

BEFORE THE  
ARKANSAS PUBLIC SERVICE COMMISSION

IN THE MATTER OF THE APPLICATION OF )  
OKLAHOMA GAS AND ELECTRIC COMPANY )  
SEEKING A DECLARATORY ORDER FINDING )  
ITS MUSTANG GENERATION PLANT )  
MODERNIZATION PLAN IS CONSISTENT WITH )  
THE PUBLIC INTEREST )

DOCKET NO. 17-030-U

DIRECT TESTIMONY

OF

CLARK D. COTTEN  
SENIOR ELECTRICAL ENGINEER

ON BEHALF OF THE GENERAL STAFF OF THE  
ARKANSAS PUBLIC SERVICE COMMISSION

NOVEMBER 15, 2017

OKLAHOMA GAS AND ELECTRIC COMPANY  
DOCKET NO. 17-030-U  
DIRECT TESTIMONY OF CLARK D. COTTEN

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**INTRODUCTION**

2 **Q. Please state your name, employment and business address.**

3 A. My name is Clark D. Cotten. I am the Senior Electrical Engineer for the General  
4 Staff (Staff) of the Arkansas Public Service Commission (Commission) in its  
5 Telecommunications and Quality of Service Section at 1000 Center Street, Little  
6 Rock, Arkansas.

7 **Q. What are your qualifications?**

8 A. I earned a Bachelor of Science degree in Electrical Engineering from the  
9 University of Arkansas in 1976, and I have been a registered Professional  
10 Engineer in Arkansas since 1982. Before joining Staff in November 1999, I was  
11 employed by Arkansas Power and Light Company (now Entergy Arkansas, Inc.)  
12 or Entergy Services, Inc. for twenty-two years. At Entergy Arkansas, Inc., I held  
13 positions as a Customer Service Engineer and Account Manager dealing with its  
14 largest commercial and industrial customers in areas of tariff application, special  
15 pricing, energy management, and distribution service. I also held the position of  
16 Manager, District Customer Service overseeing both its customer service and  
17 local engineering functions in an operating district in the northeast part of  
18 Arkansas. I worked for Entergy Services, Inc. in its Distribution Standards Group  
19 developing consistent engineering standards for distribution equipment to be  
20 used by all Entergy operating companies, and in its Supply Side Planning Group  
21 providing analysis in areas of Integrated Resource Planning, capacity expansion  
22 and acquisition, plant retirement, and avoided cost. Since joining Staff, I have  
23 attended the National Association of Regulatory Utility Commissioners' two-week

OKLAHOMA GAS AND ELECTRIC COMPANY  
DOCKET NO. 17-030-U  
DIRECT TESTIMONY OF CLARK D. COTTEN

1 Annual Regulatory Studies program at Michigan State University and I have  
2 submitted testimony before the Commission addressing applications for  
3 certificates of public convenience and necessity, certificates of environmental  
4 compatibility and public need for both electric transmission facilities and power  
5 generation facilities, the treatment of transmission facilities in rate unbundling  
6 dockets, the acquisition of electric generating facilities, power factor issues, and  
7 miscellaneous tariff filings.

8 **PURPOSE**

9 **Q. What is the purpose of your Direct Testimony in this Docket?**

10 A. The purpose of my testimony is to address whether it is in the public interest for  
11 the Commission to issue a declaratory order based on Oklahoma Gas and  
12 Electric Company's (OG&E or Company) Application for approval of construction  
13 of a natural gas-fired combustion turbine (CT) facility in the State of Oklahoma  
14 (the Mustang Plant). I present my evaluation and recommendations regarding  
15 the need for the generation facilities and if the construction is in the public  
16 interest. Staff witness Regina L. Butler will file direct testimony addressing the  
17 cost recovery of the Mustang Plant, and Staff witness Gerrilynn Wolfe will file  
18 direct testimony addressing the proposed depreciation rates of the Mustang  
19 Plant.

20 **Q. Would you please describe OG&E's request in this Docket?**

21 A. On August 15, 2017, OG&E filed an Application seeking a declaratory order from  
22 the Commission finding that OG&E's decision to construct a natural gas-fired CT  
23 generation facility in the State of Oklahoma is consistent with the public interest

OKLAHOMA GAS AND ELECTRIC COMPANY  
DOCKET NO. 17-030-U  
DIRECT TESTIMONY OF CLARK D. COTTEN

pursuant to Arkansas Code Annotated (Ark. Code Ann.) § 23-2-301 and Rule 3.09 of the Commission's *Rules of Practice and Procedure (RPPs)*. In support of its Application, OG&E filed the Direct Testimony of Donald R. Rowlett, Robert J. Burch, Gregory McAuley, Phillip L. Webster, and Lanny Nickell.

**Q. What are the facilities for which OG&E is requesting a declaratory order?**

A. OG&E is requesting a declaratory order for seven (7),<sup>1</sup> natural gas fired, Aero-derivative CT's<sup>2</sup> (the Proposed Facilities), nameplate rated at 66 MWs each,<sup>3</sup> at its existing Mustang Generating Facility (Mustang) located on the west side of Oklahoma City, in Oklahoma County, Oklahoma.<sup>4</sup> These will replace four (4), gas-fired, steam plants at Mustang.

**PROJECT EVALUATION**

**Q. Would you please describe the current generating facilities located at Mustang?**

A. Mustang consists of four gas-fired steam turbine units. Mustang Units 1 and 2 (both now retired) became operational in 1950 and 1951, respectively. Mustang Unit 3 became operational in 1955, and Mustang Unit 4 became operational in 1959. Mustang units 3 and 4 are planned to be retired in 2017. Together, the approximate generating capacity at Mustang, as constructed, is 480 Megawatts (MW).<sup>5</sup>

<sup>1</sup> Direct Testimony of Robert J. Burch, p. 13, lines 16-17

<sup>2</sup> *Id.* at p. 12, lines 24-25.

<sup>3</sup> *Id.* at p. 13, lines 17-18.

<sup>4</sup> *Id.* at p. 3, lines 19-20.

<sup>5</sup> *Id.* at lines 21-22.

OKLAHOMA GAS AND ELECTRIC COMPANY  
DOCKET NO. 17-030-U  
DIRECT TESTIMONY OF CLARK D. COTTEN

1 **Need For the Facilities**

2 **Q. Please describe the need for the Proposed Facilities.**

3 A. The retirement of the existing gas-fired steam turbines at Mustang creates the  
4 need for replacement of the capacity in 2018 in order to maintain the Company's  
5 generation capacity required to meet its load plus a reserve amount as  
6 determined by the Southwest Power Pool (SPP).<sup>6</sup>

7 **Support for the Proposed Facilities**

8 **Q. What is the basis for the Company's decision to support the retirement and**  
9 **replacement of the existing Mustang Facilities?**

10 A. The Company's 2014 Integrated Resource Plan (IRP)<sup>7</sup> states OG&E plans to  
11 retire the Mustang Units in 2017 and reuse the site for the construction of the  
12 Proposed Facilities for a variety of operational reasons, including:

- 13 • The units' original design is not compatible with their current role in the  
14 SPP market;
- 15 • Additional investment in the facilities is not reasonable due to the age  
16 and condition of the units;
- 17 • The location near downtown Oklahoma City provides benefits to the  
18 transmission system;
- 19 • The CTs will provide additional ancillary services to provide voltage  
20 control on the transmission system;

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<sup>6</sup> Direct Testimony of Donald Rowlett, p. 5, lines 27-31.

<sup>7</sup> Docket No. 07-006-U, Document No. 22, OG&E2014 IRP (This is the most recent look at OG&E's planning assumptions and capacity expansion plans).

OKLAHOMA GAS AND ELECTRIC COMPANY  
DOCKET NO. 17-030-U  
DIRECT TESTIMONY OF CLARK D. COTTEN

- Reuse of the existing infrastructure provides savings over development of a new greenfield site;
- Will not require a new air permit by netting of the existing environmental air permits for the Proposed Facilities; and
- The Proposed Facilities are assumed to be dispatched more hours in the SPP market.<sup>8</sup>

Compatibility in the SPP Market

**Q. Why does OG&E state that the existing Mustang units are not compatible with their current role in the SPP market?**

A. Company witness Burch stated that the Mustang units were originally designed for base-load type operation and operated in that manner until the 1980's when the OG&E coal units became operational.<sup>9</sup> As these units have aged, and OG&E has obtained newer technologies elsewhere, *i.e.*, Combined Cycle units, the Mustang units have shifted their operating mode to more cyclic and intermittent duty.<sup>10</sup> With the integration of the OG&E fleet into the SPP Integrated Marketplace, the Mustang units, with their relatively higher cost, operate in the five percent capacity factor range and have seen greater amounts of daily cyclic and intermittent duty.<sup>11</sup> Because of their design, the Mustang units are not well suited for this cyclic mode of operation, which tends to shorten their remaining useful life and further increase the risk of unplanned outages.<sup>12</sup>

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<sup>8</sup> *Id.* at pp. 27 – 28.

<sup>9</sup> Direct Testimony of Robert J. Burch, p. 9, lines 7-8.

<sup>10</sup> *Id.* at lines 8-10.

<sup>11</sup> *Id.* at lines 14-17.

<sup>12</sup> *Id.* at p. 9, lines 17-20.

OKLAHOMA GAS AND ELECTRIC COMPANY  
DOCKET NO. 17-030-U  
DIRECT TESTIMONY OF CLARK D. COTTEN

1 Additional Investment Not Reasonable

2 **Q. What is the current status of the existing Mustang Units?**

3 A. Mustang Unit 1 was retired in 2015 with 65 years of service.<sup>13</sup> OG&E witness  
4 Burch stated that OG&E had retained Burns and McDonnell to research and  
5 recommend retirement dates for OG&E's older steam gas units as a basis for  
6 planning. Burns and McDonnell's recommendation was that 65 years of service  
7 be used as a retirement date and that these dates represented a "maximum"  
8 expected life.<sup>14</sup> Burns and McDonnell recommended that OG&E invest  
9 approximately \$17 million in capital investments to obtain three more years of  
10 service life from the Mustang Unit 1.<sup>15</sup> OG&E decided it made no sense to invest  
11 this amount of money to gain the potential of a few more years of life.<sup>16</sup>

12 Mustang Unit 2 was also retired in 2015 with 64 years of service.<sup>17</sup> Mr.  
13 Burch stated that a water seal failed in the steam turbine of Mustang Unit 2  
14 allowing cold water to contact the turbine rotor causing the rotor to bow and  
15 experience severe vibration on hot start ups.<sup>18</sup> To continue operating the turbine  
16 could have caused a failure and OG&E determined that the costs to open,  
17 inspect and make repairs were unjustified given the units' service factor and the  
18 anticipated 2017 retirement date.<sup>19</sup>

19 Mr. Burch stated that considering the age of Mustang Unit 3 and Unit 4,  
20 operating them beyond 2017 would require an increased level of investment to

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<sup>13</sup> Direct Testimony of Robert J. Burch, p. 3, lines 29-30.

<sup>14</sup> *Id.* at p. 4, lines 10-13.

<sup>15</sup> *Id.* at lines 13-15.

<sup>16</sup> *Id.* at lines 17-18.

<sup>17</sup> *Id.* at p. 3, line 29-30.

<sup>18</sup> Direct Testimony of Robert J. Burch, p. 4, lines 25-27.

<sup>19</sup> *Id.* at lines 27-29.

OKLAHOMA GAS AND ELECTRIC COMPANY  
DOCKET NO. 17-030-U  
DIRECT TESTIMONY OF CLARK D. COTTEN

1 maintain reliability and safety.<sup>20</sup> He continued to state that even with needed  
2 investment in key areas, the units are at greater risk of a catastrophic event as  
3 many key components are approaching or exceeding their design life.<sup>21</sup>

4 **Q. Did OG&E obtain an additional evaluation supporting its decision to retire**  
5 **the Mustang units?**

6 A. Yes. Mr. Rowlett stated that OG&E decided to seek outside evaluation of its  
7 decision to retire the old Mustang units and engaged Black & Veatch to conduct  
8 an independent review of that decision.<sup>22</sup>

9 **Q. What is the conclusion reached by Black & Veatch's study?**

10 A. OG&E witness Webster, Associate Vice President for Black & Veatch  
11 Corporation, provides testimony supporting the conclusions from the Black &  
12 Veatch Evaluation Report: Mustang Power Plant Retirement Consideration,  
13 included as Exhibit PLW-2, which concludes that "...retiring the units and  
14 replacing them with CTS [combustion turbines] was a more cost effective option  
15 than preforming the projects identified by Burns & McDonnell on the existing  
16 units."<sup>23</sup> "Since a lower LCOE [levelized cost of electricity] option was identified,  
17 Black & Veatch concluded that the Mustang retirement decision was a prudent  
18 financial decision given the information available at the time."<sup>24</sup>

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<sup>20</sup> *Id.* p. 5, line 28, through p. 6, line 2.

<sup>21</sup> *Id.*, p. 6, lines 2-5.

<sup>22</sup> Direct Testimony of Donald Rowlett, p. 9, lines 15-16.

<sup>23</sup> Direct Exhibit PLW-2, p. ES-1.

<sup>24</sup> *Id.*, p. ES-2



OKLAHOMA GAS AND ELECTRIC COMPANY  
DOCKET NO. 17-030-U  
DIRECT TESTIMONY OF CLARK D. COTTEN

1 Benefits to the Transmission System

2 **Q. What factors are driving the selection of CTs to replace the Mustang**  
3 **capacity?**

4 A. As previously stated, OG&E needs to replace the capacity lost by the retirement  
5 of the existing Mustang units in order to maintain the Company's generation  
6 capacity required to meet its load plus a reserve amount as determined by the  
7 SPP. Mr. Rowlett stated that with the retirement of the Mustang units, OG&E  
8 had to choose the type of generation technology it needed to install and where to  
9 locate the capacity.<sup>25</sup> The retired and retiring Mustang steam gas-fired units  
10 were designed to operate as a base-load generation facility, but due to changes  
11 in OG&E's generation portfolio and the introduction of the SPP Integrated  
12 Marketplace, there is a need for units that can provide daily cyclic and  
13 intermittent duty service. Mr. Rowlett stated that quick-starting CTs can supply  
14 power during peak demand, serve unscheduled demand, and supply ancillary  
15 services to the grid (such as operating reserves and VAR [volt ampere reactive,  
16 an ancillary service] support) while delivering better reliability, improved  
17 efficiency, better load responses, improved operational flexibility and lower  
18 emission rates.<sup>26</sup> The SPP region has variable renewable wind resources that  
19 have reached 54 percent of the total generation and represents about 20 percent  
20 of SPP total capacity.<sup>27</sup> Mr. Rowlett states that adding 462 MW of flexible, quick-  
21 start CTs in a market containing such high levels of wind and solar resources

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<sup>25</sup> Direct Testimony of Donald Rowlett, p. 6, lines 3-4.

<sup>26</sup> *Id.* at lines 5-10.

<sup>27</sup> Direct Testimony of Lanny Nickell, p. 7, lines 7-8, p. 8, line 22.

OKLAHOMA GAS AND ELECTRIC COMPANY  
DOCKET NO. 17-030-U  
DIRECT TESTIMONY OF CLARK D. COTTEN

1 improves reliability.<sup>28</sup> Additionally, Mr. Rowlett stated that CTs constituted the  
2 least cost option of the resource planning scenarios that were studied in the 2014  
3 IRP.<sup>29</sup>

4 Location Advantages

5 **Q. Why has OG&E focused on reuse of the Mustang site?**

6 A. According to Mr. Burch, the Mustang site offers several clear and distinct  
7 advantages to OG&E. Those advantages are its location near OG&E's largest  
8 load center; established infrastructure; a trained and experienced workforce;  
9 existing environmental permitting; and strong community support.<sup>30</sup>

10 **Q. Why does the location near Oklahoma City provide an advantage?**

11 A. Mr. Burch stated that the Mustang site already has an existing, robust high  
12 voltage transmission system in place consisting of nine different transmission  
13 lines on two separate voltage systems.<sup>31</sup> Contrasted with locating the generation  
14 at a more remote location, the existing Mustang site provides better reliability of  
15 the transmission grid, reduces line losses, reduces line congestion and cost,  
16 supports voltage control, and facilitates OG&E's system restoration plan.<sup>32</sup>

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<sup>28</sup> Direct Testimony of Donald Rowlett, p. 6, lines 20-22.

<sup>29</sup> *Id.* at p. 7, lines 15-16.

<sup>30</sup> Direct Testimony of Robert J. Burch, p. 15, line 28 through p. 16, line 2.

<sup>31</sup> *Id.* at p. 16, lines 7-8.

<sup>32</sup> *Id.* at p. 16, lines 9-12.

OKLAHOMA GAS AND ELECTRIC COMPANY  
DOCKET NO. 17-030-U  
DIRECT TESTIMONY OF CLARK D. COTTEN

1 Cost Savings over Greenfield Site Development

2 **Q. What advantages does the established infrastructure at the Mustang site**  
3 **provide?**

4 A. Mr. Burch stated that having a site with the necessary infrastructure avoids the  
5 significant expense and need to develop a completely new site and  
6 infrastructure.<sup>33</sup> The Mustang site already has secure property, existing roads,  
7 facilities to support operation and maintenance, water supply and water rights,  
8 and existing transmission infrastructure.<sup>34</sup> To quantify these benefits, as  
9 compared to a new greenfield site, the benefit has been conservatively estimated  
10 to provide a value of \$45 to \$70 million dollars which does not include the cost of  
11 acquiring a new site.<sup>35</sup> The cost of acquisition of a new greenfield site  
12 comparable to the Mustang site is estimated to be approximately \$5 million  
13 dollars.<sup>36</sup>

14 Netting of Existing Air Permit

15 **Q. Does having existing environmental permits at the Mustang site provide an**  
16 **advantage?**

17 A. Yes. Mr. Rowlett stated that OG&E has the ability to utilize emission “netting” to  
18 combine the retirements of the old units with the construction of the new units  
19 and obtain an air permit without a “net” increase in emissions.<sup>37</sup> Emissions  
20 netting simplifies the process of obtaining a permit from the Oklahoma

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<sup>33</sup> *Id.* at lines 18-20.

<sup>34</sup> *Id.* at line 16-18.

<sup>35</sup> Direct Testimony of Robert J. Burch, p. 16, lines 24-26.

<sup>36</sup> *Id.* at p. 17, lines 27-28.

<sup>37</sup> Direct Testimony of Donald Rowlett, p. 8, lines 16-18.

OKLAHOMA GAS AND ELECTRIC COMPANY  
DOCKET NO. 17-030-U  
DIRECT TESTIMONY OF CLARK D. COTTEN

Department of Environmental Quality (ODEQ) by allowing the emissions from the new units to be offset by that of the agency-approved and permitted historic operations, thereby creating no new environmental impacts that would require further evaluations by the ODEQ.<sup>38</sup> Absent netting, the Company would likely have to obtain a major source construction permit under the Clean Air Act for incremental new generation.<sup>39</sup> The additional time, expense and uncertainty associated with a major source construction permit could affect the viability of the project at the Mustang site.<sup>40</sup>

Ancillary Services

**Q. You previously mentioned ancillary services such as VAR support.<sup>41</sup> How do the Proposed Facilities provide VAR support to OG&E's transmission system?**

**A.** Mr. McAuley states that OG&E's Transmission System Operators are required to operate the transmission system in a manner that will allow it to withstand a system disturbance, such as an outage event, and remain within the defined System Operating Limits, commonly referred to as operating in an N-1 condition.<sup>42</sup> Managing voltage and power flow through the OG&E system is key to keeping the lights on in the OG&E service area and also critical to reliable service in the 14-state SPP region.<sup>43</sup> An important tool in the management of the voltage on the transmission system is the ability to manage VARs. VAR is the

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<sup>38</sup> *Id.* at lines 19-24.

<sup>39</sup> *Id.* at p. 9, lines 5-7.

<sup>40</sup> *Id.* at p.9, lines 7-8.

<sup>41</sup> *Supra*, p. 9, lines 15-18.

<sup>42</sup> Direct Testimony of Gregory McAuley, p. 4, lines 20-23.

<sup>43</sup> *Id.* at p. 4, lines 23-25.

OKLAHOMA GAS AND ELECTRIC COMPANY  
DOCKET NO. 17-030-U  
DIRECT TESTIMONY OF CLARK D. COTTEN

1 abbreviation of Volt Amps Reactive or commonly called reactive power and is  
2 necessary in maintaining voltage and facilitating the flow of power across a  
3 power system.<sup>44</sup> In general, to raise voltage, VAR production is increased, and  
4 to lower voltage VAR production is decreased.<sup>45</sup>

5 Mr. McAuley stated that even with the existing units at Mustang, which  
6 were capable of producing 150 MVARs, the Company sometimes struggles to  
7 maintain transmission system voltage.<sup>46</sup> He stated that the installation of the  
8 Proposed Facilities at the Mustang site would provide 245 MVARs of reactive  
9 capability available in ten minutes or less, and the additional 95 MVAR capability,  
10 over the retired Mustang units, will be important as load and imports continue to  
11 grow in OG&E's service territory.<sup>47</sup> This dynamic source of reactive power  
12 coupled with fixed static reactive sources are important in responding to  
13 disturbances as generators can automatically modify their VAR output in  
14 fractions of a second to be effective in reacting to transient effects on the  
15 transmission system and prevent a voltage disturbance from propagating across  
16 the transmission system.<sup>48</sup>

17 **Q. Why is the Mustang site an ideal location for the location of this dynamic**  
18 **source of VARs?**

19 A. Mr. McAuley stated that VARs do not travel well and do not transform well.<sup>49</sup> The  
20 existing Mustang site with its location near the Oklahoma City load center and its

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<sup>44</sup> *Id.* at p. 8, lines 5-7.

<sup>45</sup> *Id.* at p. 8, lines 7-9.

<sup>46</sup> *Id.* at lines 29-31.

<sup>47</sup> Direct Testimony of Gregory McAuley, p. 9, lines 4-7.

<sup>48</sup> *Id.* at p. 8, lines 18-21.

<sup>49</sup> *Id.* at p. 9, line 21.

OKLAHOMA GAS AND ELECTRIC COMPANY  
DOCKET NO. 17-030-U  
DIRECT TESTIMONY OF CLARK D. COTTEN

existing nine different transmission lines operating on two separate voltage systems provides the most effective location for VAR support on the transmission system.

Additional Dispatch in the SPP Market

**Q. What is the rationale for OG&E's assumption that the Proposed Facilities will be dispatched more hours in the SPP market?**

A. Mr. Burch stated that the existing steam gas-fired units have been cycled 114 times since the start of the SPP Integrated Marketplace in 2014 which is a 350 percent increase from the 33 times the units were cycled during the previous five years.<sup>50</sup> Mr. Burch also stated that the characteristic measures of startup time, ramp rate, and turndown of the Proposed Facilities to respond to load offers significantly improved performance on load response and flexibility from that of the retiring units.<sup>51</sup> The Proposed Facilities will provide a startup time of 10 minutes with a ramp rate of 11 MW per minute and can be turned down to 20.2 MWs.<sup>52</sup> If needed, units are designed with the ability to start multiple times per day to match the peaks in the market and respond to unexpected and unscheduled changes in demand that can occur.<sup>53</sup>

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<sup>50</sup> Direct Testimony of Robert J. Burch, p. 9, lines 19-22.

<sup>51</sup> *Id.* at p. 14, lines 6-12.

<sup>52</sup> *Id.* at, lines 12-16

<sup>53</sup> *Id.* at lines 18-20.

OKLAHOMA GAS AND ELECTRIC COMPANY  
DOCKET NO. 17-030-U  
DIRECT TESTIMONY OF CLARK D. COTTEN

1 SPP Evaluation of Generation at the Mustang Site

2 **Q. Has SPP concluded that generation at the Mustang site provides benefits**  
3 **to the transmission system?**

4 A. Yes. Mr. Nickell, Vice President of Engineering for SPP, stated in his testimony  
5 that SPP had conducted a Variable Generation Integration Study (VIS) to  
6 analyze various aspects of the SPP transmission system performance for the  
7 years 2017 and 2021 under various wind generation penetration levels.<sup>54</sup> He  
8 stated that the results of the voltage stability analysis demonstrated that  
9 generation at the Mustang site would effectively resolve a number of system  
10 overloads and provide voltage support during times of high energy transfers from  
11 wind generation across SPP.<sup>55</sup> The value that generation at the Mustang site  
12 increases with quick-start CTs due to quicker start-up time and ramp rates,  
13 especially during conditions where thermal units would not be on-line.<sup>56</sup>

14 **Q. Did SPP conduct any additional studies?**

15 A. Yes. Mr. Nickell stated that SPP also performed single contingency (N-1)  
16 analyses for the summer and winter peak conditions expected during 2018 and  
17 2021.<sup>57</sup> These analyses also demonstrated that generation at the Mustang site  
18 is useful in preventing and reducing thermal overloads on area transmission  
19 facilities.<sup>58</sup> He stated that if generation facilities at Mustang are retired and not  
20 replaced, transmission overloads during first contingency conditions (N-1) would

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<sup>54</sup> Direct Testimony of Lanny Nickell, p 5 – 6, lines 24-25.

<sup>55</sup> *Id.* at p. 5, lines 28-29 through p.6, line 1.

<sup>56</sup> *Id.* at p. 6, lines 25-27.

<sup>57</sup> *Id.* at p. 7, lines 17-18.

<sup>58</sup> *Id.* at 18-20.

OKLAHOMA GAS AND ELECTRIC COMPANY  
DOCKET NO. 17-030-U  
DIRECT TESTIMONY OF CLARK D. COTTEN

likely be observed in SPP's transmission planning studies and may require that SPP direct construction of transmission upgrades.<sup>59</sup>

Mr. Nickell concludes his testimony by stating that the availability of generation at the Mustang site is critical to reliable system operations in the Oklahoma City area.<sup>60</sup> The generation that OG&E has chosen, fast-start CTs, provides a valuable reliability tool to more quickly respond to system loading and voltages in the largest load center in Oklahoma.<sup>61</sup> Properly located quick-start CTs will improve SPP's ability to reliably manage the amount of wind growth that SPP could continue to see in its footprint.<sup>62</sup>

OG&E's Construction Plans and Cost

**Q. Is the addition of CTs to OG&E's generation portfolio consistent with its Integrated Resource Plan?**

A. Yes.<sup>63</sup>

**Q. Did OG&E engage in a competitive bidding process for the capacity needed after the retirement of the Mustang units?**

A. No. As explained more fully by Staff witness Butler, OG&E did not conduct a competitive bidding process for the replacement of capacity at due to the retirement of the Mustang units. However, the Company did conduct a competitive bidding process for the construction and installation of the Mustang CTs. Mr. Burch stated that OG&E issued approximately 39 different competitive

<sup>59</sup> Direct Testimony of Lanny Nickell, p. 7, lines 20-23.

<sup>60</sup> *Id.* at p. 8, lines 16-17.

<sup>61</sup> *Id.* at lines 17-19.

<sup>62</sup> *Id.* at lines 27-28.

<sup>63</sup> OG&E 2014 IRP, p. 5.



OKLAHOMA GAS AND ELECTRIC COMPANY  
DOCKET NO. 17-030-U  
DIRECT TESTIMONY OF CLARK D. COTTEN

1 bid packages for equipment, material and services, including labor.<sup>64</sup> Each of  
2 these packages was sent to an average of three to four bidders, in some cases  
3 more.<sup>65</sup> Each package was awarded on price and value and, to date, has  
4 resulted in a \$2.3 million savings as compared to overall budget.<sup>66</sup>

5 **Q. Did OG&E enter into an Engineering, Procurement, and Construction (EPC)**  
6 **contract with fixed price terms?**

7 A. No. OG&E believed that it had the opportunity to reduce costs from a typical  
8 EPC fixed cost contract and accepted taking on any cost risks itself and decided  
9 to directly contract for the engineering, procurement and construction and use a  
10 construction manager to help oversee the project.<sup>67</sup> Mr. Burch stated that this  
11 contracting strategy has contributed an estimated \$45 million in savings from the  
12 original project budget by controlling the competitive procurement process and  
13 keeping any achieved savings.<sup>68</sup>

14 **Q. What is the estimated cost of the Proposed Facilities?**

15 A. Mr. Burch stated that the project is expected to cost \$355 million (exclusive of  
16 AFUDC and ad valorem taxes) which represents a \$45 million reduction over the  
17 initial estimate.<sup>69</sup>

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<sup>64</sup> Direct Testimony of Robert J. Burch, p. 19, lines 4-5.

<sup>65</sup> *Id.* at lines 5-6.

<sup>66</sup> *Id.* at lines 8-10.

<sup>67</sup> *Id.* at p.19, lines 12-14.

<sup>68</sup> *Id.* at p. 20, lines 6-8.

<sup>69</sup> Direct Testimony of Robert J. Burch, p. 23, lines 13-14.

OKLAHOMA GAS AND ELECTRIC COMPANY  
DOCKET NO. 17-030-U  
DIRECT TESTIMONY OF CLARK D. COTTEN

1 **Q. When are the Proposed Facilities expected to be operational?**

2 A. Mr. Burch stated that OG&E expects to have all of the new Mustang units  
3 through commissioning and initially synchronized to the grid by December 17,  
4 2017.<sup>70</sup>

5 **CONCLUSION**

6 **Q. What are your conclusions regarding the need for the Proposed Facilities**  
7 **at the Mustang site near Oklahoma City and whether the Proposed**  
8 **Facilities are in the public interest?**

9 A. OG&E has presented evidence that the Proposed Facilities are needed to  
10 maintain the Company's generation capacity required to meet its load plus a  
11 reserve amount as determined by the SPP upon retirement of the existing gas-  
12 fired steam turbine units and is consistent with the Company's 2014 IRP. The  
13 testimony provided by the Company's witnesses support that replacing the  
14 capacity at the Mustang site is critical to maintaining reliable operation of the  
15 transmission system. Although the Company did not conduct a competitive  
16 solicitation before acquiring new resources, it did issue competitively bid  
17 packages for equipment, material and services, including labor. OG&E's decision  
18 to directly contract for the engineering, procurement and construction has  
19 resulted in an estimated \$45 million reduction of the project cost over the initial  
20 estimate. Based on OG&E's Application and the Direct Testimonies filed in  
21 support of the Application, I conclude that the Proposed Facilities are needed,

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<sup>70</sup> *Id.* at lines 17-18.

OKLAHOMA GAS AND ELECTRIC COMPANY  
DOCKET NO. 17-030-U  
DIRECT TESTIMONY OF CLARK D. COTTEN

1           and, when taken with the rate treatment recommended by Staff Witness Butler,  
2           are in the public interest

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

4   A.     Yes.

OKLAHOMA GAS AND ELECTRIC COMPANY  
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**CERTIFICATE OF SERVICE**

I hereby certify that a copy of the foregoing has been served on all parties of record by electronic mail via the Electronic Filing System this 15<sup>th</sup> day of November, 2017.

/s/ Justin A. Hinton  
Justin A. Hinton