

**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)
AUTHORIZING APPLICANT TO MODIFY ITS)
RATES, CHARGES, AND TARIFFS FOR RETAIL)
ELECTRIC SERVICE IN OKLAHOMA)

Cause No. PUD 200800398

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CORPORATION COMMISSION
OF OKLAHOMA**

Direct Testimony

of

Kenneth Grant

On behalf of

Oklahoma Gas and Electric Company

February 27, 2009

Kenneth Grant
Direct Testimony

1 Q. **Would you please state your name and business address?**

2 A. My name is Kenneth Grant. My business address is 321 North Harvey, Oklahoma City,
3 Oklahoma 73102.

4
5 Q. **By whom are you employed and in what capacity?**

6 A. I am employed by the Oklahoma Gas and Electric Company (“OG&E” or “Company”) as
7 Managing Director of Marketing.

8
9 Q. **Would you please summarize your education and professional background?**

10 A. I have a bachelor’s degree in electrical engineering from the University of Oklahoma and
11 a Masters of Business Administration from the University of Central Oklahoma. I am a
12 licensed professional engineer in the State of Oklahoma. I have been employed at OG&E
13 for over 15 years, most of which have been involved with developing or directly
14 administering various customer programs for the Company.

15
16 Q. **Have you previously testified before the Oklahoma Corporation Commission?**

17 A. No, but I have represented the Company before this Commission on several occasions
18 during various technical conferences regarding demand response and energy efficiency
19 programs. I have also participated in various Arkansas technical conferences and
20 collaboratives regarding demand response and energy efficiency programs and filed
21 testimony in those same proceedings.

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

2 A. My testimony will focus on OG&E's SmartPower initiatives, including a brief overview
3 of what SmartPower is and what it could enable us to accomplish, as well as a description
4 of what OG&E has been doing to better understand the potential benefits of SmartPower,
5 and what OG&E is proposing now and in the future.

6
7 Q. **Please summarize what you are requesting in this application with regard to
8 SmartPower.**

9 A. OG&E is requesting approval for: (i) the costs associated with the Norman deployment of
10 SmartPower, including approximately 42,000 smart meters, a wireless communication
11 network with associated information technology upgrades, 2,200 in-home devices,
12 automation of eight (8) distribution circuits and other related costs; (ii) the approval of a
13 recovery rider to recover such costs; (iii) certain price response tariffs to allow customers
14 to utilize in-home devices and participate in the price response study being proposed; and
15 (iv) a waiver of OAC 165: 35-21-21(3) to allow for remote disconnection of service for
16 advanced meters.

17
18 Q. **What is SmartPower?**

19 A. There are many definitions of "smart power" (also referred to as "smart grid") being used
20 throughout the electric power industry. When OG&E uses the term SmartPower, it is
21 referring to the following: SmartPower is the thoughtful integration of advanced
22 metering, automation, communications and information technologies on the electric
23 distribution system to provide an array of choices and services to all customers while

1 lowering costs and improving service reliability. These are the driving principles that
2 OG&E seeks to adhere to as it moves forward with deployment of this technology. *See*
3 Exhibit KRG-1 to this testimony for a graphic example of the various components of
4 SmartPower.

5
6 **Q. Please describe the typical objectives of the SmartPower.**

7 **A.** The Edison Electric Institute (“EEI”) describes the objectives of a SmartPower as
8 follows:

- 9 ○ Enable active participation by consumers
 - 10 ■ Provide dynamic electricity pricing and consumption information to
 - 11 customers in near real time to allow them to better manage their electricity
 - 12 usage and save money.
- 13 ○ Accommodate all generation and storage options
 - 14 ■ Enable future integration of demand response and other emerging
 - 15 renewable and storage technologies, including solar, residential wind, and
 - 16 plug-in hybrid electric vehicles (PHEV’s).
- 17 ○ Enable new products, services and markets
 - 18 ■ Offer a range of new products and services to customers to improve their
 - 19 comfort, convenience, safety and security.
 - 20 ■ Services may include energy management tools, outage and restoration
 - 21 notification, pre-paid billing, flexible payment dates, and 24 hour move-in
 - 22 / move-out and reconnection service.
- 23 ○ Provide power quality for the digital economy

- System-wide monitoring to the customers' meter provides better information for outage notification, voltage control, and ultimately improved service and restoration time.

- Optimize asset utilization and operate efficiently

- Reduce operating cost related to meter reading and connect / disconnect orders.
- Utilize price response programs and automatic voltage optimization to reduce peak demand and defer the need for new power plant investments.
- Automated reactive power (VAr) control to reduce line losses and improve power delivery efficiency.
- Provide for automatic, optimized load balancing between circuits to defer capacity upgrades on distribution lines.

- Anticipate and respond to system disturbances

- Through distribution automation provide "self healing" capability to automatically isolate faults and restore service to as many customers as possible, providing for improved outage management and response time.
- Deploy enhanced equipment monitoring for early detection of equipment overload or failure.

- Operate resiliently against attack and natural disaster

- Provide improved system monitoring and hardened cyber security measures to mitigate risk of physical or cyber attack.
- Distribution automation will make the grid less vulnerable to natural disasters.

1 Q. **Please explain OG&E's rationale for exploring SmartPower.**

2 A. SmartPower has emerged in the power industry as a technology and service solution that
3 can help utilities and their customers offset some of the upward cost pressures that we
4 have all been experiencing in recent years. Coupled with effective price response
5 programs, OG&E believes the SmartPower will:

- 6 ○ First and foremost, empower customers with the information and tools necessary to
7 better manage their energy usage and energy costs.
- 8 ○ Create opportunities for the reduction of peak demand and delay the need for
9 additional fossil-fueled power plants.
- 10 ○ Reduce utility operating costs.
- 11 ○ Improve the ability to anticipate, manage, and respond to outages and other system
12 disturbances.

13 OG&E will refer to this thoughtful integration of advanced technologies and customer
14 programs, specifically including price response programs, as its Positive Energy[®]
15 SmartPower program.

16 OG&E believes that its energy challenges cannot be met with power generation resources
17 alone but must involve an intensive focus on and commitment to energy conservation and
18 managing energy demand. A range of internal and external factors are applying upward
19 pressure on our costs and, therefore, rates. These factors include continued load growth
20 in the digital age, shrinking capacity reserve margins, rising cost of new plant, aging
21 infrastructure, fuel price volatility, environmental concerns including, but not limited to
22 potential CO₂ emissions costs, and increasing need for new transmission capacity.

23 SmartPower technology coupled with aggressive programs that allow customers to

1 respond to price signals can help utilities and their customers offset some of these upward
2 cost pressures.

3 While SmartPower delivers a number of operational savings opportunities (which will be
4 discussed in greater detail below), our customers are the major benefactors of this
5 investment. The ability to reduce line losses, better identify theft of service, reduce bad
6 debt write-offs, reduce energy costs during periods of peak demand, and defer major
7 investments in new capacity and capital equipment, are examples of the substantial
8 customer benefits from operational improvements that can be derived from SmartPower.

9
10 **Q. Please provide a functional overview of OG&E's SmartPower program.**

11 **A.** OG&E's SmartPower encompasses a range of technology solutions, including advanced
12 metering, in-home network and customer interfaces, and distribution system automation
13 and monitoring. Several back office computer systems will be required for information
14 processing and data storage. Also, a secure, reliable communication network will be
15 needed to connect and integrate these systems. I will break the SmartPower solutions up
16 into various components for further discussion.

17 **Metering:** Advanced Metering Infrastructure (AMI) refers to intelligent digital meters
18 with advanced capabilities which include two-way communications, interval billing, in-
19 home networking, remote meter reading and remote service activation/deactivation. The
20 elimination of manual meter reads and manual connect or disconnect orders will result in
21 significantly lower operating expenses. The meters allow faster and more accurate outage
22 notification as well as validation of service restoration. Through the meter, price signals
23 and energy consumption information can also be sent to the customer.

1 **Home Area Network:** This technology solution involves several applications. First, an
2 internet based web application provides customers with near real-time information on
3 their energy consumption, cost to date, current price, and forecasted cost. It also provides
4 guidance and tips on how to manage and reduce their bill, as well as provide comparisons
5 to other comparable homes. Second, an in-home display panel is also available to
6 provide near real-time energy consumption and cost information. This display provides
7 continuous feedback on energy costs, thus improving customer awareness and
8 effectiveness of the price response signals. Third, an optional programmable thermostat
9 is available that receives pricing information from the AMI network (this thermostat may
10 also serve as the in-home display panel). The thermostat can be programmed to
11 automatically adjust the temperature setting in response to changes in electricity prices.
12 Customers would have the ability to maintain full control of the programming of this
13 feature, and would have full override capability. Field tests and studies have indicated
14 that this technology is highly effective in influencing energy consumption patterns.

15 **Distribution Automation:** With distribution automation, automated switching or circuit
16 interrupting devices are installed at strategic locations along the distribution feeder.
17 When a sustained fault occurs, these switches operate quickly and automatically to isolate
18 the damaged section of line and restore power to as many customers as possible. If
19 needed, power may be automatically re-routed from adjacent circuits by closing
20 normally-open tie switches. Therefore, automation technology can significantly reduce
21 the number of customers that are impacted by faults on the distribution system, thus
22 improving overall reliability measures, including Customer Minutes of Interruption
23 (CMI) and System Average Interruption Duration Index (SAIDI). Additionally,

1 automation of capacitor banks and voltage regulators can provide voltage and reactive
2 power (Volt/VAr) optimization. This allows selective reduction of voltage during peak
3 demand periods to reduce system demand and contribute to the deferral of new peaking
4 capacity. Improvement in power factor through optimized VAr control will also reduce
5 distribution line energy losses and, therefore, improves efficiency and saves fuel.

6 **Information Technology:** A range of advanced information technology applications and
7 integration of these systems are important for realizing the benefits of SmartPower.
8 These information technology applications include advanced methods for managing
9 meter data, demand/price response data, network and distribution system data and
10 customer information. Through better management, a utility increases its ability to
11 access and to maximize its use of such data.

12 **Communications Network:** A communication network is needed to communicate to all
13 meters, distribution automation devices, and in-home devices on the system. Both public
14 and private network solutions can be utilized, but all must meet defined performance,
15 reliability, and security standards.

16 **Customer Programs:** SmartPower technologies allow customers to participate in more
17 effective price response programs. These price response programs are generally based
18 upon a multi-tiered time-of-use tariff, including a variable-peak pricing component.
19 Participating customers receive near real-time price and usage information through the
20 meter, to be displayed through the web interface, or the optional in-home display panel.
21 The optional programmable thermostats are also available to allow customers to
22 automatically adjust temperature settings according to the price tiers established in the
23 tariff. This price and usage information allows customers to take better advantage of

1 time-based rates by making educated decisions about when and how to use energy. In
2 addition to price response, SmartPower technologies can facilitate flexible customer
3 billing options, such as allowing customers to pre-pay for service or select a payment
4 schedule to meet their individual needs. Customers could also benefit from 24-hour
5 remote service activation, outage and service restoration notification, and being able to
6 receive estimated service restoration times.

7
8 **Q. Can you describe some specific benefits that OG&E expects to see from the**
9 **SmartPower program?**

10 **A.** Yes. In addition to the benefits generally described above, the demand reductions
11 achieved through the price response programs and distribution automation may allow us
12 to delay capital investment in incremental generation resources. According to OG&E's
13 most recent Integrated Resource Plan ("IRP"), full deployment of the SmartPower
14 program (which includes participation of price response customer programs enabled by
15 smart meter technology) could have the effect of shaving peak demand to the extent that
16 OG&E could avoid the building of a new 165MW peaking unit in 2015 and a second
17 165MW peaking unit in 2016. These numbers are based upon achieving a 20% customer
18 participation rate in price response programs, a 1.3 kW reduction in peak demand per
19 participating customer, and only residential customers participating. Also, by shaving
20 peak demand, our customers avoid the additional incremental energy costs associated
21 with power generation or short-term power purchases during peak periods. Under current
22 IRP assumptions, the avoidance of these two peaking facilities would save approximately
23 \$320 million in capital costs during the 10-year planning horizon.

1 Additionally, the ability to optimize distribution assets through Volt/VAr control (as
2 described above) will allow us to delay capital investments in system upgrades that
3 would otherwise be necessary. Other benefits include the ability to leverage the vast
4 amounts of advanced meter data for improved load research and load forecasts, improved
5 system planning, and the ability to tailor maintenance work based on real-time system
6 condition data. Also, we will see reduced fuel use and emissions from company vehicles,
7 reduced greenhouse gases due to reduced line losses, and eventually SmartPower could
8 more effectively manage distributed renewable resources such as wind, solar and even
9 plug-in hybrid electric vehicles.
10

11 **Q. When did OG&E begin investigating the functionality and potential benefits of**
12 **SmartPower?**

13 **A.** The Company began seriously considering the technology and its potential operational
14 benefits in 2007. It was determined that the first step in truly understanding the
15 technology and its potential benefits was to perform a live technology “demonstration”
16 on the actual distribution system. The Company initiated the demonstration in Summer
17 2008.
18

19 **Q. What were the objectives of the technology demonstration project?**

20 **A.** The Company established the following objectives for the project:
21 ○ Test the reliability and functionality of AMI smart meters in a live customer
22 environment.

- 1 ○ Demonstrate the ability to remotely activate and de-activate service through the
- 2 meter.
- 3 ○ Demonstrate the ability to achieve actual operational savings.
- 4 ○ Determine the willingness and ability of customers to modify energy consumption
- 5 based upon detailed price and usage information.
- 6 ○ Determine what information provides the greatest value to customers.
- 7 ○ Determine how customers want the information presented.

8

9 **Q. Please describe this technology demonstration project.**

10 **A.** The Company selected a small area in northwest Oklahoma City for the project. This

11 particular area (bound by Western Avenue to the east, May Avenue to the west, 150th

12 Street to the north and 122nd Street to the south) comprises approximately 6600 meters in

13 a number of apartment complexes, and has a significant number of service activations

14 and de-activations resulting in high transaction costs. Approximately 10,000 truck rolls

15 per year would be eliminated through deployment of AMI in this area alone, solely from

16 the use of the remote service activation and de-activation feature. The Company worked

17 with GE to complete development of the technology demonstration plan, and selected

18 Silver Spring Networks to be the network technology provider in January of 2008. The

19 installation of the 6600 meters began on October 14, 2008 and was completed on

20 November 2, 2008, and the first remote service activation occurred on November 1,

21 2008. In addition to demonstrating the AMI technology, the original plan included a

22 demonstration of a price response program enabled by in-home technologies to be

23 deployed and tested in time for the summer 2009 billing period. However, the

1 Company's management team decided that demonstrating the effectiveness of a
2 technology-enabled price response program should be the most important aspect of the
3 project, and greatly accelerated the timeline from summer of 2009 to the summer of
4 2008.

5
6 **Q. Please describe this price response portion of the technology demonstration project**
7 **in more detail.**

8 A. The Company decided to extend the project area to include some of the single-family
9 residential homes and duplexes in the Quail Creek subdivision in Northwest Oklahoma
10 City. This subdivision was selected solely because of its proximity to the planned project
11 area. In June of 2008, the Company held a kick-off event to explain the project to eligible
12 customers, and 25 residential customers agreed to participate. Each customer was paid
13 \$250 and agreed to provide constant feedback throughout the course of the project, and to
14 participate in a structured focus group study at the end of the project. Also, in June, the
15 Company completed installation of the 25 General Electric ("GE") advanced meters with
16 Silver Spring Network interface cards, a wireless mesh network, in-home touch-screen
17 information display panels, programmable communicating thermostats, and a web
18 interface to provide more detailed energy consumption information. The price response
19 demonstration project officially went live in July of 2008.

20
21 **Q. Did the Company file a new tariff for the price response demonstration project?**

22 A. No. All participating customers were billed on OG&E's standard residential tariff
23 throughout the course of the demonstration. However, a time-of-use price schedule with

1 three price tiers and a critical price component was developed to simulate more
2 meaningful price signals to the participating customers. This price information, along
3 with detailed usage information, was sent to the customers through the advanced meters,
4 and displayed on the in-home display panels as well as the web interface. The simulated
5 time-of-use price schedule was designed as follows:

- 6 ○ Low price from 12 am to 6 am, \$0.03 per kWh
- 7 ○ Medium price from 6 am to 2 pm, and 7 pm to 12 am, \$0.0477 per kWh
- 8 ○ High price from 2 pm to 7 pm, \$0.2295 per kWh
- 9 ○ Critical Peak price, \$0.46 per kWh

10 Even though participating customers were billed under the standard tariff, they were all
11 paid for the theoretical savings they would have achieved had they been billed under the
12 simulated time-of-use price schedule. This gave them all the incentive necessary to
13 consider making changes to their normal energy usage patterns.

14
15 **Q. Did the participating customers make changes to their energy usage during the**
16 **course of the demonstration project?**

17 **A.** Yes. Participating customers were able to program the communicating thermostats to
18 respond to these price signals by automatically changing temperature settings. Almost all
19 participants took advantage of this feature. They were also encouraged to take additional
20 actions, and were provided energy savings tips and other educational materials. Some
21 customers shifted additional usage such as clothes drying to lower priced periods, many
22 closed blinds and increased ceiling fan use, some installed swimming pool pump timers
23 and compact fluorescent lamps, and one customer even paid for a home energy audit

1 including a blower door test. The average savings among customers participating in the
2 project was about \$37 per month as compared to their billing under the standard
3 residential tariff (approximately 10% to 15% savings). One participant chose to make no
4 changes to their energy usage, and thus generated no savings. The highest level of
5 savings achieved was \$320 total (for the full 3 months the customer participated in the
6 project).

7
8 **Q. Please describe the customer feedback OG&E received from participants during the**
9 **course of the project.**

10 **A.** The customer feedback received was overwhelmingly positive. Responses from surveys
11 of the participants show that 100% claim to be more aware of their energy consumption
12 and the price of energy, and 96% (all but one participant) expressed a desire to participate
13 in future SmartPower price response programs. The consensus of participants was that
14 the information and tools provided them awareness and control. A quote from one
15 particular customer sums things up well: "If knowledge is power, we now have the power
16 over the power".

17
18 **Q. Has the Company recognized any operational benefits during the technology**
19 **demonstration?**

20 **A.** Yes. The Company has been able to successfully work approximately 450 orders per
21 month remotely within the project area. An on-demand meter read or service activation
22 is now taking less than 15 seconds from the time the command is requested, physically
23 executed at the meter, and acknowledged as complete. This means a significant reduction

1 in field service vehicle usage and drive time and the number of manual connections and
2 non-scheduled meter reads.

3
4 **Q. Could the benefits you described be greater?**

5 A. Yes. The 450 orders per month I just described does not include remote disconnect
6 orders. The benefits actually could be even greater if we have the ability to remotely
7 disconnect service without providing physical notification at the home. Currently, under
8 OAC 165:35-21-21(3), the Company still must make field trips on service de-activation
9 orders due to the Commission regulation requiring OG&E to physically leave a notice at
10 the premise at the time of disconnection. In PUD 200800375, the Company filed for a
11 waiver from this requirement specifically for the demonstration in Oklahoma City.
12 OG&E herein requests that the Commission grant a similar waiver for the use of
13 advanced meters across the OG&E system.

14
15 **Q. Has the Company performed any additional research in developing its SmartPower
16 program?**

17 A. Yes. The Company conducted a number of customer surveys throughout the course of
18 2008 to gain customer feedback on a larger scale. Some of the highlights of that research
19 are as follows:

- 20 ○ If a customer had real-time information regarding their hourly cost of electricity,
21 92% of respondents said they would be willing to shift usage to a different time of
22 day to save money.

- 58% of respondents said they would be more likely to participate in time-of-use if OG&E offered a product that could be used to turn appliances on and off or automatically adjust thermostats.
- 63% of respondents would be willing to change their thermostat setting 4 degrees or more in order to conserve energy.
- 75% of respondents said an in-home display would help them use energy more efficiently, and 67% said it would help them better manage monthly electricity costs.
- Customers prefer an in-home display for receiving price signals, followed closely by e-mail, with fewer customers choosing an interactive web-site or text-messaging notification.
- Only 6% of respondents don't believe having energy information displayed in their home would be valuable.
- When asked "what tools could help you manage your energy usage", a multitude of respondents replied with requests for a meter or gauge to monitor energy use and cost.

18 Q. **Has the Company identified costs and benefits of deploying SmartPower across the**
19 **OG&E system?**

20 A. Yes. OG&E has performed a business case analysis for deploying SmartPower across the
21 OG&E system. Based on current information, full deployment costs are approximately
22 \$284 million. OG&E defines full deployment as 100% of meters being replaced with
23 smart meters, automation of 200 circuits, full information technology integration, and a

1 20% participation rate for in-home devices. OG&E's business case analysis indicates that
2 the overall net benefits of full deployment of SmartPower could be almost \$150 million
3 dollars over fifteen (15) years. As we develop the program, these numbers will change.
4 However, these preliminary numbers indicate that this is a program that can be very
5 beneficial to our customers and OG&E intends to pursue these benefits.

6
7 **Q. Is the Company proposing full deployment of SmartPower in this filing?**

8 A. No. The company is not proposing full system-wide deployment at this time. Instead,
9 OG&E is proposing to focus on the first step in full deployment – a comprehensive
10 deployment of the SmartPower program within the Norman City limits. This deployment
11 would involve approximately 42,000 smart meters, and the Company would recruit
12 approximately 2,200 customers for participation in a highly structured price response
13 study using various in-home devices.

14
15 **Q. Why is the Company proposing Norman for this next step in the SmartPower
16 program?**

17 A. The Company recognizes that the costs and benefits associated with SmartPower are
18 substantial, and understands the importance of being prudent in moving forward with the
19 investment. The scope of deployment in Norman will be small enough to allow the
20 Company to manage technology risks and costs, yet large enough to provide competitive
21 pricing and attract the commitment of the vendor community. There are also a number of
22 other reasons that make Norman attractive for this next step:

- 23 ○ Norman is one of the highest transaction cost areas the Company serves.

- 1 ○ Eight (8) of the Company's 50 worst performing distribution circuits are located
- 2 in Norman, which will allow for a thorough vetting of distribution automation
- 3 technologies.
- 4 ○ Norman has customer density and terrain characteristics representative of the
- 5 general service territory.
- 6 ○ Norman has sufficient variability in customer make-up to provide an effective
- 7 sample test population representative of the overall customer base for the price
- 8 response program study.
- 9 ○ The City of Norman and The University of Oklahoma have both displayed high
- 10 interest in environmental programs, and would likely be very supportive of the
- 11 project.

12
13 **Q. What does the Company hope to accomplish by deploying SmartPower in Norman?**

14 **A. The Company hopes to accomplish a number of critical objectives in the proposed**
15 **Norman deployment:**

- 16 ○ Validate the operational and customer benefits.
- 17 ○ Further test customer response to price signals and acceptance of in-home
- 18 enabling technologies across various customer segments.
- 19 ○ Test the responsiveness of customers to a voluntary pre-pay program.
- 20 ○ Further validate assumptions regarding the functionality and performance of
- 21 SmartPower technologies.
- 22 ○ Develop internal competencies around information-technology integration
- 23 business process change on a relatively smaller scale.

- 1 ○ Develop experience leveraging vast amounts of data and new technologies to
- 2 improve operational performance.
- 3 ○ Validate planning assumptions regarding SmartPower deployment.
- 4 ○ Enhance and refine communications with customers.

5

6 **Q. Please describe the scope of the proposed Norman SmartPower deployment.**

7 **A.** Approximately 42,000 smart meters will be deployed for residential and small

8 commercial customers with the following functionality:

- 9 ○ Two-way communication to and from OG&E
- 10 ○ Home-Area-Network (HAN) gateway in the meter
- 11 ○ Remote activation capabilities in the meter
- 12 ○ Outage and power restoration notification
- 13 ○ Configurable interval data to support time-based rates
- 14 ○ On-demand meter reading capability

15 Varying combinations of in-home devices, including in-home display panels,

16 programmable communicating thermostats, and web-based energy usage analysis tools,

17 will be deployed with approximately 2,200 customers choosing to participate in the price

18 response study. Automated switching and Volt/VAr controls will be installed on 8

19 distribution circuits to validate the ability of the technology to improve reliability, reduce

20 line losses, and shave peak demand during high use periods. New customer service

21 applications and internal business processes must be developed and implemented in order

22 to leverage the new technologies. Many of these process changes will be addressed

1 during the Norman deployment on a small scale, and will run parallel to existing
2 processes while being fully vetted throughout the test.

3
4 **Q. Please describe the details of the price response study being proposed in the Norman**
5 **deployment.**

6 A. The Company proposes to structure a study for the summer of 2010 to obtain quantitative
7 and statistically valid results pertaining to customer acceptance of a technology-enabled
8 price response program and the resulting coincident peak demand reduction that can be
9 achieved. The Company also intends to understand which combination of in-home
10 technologies will achieve the best customer response. To do so, approximately 2,000
11 customers will be enrolled in 4 different test groups. Group A will receive the web
12 interface only, Group B will receive the web interface with a programmable
13 communicating thermostat, Group C will receive the web interface and an in-home
14 display panel, and Group D will be a control group that receives no communication of
15 price and usage data. Each group will be similar in demographic make-up to the greatest
16 extent possible in order to isolate the communication of price and usage data and the
17 technology employed as the only dependent variables. Additionally, the Company will
18 attempt to enroll approximately 200 small commercial customers to achieve a similar
19 level of understanding regarding the acceptance for business customers.

20
21 **Q. Will a new price response tariffs be filed for use in the price response study?**

22 A. Yes. Witness Bryan Scott will testify regarding the tariffs being filed as a part of this
23 cause.

1 Q. **What is the proposed cost of the Norman SmartPower deployment, and how does**
2 **the Company propose to recover these costs?**

3 A. If the Commission approves this deployment of SmartPower in Norman, the Company
4 expects to incur approximately \$18 million in capital costs leading up to June 2010.
5 OG&E requests that it be able to recover these capital costs in a rider beginning in June
6 2010 when the meters, devices and other facilities are placed in service. This rider will
7 be effective June 2010 and will also allow OG&E to recover O&M expenses necessary to
8 carry out the Norman project. Such O&M costs are currently estimated to be
9 approximately \$1.9 million.

10
11 Q. **After the Norman phase of the SmartPower deployment, what will OG&E do?**

12 A. In the fall of 2010, we will evaluate the performance of the Norman deployment
13 including the results of our price response programs and share the results and lessons
14 learned with the Commission as well as specific plans and costs for full deployment. We
15 will make a recommendation on full deployment in a separate filing to the Commission at
16 that time.

17
18 Q. **Does the recently passed Stimulus legislation have the ability to alter the above**
19 **SmartPower program?**

20 A. Yes. There is \$4.5 billion in grant funding potentially available for the use of smart grid
21 technologies. The rules and procedures for qualifying this funding are currently being
22 created by the U.S. Department of Energy. Depending on the outcome of these rules and
23 procedures, OG&E may apply to seek grant funding to assist in the SmartPower program.

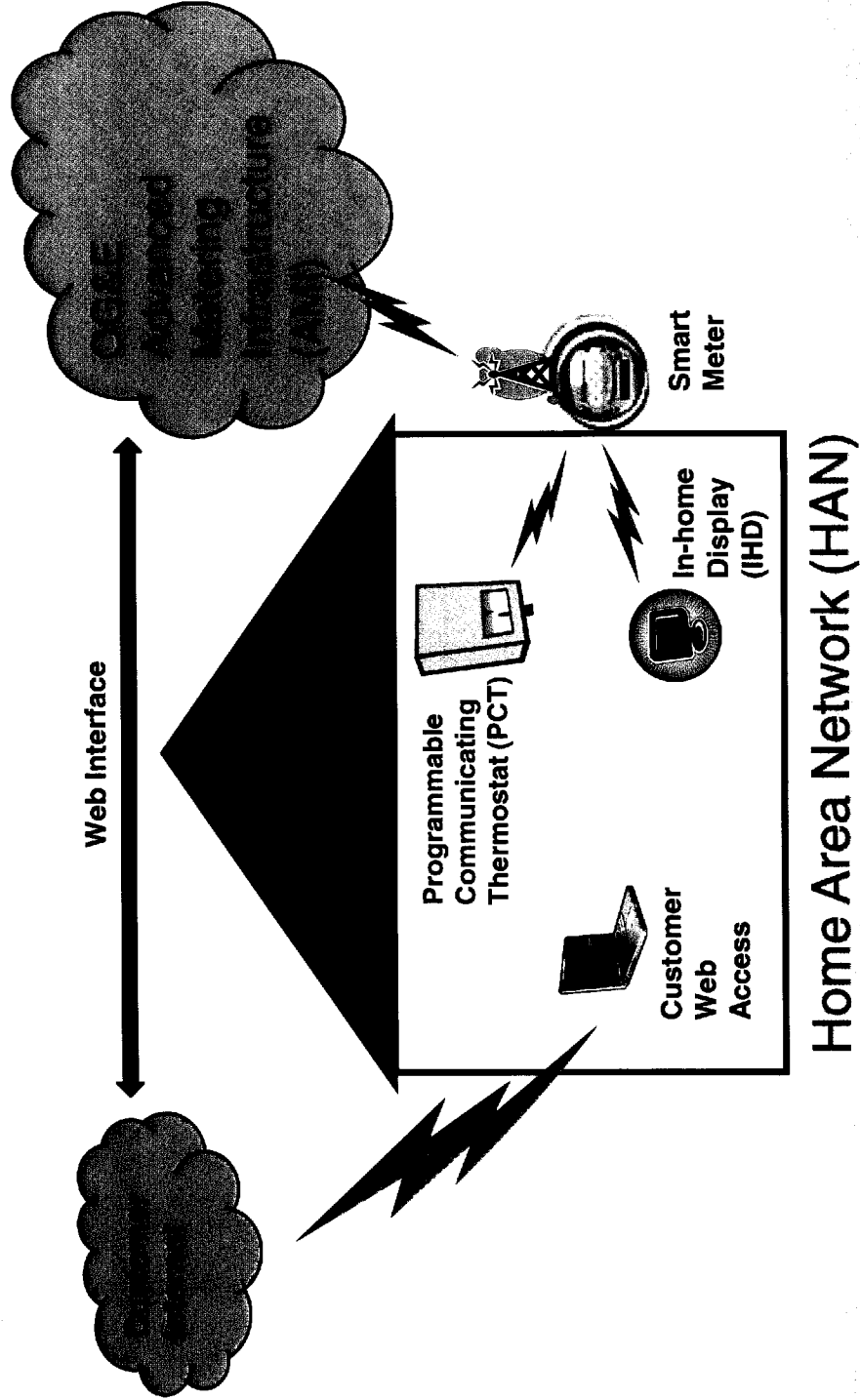
1 If OG&E files such an application, it may be necessary to revisit the implementation
2 schedule and program details discussed above to ensure that a Commission-approved
3 program qualifies for the grant funding.

4

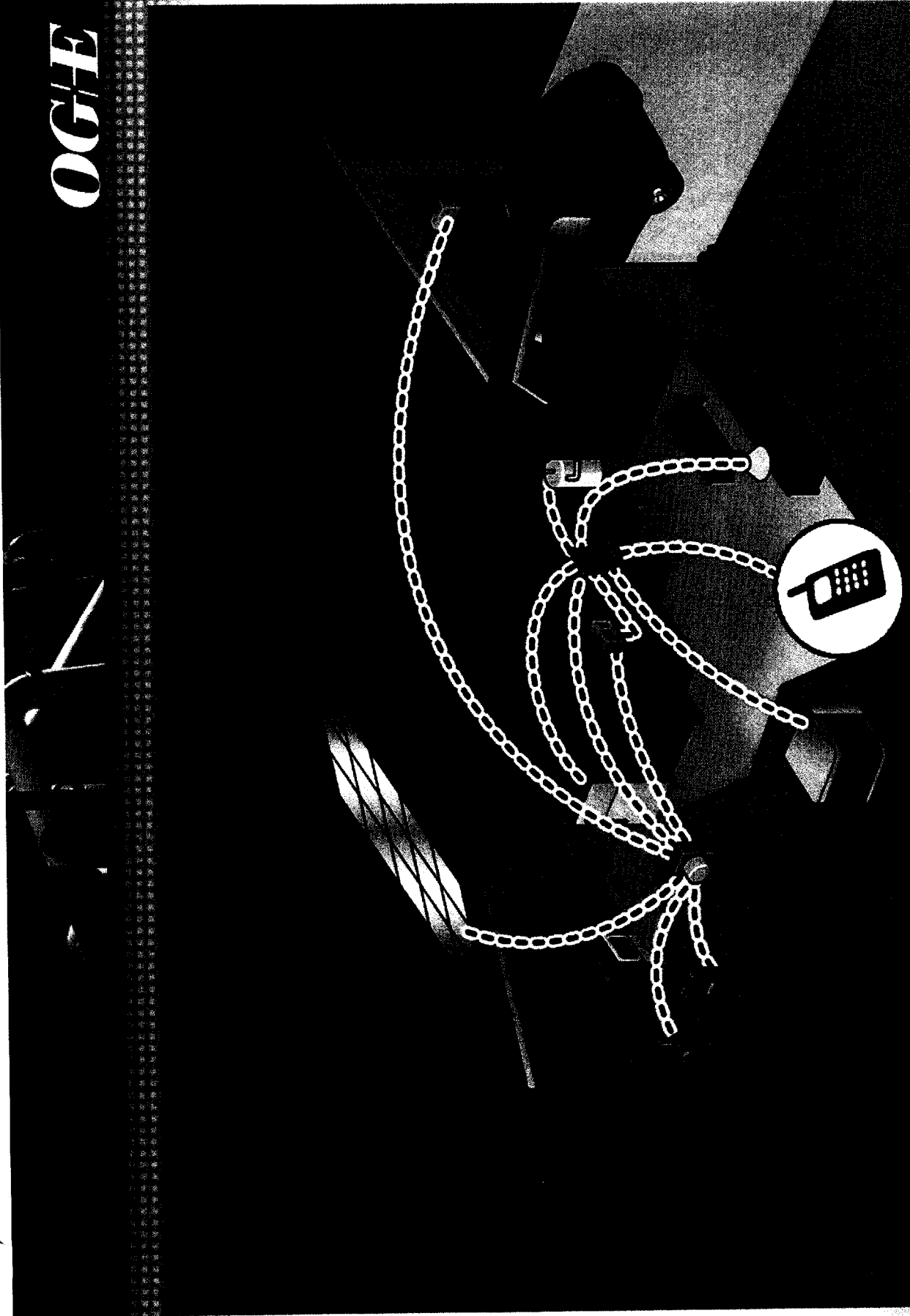
5 Q. **Does this conclude your testimony?**

6 A. Yes, it does.

Smart Meter Communication to In-Home Devices



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