BEFORE THE
CORPORATION COMMISSION OF THE STATE OF OKLAHOMA

IN THE MATTER OF THE APPLICATION OF **OKLAHOMA GAS AND ELECTRIC COMPANY** FOR AN ORDER OF THE COMMISSION GRANTING PRE-APPROVAL TO CONSTRUCT A TRANSMISSION LINE, AUTHORIZING A RECOVERY RIDER AND APPROVING OTHER ASSOCIATED TARIFFS IN REGARD TO ITS RENEWABLE PLAN	))))))))	CAUSE NO. PUD 200800148

Direct Testimony

of

Jesse B. Langston

On behalf of

Oklahoma Gas & Electric Company

May 19, 2008

I. INTRODUCTION

Q. **Please state your name, your employer, and your business address.**

A. My name is Jesse B. Langston. I am employed by Oklahoma Gas and Electric Company ("OG&E" or "Company") and my business address is 321 N. Harvey, P. O. Box 321, Oklahoma City, Oklahoma 73101.

Q. **What position do you hold with OG&E?**

A. I am Vice President of Utility Commercial Operations. I have served in this capacity for over 2 years. Prior to assuming my current duties, I served as Director of Corporate Planning for OGE Energy Corporation for approximately four years where my primary duties were to lead the Company's corporate and business strategy development. My current responsibilities include the Company's resource planning efforts. The resource planning team assesses OG&E's power supply requirements and evaluates the resources needed to meet these requirements at the lowest reasonable cost, with due consideration of risk factors.

Q. **Please summarize your professional experience and educational background.**

A. I have been employed by OG&E since 1985 and have over 20 years of experience in the electric utility industry in various areas including corporate planning, business planning, engineering, transmission, distribution, metering, end-use forecasting, load forecasting, telecommunications, corporate marketing, demand-side management and generation planning. Over the past few years, I have led a number of significant initiatives within the Company including the acquisition of McClain (a 400MW natural gas combined cycle plant), the development of Centennial (a 120MW wind farm) and the acquisition of a 51% ownership interest in Redbud (1230 MW natural gas combined cycle plant).

I hold an MBA from Oklahoma City University (May 2002) and a Bachelor of Science degree in Electrical Engineering from Oklahoma State University (1985).

Q. **Have you testified previously before the Oklahoma Corporation Commission ("Commission")?**

A. Yes. I have testified before the Commission on several occasions that are each related to OG&E's power supply planning activities. I first testified in Cause No. PUD 200300564 related to a request by PowerSmith for purchased power rates and a power purchase contract with OG&E. I testified in Cause No. PUD 200500151 regarding the decision-making process that led to OG&E's acquisition of a 77 percent ownership interest in the combined cycle, gas-fired McClain generating facility. I testified in Cause No. PUD 200500059 regarding OG&E's request for approval to construct the Centennial Wind project. I testified in Cause No. PUD 200700012 regarding OG&E's application for pre-approval of joint development and ownership of Red Rock, a 950 MW ultra-supercritical coal plant. Most recently, I filed testimony in Cause No. PUD 200800086 regarding OG&E's application for pre-approval of the acquisition of a 51% interest in Redbud, a state-of-the-art 1230 MW combined cycle natural gas fired power plant.

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

A. I will describe OG&E's initiative to deliver the benefits of Oklahoma's vast wind resources to OG&E's customers, which I refer to as the OG&E Renewable Plan. The pre-approval for construction of a new 345 kV transmission line from western Oklahoma to Oklahoma City is the foundation of the Renewable Plan as it is not possible to significantly expand wind generation without new transmission facilities. I will describe the benefits of the Plan to our customers and to the State of Oklahoma and discuss analyses that demonstrate these benefits. Finally, I will describe certain timing aspects of the Renewable Plan including the relationship between receipt of pre-approval of the transmission line and the development of wind generation as well as how the Commission's decision impacts our ability to move forward on an expeditious basis.

Q. **Please summarize OG&E's request in this filing.**

A. The addition of wind energy to OG&E's system, the construction of transmission needed to deliver that energy, and the proposed renewable tariffs that provide customers with the ability to more directly benefit from renewable wind energy comprise OG&E's

"Renewable Plan". In this application, OG&E is asking for approvals which address two of those components, transmission and customer tariffs.

The construction of this 345 kV transmission line from western Oklahoma is the critical first step in OG&E's initiative to develop 600 MW of new wind generation by 2012. That plan begins by acquiring the first 300 MW of new wind energy in 2010. Pre-approval of the transmission line is critical because it will provide the assurance necessary for wind developers to participate in the request for proposal (RFP) process and offer the lowest reasonable prices for wind energy.

As discussed in the testimony of Mr. Crissup, the 345 kV line represents an efficient investment necessary to deliver wind energy from western Oklahoma to OG&E and is the important first step in extending transmission into Guymon, Oklahoma to support the desire of OG&E and others to acquire additional wind energy. It has been extensively studied by the Southwest Power Pool ("SPP") and deemed a "valid option" to unleash the potential for wind energy in western Oklahoma. Thus, it is also fundamental to achieving the best value for our customers for a second 300 MW block of wind energy in 2011 or 2012.

Q. **Is OG&E also seeking approval in this application for an additional 600 MWs of wind energy?**

A. No. OG&E will seek Commission approval in a future proceeding of any contract for the purchase of wind energy or for OG&E's development of a wind generation facility.

Q. **What other witnesses are supporting OG&E's application?**

A. The three other witnesses and their respective testimony areas are presented in Table 1.

Table 1

Witness	Title	Testimony Areas
Roger Walkingstick	Director, Costing & Pricing	Changes to OG&E's tariffs including a transmission cost recovery rider and Renewable Energy Program Tariff as well as the projected customer impact
Philip L. Crissup	Director, Regional Transmission Affairs	Transmission development efforts and necessity for 345 kV line from Woodward to support wind generation, transmission development efforts including necessary approvals, construction cost estimate, and development of revenue requirement
Leon Howell	Manager, Resource Planning	OG&E's resource planning analysis supporting the Renewable Plan

II. BENEFITS OF OG&E'S RENEWABLE PLAN FOR CUSTOMERS AND THE STATE OF OKLAHOMA

Q. How will OG&E's customers benefit from the Renewable Plan?

A. The Renewable Plan will enable OG&E to satisfy our customers' growing desire for renewable resources of electricity. The expansion of wind as part of our supply portfolio will protect customers from higher than expected fuel prices and the risks of high costs associated with future environmental mandates. Our proposed Renewable Energy Program (REP) tariff, among other tariff proposals sponsored by Mr. Walkingstick, will allow customers to purchase renewable energy credits (REC) should they desire to do so. One REC is equivalent to the environmental, social and other positive attributes of power generated by one MWh of renewable generation. Retail customers can also elect to receive 100% of their energy from green sources.

Q. Has OG&E examined the impact of additional wind energy in its generation portfolio?

A. Yes. OG&E performed extensive resource planning analyses that is described in the testimony of Leon Howell. These are the same analyses discussed by Mr. Howell in Cause No. PUD 200800086, OG&E's request for approval of its acquisition of a 51% interest in the Redbud generation facility. More specifically, OG&E modeled the effects of wind generation in increments of 320 MW, 640 MW and 1,280 MW[1] combined with coal and natural gas production options. OG&E concluded that a resource plan that included 640 MW of wind generation (along with expanded DSM programs and natural gas capacity) was the preferred plan from a cost and risk perspective.

Q. Are there other factors that support adding additional wind to OG&E's portfolio?

A. Yes. As I mentioned previously, the addition of 600 MW of wind generation to OG&E's system provides OG&E's customers with an effective hedge against rising natural gas and emission prices. There is considerable uncertainty regarding the form and timing of new federal carbon regulations with new legislation expected to be enacted by the next Congress. In fact, the analyses performed by Leon Howell shows that in a high CO_2 price

[1] OG&E's standard resource planning analyses assume that additions of wind occur in 80 MW increments.

and high natural gas price scenario, the addition of 640 MW of wind energy to OG&E's system provides approximately $635.0 million in savings, on a net present value basis, relative to a portfolio that has no additional wind.

Q. **Does the Renewable Plan also provide benefits to the State of Oklahoma?**

A. Yes. Many Oklahomans have recognized that western Oklahoma provides a vast, and largely untapped, wind resource. It has been estimated that future wind development in western Oklahoma could reach up to approximately 10,000 MW of production. In addition to the very substantial customer benefits I have noted, development of Oklahoma's wind resources will benefit the Oklahoma economy in terms of additional infrastructure investment, employment, tax revenue and environmental benefits. An expansion of Oklahoma's clean wind energy also provides environmental benefits to Oklahoma's residents and has the potential to provide environmental benefits to our entire region. To fully realize these benefits it will be critical to significantly improve the transmission service from Guymon and the entire Oklahoma panhandle.

Q. **Are other electric utilities expanding their reliance on wind energy and other renewable sources of energy?**

A. Yes. Many utilities must respond to renewable portfolio standards ("RPS") established by state legislatures. As of April 2008, twenty-five states and Washington D.C. had mandatory RPS policies and several other states had non-binding policies. RPS is being given serious consideration at the federal level. OG&E has historically opposed state and federal RPS mandates because we believe mandates generally result in artificially inflated prices to our customers. While OG&E's Renewable Plan addresses the potential for RPS, we are pursuing this approach because it is economical for our customers and has the added advantage of insulating our customers from the prospect of very high natural gas prices and legislation that makes it costly to emit greenhouse gases ("GHG").

Q. **How has the increase in concern about GHG emissions impacted the industry?**

A. The concern about GHG emissions appears to have been a factor in various states advancing policies in favor of renewable energy, strategic investment in transmission, a

renewed commitment to demand side management ("DSM"), and demand response measures. GHG legislation and RPS have been a prime topic for the past year and should continue to be a topic of interest in the coming year.

Q. **What impact have these concerns had on the development of wind generation?**

A. Wind generation is now the fastest growing renewable energy source in the United States. As of 2006, the U.S. had nearly 12,000 MW of wind energy generating capacity. Wind generation, as a renewable energy source, is becoming more prevalent having grown from providing roughly 1% of electricity from renewable sources in 1990 to nearly 7% in 2008. The rate of growth between 2001 and 2006 averaged between 20% and 25%. The American Wind Energy Association states that the electric utility industry installed 5,255 MW of additional wind generation in 2007, thus increasing total wind capacity to about 17,000 MW.[2]

Q. **Why do you believe wind generation is the fastest growing renewable energy source?**

A. This is partially due to advances in technology but is also true because of continuing federal support through production tax credits (PTC) and perhaps more importantly, it does not require either fossil or nuclear fuels to operate nor is it exposed to emission costs. Even though the increasing demand for wind energy and the rising cost of construction worldwide has made wind power more expensive to build as compared to, for example, the Centennial wind farm, it remains one of the most cost efficient renewable energy sources to construct.

Q. **Does this rapid expansion of wind have any impact on OG&E's development efforts?**

A. Yes. OG&E will be competing to attract the interest of wind developers that must decide which markets are the most attractive. The presence of sufficient transmission to deliver the developers' energy moves western Oklahoma to the front of the list of attractive markets and our customers will benefit from a more robust RFP process. If Oklahoma

[2] Source: Moody's Global Corporate Finance, March 2008, page 9.

does not have the transmission infrastructure in place, there is a very real chance significant wind development will occur everywhere else except Oklahoma.

III. THE NEED FOR NEW TRANSMISSION FACILITIES

Q. **Does OG&E currently have wind generation in its portfolio?**

A. Yes. OG&E's portfolio includes 170 MW of wind capacity. OG&E entered into a PPA with FPL Energy in 2003 for 50 MW from the Sooner Wind facility. As intended, the Sooner facility provided OG&E with an understanding of the unique operational aspects of wind generation as well as a greater appreciation for the benefits that it provides to our customers. Based on this experience, OG&E decided to construct the 120 MW Centennial wind facility near Fort Supply Oklahoma in 2006.

Q. **How has OG&E's existing wind generation benefited customers?**

A. Wind generation on OG&E's system today provides significant fuel and environmental benefits to our customers. We estimate that in 2007 more than 236,000 tons of CO_2 were offset by displacement of fossil fuel generation and our customers' bills were lower due to the Company's 170 MW of wind generation.

Q. **How will further expansion of OG&E's commitment to wind generation benefit customers?**

A. Expanding OG&E's commitment from 170 MW to 770 MW of wind is estimated to increase these annual savings to more than 1,653,000 tons of CO_2. Based on our forecast of CO_2 costs and natural gas prices, the proposed wind projects exclusive of transmission are about a break even to our customers. However, if future natural gas prices and CO_2 costs are higher than expected, the addition of wind generation will provide major savings to customers.

Q. **Can significant wind development be supported by today's transmission infrastructure?**

A. No. To support meaningful wind development in Oklahoma, the existing transmission system must be expanded. There is an existing 138 kV transmission system that extends

from Guymon through the Woodward service area to Oklahoma City. This 138 kV system is already loaded to near capacity and additional wind generation capacity will require significant and costly expansion to the existing 138 kV system or the construction of new, larger capacity lines.

Q. **Has OG&E compared an expansion of the existing 138 kV system to development of a new 345 kV transmission line?**

A. Yes. Phil Crissup describes in detail the costs for constructing the proposed 345 kV line and discusses both the costs and limitations associated with expanding the existing line. The Company concludes that it is considerably more efficient to build a 345 kV line accommodating multiple incremental wind projects rather than upgrading the current 138 kV system in a "piece meal" fashion for each separate project. Mr. Crissup's analysis demonstrates that the existing 138 kV system will require significant upgrades each time a new wind facility is added. In addition, SPP's plan for the expansion of the transmission system in western Oklahoma, including a new Woodward to Guymon line, would eventually displace the current 138 kV system and strand much of those very expensive upgrades. Also, the placement of transmission plant does not happen overnight, and the time required for each sequential upgrade to the transmission system as each wind farm is built will not only strain the system during construction periods but will certainly slow, if not preclude many wind projects.

Q. **Has the need for new transmission facilities to deliver wind energy been recognized by the Oklahoma Legislature?**

A. Yes. The legislature has recognized the potential benefits of wind generation for Oklahoma customers and the Oklahoma economy, as well as the need for new transmission capacity in order to make this a reality. As described by Mr. Crissup, the Oklahoma legislature created the Oklahoma Electric Power Transmission Task Force ("OEPTTF") and requested a transmission study by the SPP. The study concluded that significant expansions of 345 kV systems from western Oklahoma to regional market areas warrant serious consideration. HB 2813, which supports transmission construction

to facilitate the expansion of wind generation, is an example of the legislature proactively positioning Oklahoma as a leader in renewable energy.

Q. **Have other states found that construction of new transmission facilities is necessary to deliver renewable generation to load centers?**

A. Yes. It is increasingly becoming more common for state governments and regulated electric utilities to recognize existing transmission infrastructure as a significant limitation on the development of renewable generation. Several states, including California and Nevada, are finding it difficult or impossible for their utilities to meet current RPS mandates without investments in transmission lines.[3] Recognizing this transmission infrastructure deficiency, the North American Electric Reliability Corporation (NERC) indicates that RPS mandates should include associated transmission investment.

In responding to the transmission deficiencies, states and transmission grid operators are becoming more proactive in encouraging transmission investment. For example, Colorado and California have taken the initiative to establish mandates and incentives to facilitate transmission infrastructure investment.

In January 2007, legislation was enacted in Colorado that requires electric utilities to submit biennial reports that: (a) designate renewable "energy resource zones" ("ERZ"s); (b) identify plans for accessing ERZs; and (c) evaluate strategies for using transmission investment to promote local ownership of renewable energy. Further, that legislation allows for electric utilities to recover planning, development and construction costs for authorized transmission facilities through a rate adjustment clause.

In 2007, the California Independent System Operator ("ISO") received approval from the Federal Energy Regulatory Commission ("FERC") for a transmission interconnection category for location-constrained renewable energy resources. For such resources, transmission facilities would be constructed prior to the development of renewable

[3] The California Energy Commission does not expect that California's investor owned electric utilities will meet the states RPS requirements for 2010 because of insufficient transmission infrastructure. Similarly, the Nevada Power Company says it will not be able to comply with the Nevada RPS requirements without a transmission line connecting Nevada Power Company with Sierra Pacific Power Company.

energy projects and the costs for that construction would be initially recovered through the California ISO transmission charge.

Similarly, several states, including New Mexico, Colorado, Kansas, Wyoming, North Dakota, South Dakota and Idaho, have formed transmission infrastructure authorities for the purpose of issuing revenue bonds for financing new transmission investment. Many of these transmission infrastructure authorities are required, at least in part, to support transmission projects that provide service for renewable or clean energy sources.

IV. TIMING CONSIDERATIONS

Q. **Please describe the timing considerations that will affect the development of wind generation in transmission constrained areas.**

A. The best locations for wind generation are often in remote areas that have minimal load and limited transmission capacity developed to serve that load. This creates a "chicken or the egg" dilemma as the transmission development effort requires customers to step forward and commit to using the line, yet, wind developers are reluctant to develop or even to participate in RFPs unless they are assured that the necessary transmission will be in place. This is one outcome of the movement to competitive generation markets. Wind developers, particularly in the current market, have many alternatives and do not need to participate in the more speculative markets. Competition for wind turbines is strong and turbines will be dedicated to the projects most likely to be developed.

Q. **How is western Oklahoma impacted?**

A. Western Oklahoma is a classic example of the situation I have just described. More specifically, the first step in the development of western Oklahoma wind involves several interrelated actions which must be completed in close proximity to each other. The four basic building blocks are:

- SPP authorization to construct the 345 kV line;
- Pre-approval of OG&E's construction of this transmission line by the OCC in the current proceeding;
- Conduct an RFP for wind generation which allows bidders to price wind energy based on transmission services provided over an in-service 345 kV line; and

- Construction of the 345 kV line in a timely fashion.

Q. **Has OG&E undertaken any steps to begin the process for developing wind energy for its customers?**

A. Yes. OG&E has notified the SPP of its intent to build a 345 kV line from Woodward to Oklahoma City, subject to approval of this request by the OCC. As discussed by Mr. Crissup, OG&E has also initiated the engineering work and right-of-way acquisition process for the proposed 345 kV line. However, for OG&E to continue investing in the transmission line, the Company needs assurance from the Commission that continued investment would be prudent.

In addition, OG&E is working with a Commission-approved Independent Evaluator to finalize an RFP to solicit bids to provide up to 300 MW of wind generation to OG&E's customers. OG&E is prepared to issue this RFP as soon as it receives pre-approval for the associated transmission investment. Our goal is to take delivery for this first phase of wind energy during 2010. OG&E plans to issue a second RFP in 2009 to fulfill the remainder of its 600 MW goal. OG&E hopes to receive delivery for this second phase of wind energy during either 2011 or 2012.

Q. **How does the pre-approval of the proposed transmission line relate to the RFP?**

A. As I've discussed, pre-approval is essential in order to attract sufficient interest in the RFP. The primary expense for wind developers is the cost of turbines which are in great demand both in the United States and world-wide. Consequently, manufacturers require very substantial reservation fees, progress payments and cancellation fees for their turbines. Prospective bidders must obtain the necessary turbine commitments prior to submitting their bids but they will not submit a bid unless they have assurance that the energy produced by the turbines can be transmitted when they go on line or shortly thereafter. The RFP asks bidders to assume that the transmission line is in place for the purposes of interconnecting a new wind generation project to the SPP system. This provision of the RFP allows bidders to base their price on the assumption that they can deliver the energy from the wind farm into OG&E's system in 2010. This provision is

essential for a robust competitive bid process with more bidders, multiple bid options and better pricing alternatives.

Q. **Are there any other timing factors that contribute to a desire to move quickly to develop wind generation?**

A. Yes. Construction costs for all production resources as well as transmission plant have increased substantially in recent years. For example, between January 2004 and January 2007, the costs of steam generation plant, transmission projects and distribution equipment rose by 25 to 35 percent. Generally, these cost increases have evolved due in part to the higher cost of raw materials and skilled labor. However, costs for engineering, procurement and construction firms have also risen largely due to the global demand for their services.

Q. **Are costs also increasing for developing wind energy production?**

A. Yes. For example, the U. S. Department of Energy ("DOE") issued a report in May 2007 finding that wind generation costs were increasing for new projects. As part of its findings, the DOE found that prices for wind turbines, the largest cost component for wind generation plant, increased by more than $400 per kW between 2002 and 2006, amounting to an increase of approximately 60 percent.[4]

Q. **Can wind energy be provided to OG&E's customers more cost effectively if construction begins sooner rather than later?**

A. Yes. In my opinion, unless the Company acts promptly, our customers will bear higher energy costs in satisfying their demand for renewable energy. As discussed above, the cost of construction for both wind farms and transmission is rising rapidly. Given the worldwide demand for wind generation turbines, rising costs for skilled labor, materials and demands for construction management, OG&E believes that the cost of constructing wind generation and the transmission to deliver it will continue to increase.

[4] Please see U. S. Department of Energy, *Annual Report on U. S. Wind Power Installation, Cost and Performance Trends: 2006*, Figure 21, page 16.

V. REQUESTED FINDINGS AND CONCLUSIONS

Q. **Please summarize the approvals that OG&E is seeking through this application.**

A. OG&E seeks a Commission order that allows the Company to proceed with its Renewable Plan. Specifically, OG&E seeks a Commission order:

- Pre-approving OG&E's proposal to construct a 345 kV transmission line from Woodward to Oklahoma City and a finding of prudence;
- Approving OG&E's proposal for a recovery rider to collect construction costs including Allowance for Funds Used During Construction ("AFUDC") for the cost of the 345 kV transmission line after the line is in-service and used and useful, subject to a construction cost cap of $211 million. Additionally, the rider will credit REC proceeds as well as transmission revenues from the use of the line; and
- Approving OG&E's proposal as described by Mr. Walkingstick restructuring its existing renewable tariffs into offerings that include: (1) a new tariff which allows customers to purchase renewable energy credits; (2) modification to the existing GPWR tariff to move the tariff toward the current value of service and applying the additional revenues to offset transmission cost; and (3) creation of a new tariff specifically applicable to the LPL class of customers.

Q. **What Commission approval timing is being requested by the Company?**

A. The Company is respectfully requesting the Commission's approval for the transmission line by July 31, 2008 in order to achieve the 2010 targeted in-service delivery date for the first 300 MW of wind energy. The Company will continue the development of the 345 kV transmission line from Woodward while the Commission processes this application in order to meet the 2010 delivery schedule. However, without timely approval, OG&E will delay or cancel the construction project.

Q. **Why does the Company require pre-approval from this Commission before it will continue construction of the 345 kV transmission line?**

A. The Company has determined that it is in our customers' best interest to utilize the SPP mechanism for a sponsored transmission project. Obviously, others may disagree and could play "Monday morning quarterback" when we subsequently seek to include these

costs in rate base. OG&E believes it is important that the Commission review the facts as we know them today and predetermine the prudence of this action based on those facts.

Q. **Is OG&E proposing to cap the request for pre-approval?**

A. Yes. The request is capped at $211 million. The basis for this cost is described in Mr. Crissup's testimony. The Company is asking that the actual cost for constructing the line be recovered through the rider described by Roger Walkingstick. However, the amount recovered would not exceed $211 million unless the Commission finds in a separate proceeding that the Company acted prudently in expending the additional dollars.

Q. **Please summarize why you believe OG&E's Renewable Plan is in the best interests of your customers.**

A. The challenges we face today in the power sector are unprecedented in their scale and their nature. The fossil fuels we rely on, particularly natural gas, have been increasing in price yet our reliance on fossil fuels is not expected to diminish significantly in the foreseeable future. Without a doubt, renewables, primarily wind, will play an essential role in the OG&E future generation mix. Wind energy is a sustainable supply that takes advantage of Oklahoma's vast natural resource and helps protect our customers from the risk of higher than expected fuel prices and the cost resulting from future GHG legislation. There are many different pieces of proposed legislation to curb greenhouse gas emissions which are under consideration. While we don't yet know the impact of such legislation, early indications are that it will be costly. Therefore, we must take immediate steps to add renewables and position customers for this future by building a balanced, diversified portfolio which provides customers with multiple options. There is not one magic solution. However, the ability to add meaningful amounts of wind development and establish a balanced portfolio, which includes multiple options are dependent upon the construction of new transmission infrastructure. We believe our renewable plan is in the best interest of customers because it provides benefits of clean renewable wind energy and is the best response to market uncertainty.

Q. **Does this conclude your prepared direct testimony?**

A. Yes, it does.