 percent long-term debt
24		and 57.5 percent equity.
25	Q.	MR. GORMAN INDICATES THAT IT IS INAPPROPRIATE TO USE

LACLEDE GROUP'S CAPITAL STRUCTURE. HOW DO YOU
 RESPOND?

A. Mr. Buck has addressed this issue at length in his surrebuttal testimony. I
agree with Mr. Buck's analysis. As indicated on Schedule DAM-6 to my
direct testimony, the comparable LDCs with publicly traded common
stock had average common equity ratios of 58.1 percent for 2009, which is
similar to the Laclede Group's common equity ratio for the same period.

8 Q. WHAT DOES THIS INDICATE?

A. Given these roughly equivalent measures of financial risk, the comparable 9 LDCs are appropriate surrogates for estimating the cost of common equity 10 11 in this proceeding. Consequently, Mr. Gorman's concern expressed in his rebuttal testimony, that the proposed capital structure is somehow 12 13 inappropriate for setting rates in this proceeding, is incorrect. To the 14 contrary, if we use comparable LDCs as analytical surrogates to estimate the cost of common equity for Laclede Gas Company, major risk 15 components, such as common equity ratios, must be similar. 16

17 Q. ARE THERE OTHER RISK ISSUES RAISED IN REBUTTAL
18 TESTIMONY TO WHICH YOU WISH TO RESPOND?

A. Yes. As discussed in the Surrebuttal testimony of Michael T. Cline, the Company is very concerned about the risk associated with the potential loss of load associated with alternative rate designs. If the Commission fails to adopt either the SFV rate design or a tracker to recover lost revenues (Office of Public Counsel witness Meisenheimer Rebuttal, page 5, line 9 through page 10, line 3), either of which would mitigate the risk to common equity holders somewhat, then an alternative to these rate designs would be a specific, upward adjustment in the allowed return on
 common equity of 25 basis points. This adjustment would be a return
 compensation associated with the remaining risk of nearly certain decline
 in usage.

5 <u>IV. MARKET CONTEXT</u>
6 Q. HOW DID MR. MAREVANGEPO'S AND MR. GORMAN'S
7 REBUTTAL TESTIMONIES TAKE YOUR DIRECT TESTIMONY
8 OUT OF CONTEXT?

A. Their testimonies ignored my discussion of the weaknesses of the DCF 9 10 and CAPM and the importance of relating these individual results to the 11 market environment. Both witnesses continue in their rebuttal testimonies 12 to rely on unrealistic, mechanical calculations of the DCF and the CAPM 13 in the current volatile financial markets. Their presentation of my direct 14 testimony results ignored my explanation of the results of academic research where I pointed out analytical problems with the DCF and CAPM 15 16 methods. Neither considered the theoretical limits of either methodology 17 or the empirical problems presented by the current volatile markets. They both define and calculate mathematical formulae for determining the cost 18 of capital as though the current financial turmoil, which often produces 19 20 illogical results, did not exist.

- 21 Q. DO YOU DISAGREE WITH MR. GORMAN'S AND MR.
 22 MAREVANGEPO'S REBUTTAL POSITIONS?
- 23 A. Yes.
- 24 Q. WHY?

25 A. Their rebuttals of my direct testimony, which adhere to formulaic

estimates of the cost of capital, reveal weak and incorrect analysis. The
 end result is that their rebuttals are off-the-mark and their recommended
 allowed returns on common stock are understatements of the actual cost of
 capital in the current markets.

5 Q. PLEASE EXPLAIN.

A. 6 In both of their direct testimonies, they state as an objective that they are 7 attempting to determine the necessary return to attract investor funds. 8 However, in both instances, they ignore the actual earnings of the comparable LDCs that they reported in their analyses. They exhibit this 9 shortcoming again in their rebuttal testimonies. In both of their rebuttals, 10 11 they criticize my interpretation of the results of my DCF calculations for 12 what they are, namely an estimate of the marginal cost of common equity 13 for a group of LDCs that were selected as comparable to Laclede Gas. 14 Instead of recognizing that market prices have deviated widely and 15 unpredictably in recent periods and investors are confronted with great 16 uncertainties, they each rigidly support a precisely defined calculation as though this represents investors' expectations. Conceptually, their 17 18 critiques of my direct testimony do not pass a basic test of credibility.

19 Q. DOES MR. MAREVANGEPO SUPPORT A PRECISELY DEFINED 20 CALCULATION OF THE DCF?

21 A. Yes.

22 Q. HOW DO YOU KNOW THIS?

A. As an example, he criticized my use in my direct testimony of stock prices
over a period covering the previous year. He thought a narrowly defined,
shorter period was more representative of investor expectations.

1 Q. WHY DID YOU LOOK AT THIS TIME PERIOD?

A. I took this longer-term perspective because the purpose of this proceeding
is to determine the cost of capital that will attract funds to support
permanent capital assets. In this case, the Commission will set rates that
will last into the future for a period measured in years, and the returns
must be sufficient to attract and maintain capital investment for the life of
the determined rates.

8 Q. WHAT TIME PERIOD DID MR. MAREVANGEPO UTILIZE?

- 9 A. Instead of taking this longer-term perspective, Mr. Marevangepo, stated,
 10 on page 7, lines 19-20 of his rebuttal testimony, "Staff used a 3-month
 11 average (January through March) stock price that reflects current market
 12 conditions."
- 13 Q. WHAT IS YOUR RESPONSE?
- 14 A. Under current market conditions, I believe a 3-month view is too narrow to capture investor perceptions. In fact, in the short period since Mr. 15 Marevangepo's analysis ended on March 31, the markets have been 16 17 volatile and cash on-the-sidelines has been growing, reflecting investors' wariness of common equity investments. At this time, the market is 18 19 exhibiting signs of investor flight to higher quality investments, and if this persists, it can only increase the cost of common equity. A broader view of 20 21 market conditions is more likely to encompass investor perceptions in these volatile markets. 22
- Q. DO THESE RECENT MARKET CHANGES MEAN WITH
 CERTAINTY THAT COMMON EQUITY COSTS WILL INCREASE
 FURTHER IN THE NEAR-TERM?

A. No, of course not. One cannot predict with certainty that these recent rapid 1 2 market changes mean that the most pessimistic economic and financial 3 outcomes will transpire. However, these market changes do demonstrate 4 that investors' expectations are very unpredictable and sensitive at this 5 time, and an analyst cannot ignore them. Consequently the rigid adherence 6 to formulaic calculations over a relatively short period is insufficient in 7 determining the cost of capital. Analytical prudence demands putting both 8 the techniques used and the data generated by these markets in context and to cautiously interpret the results. 9

Q. IN REVIEWING THEIR REBUTTAL TESTIMONIES, DO YOU
BELIEVE THAT EITHER MR. MAREVANGEPO OR MR. GORMAN
HAVE CONSIDERED THE PROBLEMS CONCERNING HOW THE
CURRENT MARKET CONDITIONS MAY HAVE IMPACTED THEIR
ANALYSES?

- 15 A. No.
- 16 Q. PLEASE EXPLAIN.

A. Mr. Gorman did not consider or mention the implications of the volatile markets on either his DCF or CAPM methods, or the data that he used, or in his rebuttal of my testimony. Mr. Marevangepo did reject the CAPM results in his direct testimony without explaining the reason. However, he seems to criticize my reporting of various diverging results for a DCF calculation based on market data under a variety of circumstances, as though these results were all equally plausible.

Q. PLEASE EXPLAIN HOW MR. MAREVANGEPO SEEMS TO
 CRITICIZE YOUR REPORTING OF DIVERGENT DCF RESULTS?

A. Although he applied ten-year and five-year historical dividend, book value 1 2 per share and earnings per share growth rates in his analysis 3 (Marevangepo rebuttal testimony, Schedule 11-3), he criticized my study 4 of the market's performance over just the previous 52 weeks. He stated, 5 "This is too long a time frame to use to reliably estimate the current cost of common equity." (Marevangepo, rebuttal testimony, page 6, lines 22-6 7 23). Without recognizing the contradiction of using ten-year old historical 8 growth data to reflect current market expectations, he stated further, "Staff believes a cost of common equity estimate based on more recent stock 9 prices which reflect current environment and market conditions is more 10 11 realistic." (Marevangepo rebuttal testimony, page 6 line 23 to page 7, line 2). 12

Q. IS THERE OTHER EVIDENCE THAT MR. MAREVANGEPO DID
NOT ADEQUATELY CONSIDER CURRENT MARKET
CONDITIONS?

16 A. Yes. He states in his rebuttal, "Staff used a 3-month average (January 17 through March) stock price which accurately reflects the current market 18 conditions." (Marevangepo rebuttal testimony, page 7, lines 19-20). This 19 statement indicates the narrowness of Mr. Marevangepo's interpretation of relevant data generated by the volatile markets and his over reliance on the 20 21 narrow formulaic results. This may be a reasonable assumption for 22 analysis during more normal times, but this assumption is too limiting to 23 cover the range of circumstances generated by the current markets.

24 Q. CAN YOU PROVIDE ANY EVIDENCE THAT MR.
25 MAREVANGEPO'S ASSUMPTION REGARDING MARKET PRICES

1 IS TOO NARROW?

2 A. The narrow perspective of Mr. Marevangepo's use of the DCF proves that 3 his criticism of my application of the DCF is misguided. His narrow interpretation of relevant market prices when the market continues to be so 4 5 volatile cannot represent the range of investors' expectations. As I carefully explained in my direct testimony, the DCF is a measure of the 6 7 marginal cost of capital, and in these markets it is imperative that an 8 analyst recognize it for what it is. Not to do so will virtually assure that over time the regulated utility will not achieve returns sufficient to attract 9 and maintain capital. 10

11 Q. PLEASE EXPLAIN.

A. As I pointed out at some length (page 21, line 19 to page 25, line 24 of my direct testimony), many analysts compensate for the theoretical, marginal cost structure of the DCF in their analyses. Although Mr. Marevangepo acknowledged in his rebuttal testimony (page 5, lines 2-6) the dispersion of DCF results based on various data generated by the current volatile markets, he apparently does not perceive the implications of applying a marginal cost measure of the cost of capital during these volatile markets.

19 He stated, at page 6, lines 9- 13, as follows:

Investors do not pick the highest growth rate and apply the highest growth rate and apply this to the highest dividend yield to determine their required return. Instead, investors look at the dividend yield of a company and determine a reasonable estimate of the growth in the price of the stock to determine if he believes that by buying the stock at its current price, he will be able to earn his required return.

- 28 Q. IS ANYTHING WRONG WITH THIS STATEMENT?
- 29

27

30 A. Yes. Mr. Marevangepo's statement implies that he can determine in the

abstract what investors should be thinking. He ignores the alternatives available to an investor, such as where else an investor might invest his funds, and that is likely to determine the "required return". This is important because it is simply the "opportunity cost" of investment; stated differently, this is also the principle of determining the cost of capital that is equal to the return from investments of equivalent risk.

7 Q. DID YOU ADDRESS THIS RANGE OF ALTERNATIVES
8 AVAILABLE TO INVESTORS?

- 9 A. Yes.
- 10 Q. PLEASE EXPLAIN.

11 A. First, I recognized the actual market returns. In contrast, both Mr. Marevangepo and Mr. Gorman reported actual market returns, but then 12 13 ignored them. Instead, they each defined a rather precise mix of dividends 14 and future returns that investors would, or perhaps should, expect along with the perceived probabilities that the investors will achieve those 15 returns. Second, I recognized the range of DCF results, some more 16 17 plausible than others, that are presently generated by the current volatile 18 markets. I used reasonable data assumptions indicating perceptions of 19 investors that may be applicable during the current market period. Mr. Marevangepo, however, offered no basis for his opinion concerning the 20 21 selection of certain data in his critique of my analysis. In fact, the recent 22 market performance, especially regarding potential sovereign defaults and 23 flight-to-quality, has shown his narrow opinion of data to be unreliable. 24 For example, as Schedule DAM-S1 shows, the Dow Jones Utilities Index 25 has been volatile and lost approximately 11 percent since the beginning of

1		2010. The beginning of this decline was the period that Mr. Marevangepo
2		said "accurately reflects current market conditions." (Marevangepo
3		rebuttal testimony, page 7, Line 20)
4		V. MR. MAREVANGEPO'S REBUTTAL
5	Q.	ARE THERE OTHER ISSUES REGARDING MR. MAREVANGEPO'S
6		REBUTTAL TESTIMONY THAT YOU WISH TO ADDRESS?
7	A.	Yes. At page 13, lines 6-9 of his rebuttal testimony, Mr. Marevangepo
8		indicates some confusion when reviewing the growth rates in my
9		Schedules DAM-16 and DAM-18. He apparently does not understand why
10		the growth rates differed.
11	Q.	CAN YOU EXPLAIN?
12	A.	Yes. As the schedules point out, the Value Line and Yahoo! growth rates
13		(Schedule DAM-18) are data provided by these financial services that
14		investors may act upon. Alternatively, the calculated growth rate
15		(Schedule DAM-16) represents a rate that may influence investors who

rely on both recent historical performance and *Value Lines'* predicted estimated values for the period 2012-14. These two growth rates are not the same thing, but they both may be relevant measures of investor perceptions. In fact, Mr. Marevangepo's comments in his rebuttal testimony regarding the earnings per share growth rate in my testimony only confirmed his misperception of investors' expectations of earnings growth in the current markets.

23 Q. HOW HAS MR. MAREVANGEPO DEMONSTRATED А MISPERCEPTION INVESTORS' OF EARNINGS GROWTH 24 EXPECTATIONS IN THE CURRENT MARKETS? 25

1	A.	In the current markets investors will have little interest in the book value		
2		per share growth rates, or a company's "break-up value", and they will be		
3		interested in both dividends and capital gains, i.e, the earnings per share.		
4		Had Mr. Marevangepo simply paid attention to the earnings per share		
5		growth rates in his DCF calculations, he would have calculated an average		
6		expected growth rate of 6.15 percent. (See Staff Cost of Service Report,		
7		Schedules 11-1, 11-2 and 13.) Applying even his conservative dividend		
8		yield of 4.25 percent in a DCF calculation, results in a DCF result of 10.4		
9		percent. It is difficult to understand how he could have estimated a cost of		
10		common equity range that did not even include this earnings per share		
11		growth DCF at the upper end.		
12		VI. MR. GORMAN'S REBUTTAL		
13	Q.	YOU INDICATED THAT YOU HAVE SOME SPECIFIC COMMENTS		
14		REGARDING MR. GORMAN'S REBUTTAL TESTIMONY. WHAT		
15		ARE THESE COMMENTS?		
16	A.	I have several concerns regarding specific misrepresentations or		
17		misinterpretations described in his rebuttal testimony. Probably the most		
18		important misrepresentation is his alteration and apparent		
19		misunderstanding of the results of my DCF and CAPM calculations.		
20	Q.	CAN YOU PROVIDE AN EXAMPLE?		
21	A.	Yes. He illustrated this on page 4 of his rebuttal testimony where he		
22		removed the size adjustment from my CAPM.		
23	Q.	WHAT IS YOUR RESPONSE?		
24	A.	I fully explained in my direct testimony the theoretical basis for my		
25		adjustment to remove the size bias from the typical CAPM methodology. I		

1 even included, as Schedule DAM-20, the explanation from the 2008 2 Ibbotson SBBI Valuation Yearbook detailing the need for this adjustment 3 and its application. The necessity of adjusting for the size bias in the beta 4 calculation is empirically demonstrated and not, as Mr. Gorman stated at 5 page 12, line 13, of his rebuttal testimony, "unreasonable" and "redundant." Likewise, his assertion that this estimation bias is somehow 6 7 "...offset by differences in other risk elements" (Gorman rebuttal 8 testimony, page 12, lines 15-16) is simply wrong. In this case, altering my 9 correct CAPM methodology and failing to remove the estimation bias in 10 his estimates has resulted in his inordinately low CAPM results. In fact, as 11 I pointed out in my rebuttal testimony, the current persisting market conditions have so impacted the administered "risk free" rate, the market 12 13 risk premium and the beta estimates that the CAPM is not presently an 14 effective measure of the cost of capital.

Q. DO YOU HAVE ANY OTHER CONCERNS ABOUT MR. GORMAN'S INTERPRETATION OF YOUR CAPM ANALYSIS?

17 A. Yes. Mr. Gorman, on page 10 of his rebuttal testimony, incorrectly states 18 that I included market risk in the intercept term in my CAPM analysis. 19 The CAPM is a risk premium calculation, and in one application I calculated the risk premium for LDCs as compared to the corporate bond 20 21 rate. As I pointed out in my rebuttal testimony, Mr. Gorman ignored the 22 influence of Federal Reserve policy in his CAPM analysis. My method 23 using the corporate bond rate would compensate for this problem 24 somewhat. Nonetheless, Mr. Gorman's critique of my CAPM analysis 25 further confirms his focus on just the mechanics of the calculation

- 1 irrespective of the current market conditions.
- 2 Q. DO YOU HAVE ANY CONCERNS ABOUT MR. GORMAN'S
 3 REBUTTAL OF YOUR DCF CALCULATIONS?
- A. Yes. Mr. Gorman chose to simply average various DCF calculations that I
 presented in my testimony, and he averaged them without regard for either
 their purpose or the context for these calculations. Obviously, averaging a
 set of un-weighted numbers has no analytical purpose and does not result
 in a meaningful measure of the cost of capital

VII. CAPM AND DCF IN CURRENT MARKETS

9

Q. YOU HAVE COMMENTED ON THE MECHANICAL NATURE OF
BOTH MR. GORMAN'S AND MR. MAREVANGEPO'S CAPM AND
DCF METHODOLOGIES. CAN YOU SUMMARIZE IN LAYMAN'S
TERMS WHY THEIR APPROACHES ARE NOT APPROPRIATE IN
THE CURRENT MARKET?

A. Yes. As I stated previously, the objective of these analyses is to determine 15 16 the cost of common equity for Laclede Gas in the current markets. This is 17 the rate necessary for Laclede Gas to be able to attract and maintain common equity capital for the near-term. In light of the extreme 18 19 fluctuations and sensitivities of current market values, however, it is 20 readily apparent that mechanical calculations cannot be effectively 21 employed to determine this rate. No experienced analyst or investor would 22 risk his or her own funds in the current market based on calculated results from these methodologies without putting the results of these calculations 23 24 into the context of the economic and financial environment as well as 25 considering prospective returns from investments of comparable risks.

- 1 This is what I have done in my analysis and what the other witnesses have
- 2 failed to do.
- 3 Q. DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?
- 4 A. Yes, it does.



BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI

In the Matter of Laclede Gas Company's)Tariff to Revise Natural Gas Rate Schedules)Case No. GR-2010-0171

<u>AFFIDAVIT</u>

STATE OF OKLAHOMA))	SS.
COUNTY OF OKLAHOMA)	

Donald A. Murry, of lawful age, being first duly sworn, deposes and states:

1. My name is Donald A. Murry. My business address is 5555 North Grand Boulevard, Oklahoma City, Oklahoma 73112; and I am Vice-President and Economist with C. H. Guernsey and Company.

2. Attached hereto and made a part hereof for all purposes is my surrebuttal testimony on behalf of Laclede Gas Company.

3. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct to the best of my knowledge and belief.

Donald A. Murry

Subscribed and sworn to before me this $\frac{19}{100}$ day of July, 2010. STATE OF OKLAH beary Public Children Chi