

**COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION**

IN THE MATTER OF:	:	
	:	
ELECTRONIC APPLICATION OF EAST KENTUCKY	:	
POWER COOPERATIVE, INC. FOR 1) CERTIFICATES OF	:	
PUBLIC CONVENIENCE AND NECESSITY TO	:	CASE NO. 2024-00370
CONSTRUCT NEW GENERATION RESOURCES; 2) FOR	:	
A SITE COMPATIBILITY CERTIFICATE RELATING TO	:	
THE SAME; 3) APPROVAL OF DEMAND SIDE	:	
MANAGEMENT TARIFFS; AND 4) OTHER GENERAL	:	
RELIEF	:	

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**INITIAL BRIEF OF  
NUCOR STEEL GALLATIN**

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Nucor Steel Gallatin (“Nucor”) submits this Brief to the Kentucky Public Service Commission (“Commission”). Nucor is the largest end-use customer of Owen Electric Cooperative (“Owen”), which is provided generation and transmission service by East Kentucky Power Cooperative, Inc. (“EKPC” or “Company”). Nucor’s plant is an interruptible resource that provides both energy and capacity value to EKPC.<sup>1</sup> Nucor recommends approval of EKPC’s Application.

**1. Summary Of Application**

EKPC is seeking issuance by the Commission of a Certificate of Public Convenience and Necessity (“CPCN”) for a 745 MW natural gas Combined Cycle Gas Turbine (“CCGT”) at its Cooper Station at a total projected cost of \$1.317 billion.<sup>2</sup> The projected in-service date is the end of 2030.<sup>3</sup> The two-on-one Siemens design will include two combustion turbines paired with individual electric generators, and two heat recovery steam generators to power a single steam

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<sup>1</sup> April 22, 2025 Tr. 14:05:27 (Tucker).

<sup>2</sup> Mosier Direct Testimony at 14.

<sup>3</sup> Id. at 12.

turbine and generator.<sup>4</sup> The CCGT will have a heat rate of approximately 6,500 Btu/kW-hour.<sup>5</sup> The CCGT will include two oil storage tanks for 72 hours of operations at full load.<sup>6</sup> The CCGT will be supplied by a new 40-mile gas pipeline at a cost of approximately \$400 million which will be funded by the pipeline owner and recovered in its firm service rate to EKPC over twenty years.<sup>7</sup> If this CPCN is not approved, then EKPC would go to the back of the line and future gas delivery cannot be assured.<sup>8</sup>

EKPC is also seeking a CPCN for the construction of dual-fuel burners at the 225 MW Cooper Unit 2 which will allow co-firing with natural gas up to 100% of the unit's required heat input. The projected in-service date is the end of 2029.<sup>9</sup> Any combination of fuel could be fired from 0% to 100% coal or natural gas.<sup>10</sup> The projected cost is \$73.8 million.<sup>11</sup> Natural gas for Cooper 2 will be supplied from the pipeline being constructed for the Cooper CCGT. Future gas delivery to Cooper 2 is dependent on the construction of the CCGT.<sup>12</sup>

Finally, EKPC is seeking a CPCN for co-firing its four-unit 1,346 MW Spurlock Station with up to 50% natural gas. The projected in-service date is the end of 2029.<sup>13</sup> The projected cost is \$54 million for Unit 1, \$52 million for Unit 2, \$42 million for Unit 3 and \$39 million for Unit 4.<sup>14</sup> Spurlock Units 1 and 2 have pulverized coal boilers, and Units 3 and 4 have circulating fluidized bed ("CFB") boilers.<sup>15</sup> Gas will be supplied by a new 40-mile pipeline, also at a cost of

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<sup>4</sup> Johnson Direct Testimony at 4.

<sup>5</sup> Id. at 5-6.

<sup>6</sup> Young Direct Testimony at 5.

<sup>7</sup> April 21, 2025 Tr. 09:30:03 (Mosier).

<sup>8</sup> April 22, 2025 Tr. 14:27:25 (Tucker).

<sup>9</sup> Mosier Direct Testimony at 19.

<sup>10</sup> Johnson Direct Testimony at 8; Young Direct Testimony at 13.

<sup>11</sup> Young Direct Testimony at 14.

<sup>12</sup> April 22, 2025 Tr. 14:30:55 (Tucker).

<sup>13</sup> Mosier Direct Testimony at 19.

<sup>14</sup> Young Direct Testimony at 17.

<sup>15</sup> Johnson Direct Testimony at 11.

\$400 million.<sup>16</sup> Available capacity on the natural gas pipeline to serve Spurlock is quickly filling up.<sup>17</sup>

The total effective capital cost at issue here is \$2.3778 billion (CCGT \$1.317 billion, co-firing Cooper and Spurlock \$260.8 million, and both gas pipelines \$800 million).

EKPC seeks issuance of a Site Compatibility Certificate for the Cooper CCGT; deviation from the setback requirements in KRS 278.704(2); approval of new DSM/Energy Efficiency Tariffs; and an acknowledgment that the CCGT will be the eventual replacement capacity for Cooper Unit 1 under KRS 278.264.

## **2. Standard Of Review For A CPCN**

KRS 278.020(1) provides “[n]o person, partnership, public or private corporation, or combination thereof shall commence providing utility service to or for the public or begin the construction of any plant, equipment, property, or facility for furnishing to the public any of the services enumerated in KRS 278.010...until that person has obtained from the Public Service Commission a certificate that public convenience and necessity require the service or construction.” *Kentucky Utilities Co. v. Public Service Comm'n*, 252 S.W.2d 885 (Ky App. 1952) sets forth a two-part test for approval of a CPCN: (1) need; and (2) absence of wasteful duplication.

"Need" requires “a showing of a substantial inadequacy of existing service, involving a consumer market sufficiently large to make it economically feasible for the new system or facility to be constructed or operated. [T]he inadequacy must be due either to a substantial deficiency of service facilities, beyond what could be supplied by normal improvements in the ordinary course of business; or to indifference, poor management or disregard of the rights of

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<sup>16</sup> April 21, 2025 Tr. 09:30:03 (Mosier).

<sup>17</sup> April 22, 2025 Tr. 14:33:54 (Tucker).

consumers, persisting over such a period of time as to establish an inability or unwillingness to render adequate service.”<sup>18</sup>

“Wasteful duplication” is defined as “an excess of capacity over need” and “an excessive investment in relation to productivity or efficiency, and an unnecessary multiplicity of physical properties.”<sup>19</sup> To demonstrate that a proposed facility does not result in wasteful duplication, the Commission has held that the applicant must demonstrate that a thorough review of all reasonable alternatives has been performed.<sup>20</sup> The fundamental principle of a reasonable, least-cost alternative is embedded in such an analysis.<sup>21</sup> Selection of a proposal that ultimately costs more than an alternative does not necessarily result in wasteful duplication. All relevant factors must be balanced.<sup>22</sup>

### **3. Requirement To Provide Adequate Service**

KRS 278.030(2) requires that “[e]very utility shall furnish adequate, efficient and reasonable service...” “Adequate service” is defined as “having sufficient capacity to meet the maximum estimated requirements of the customer to be served...”<sup>23</sup>

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<sup>18</sup> *Kentucky Utilities Co.* at 890.

<sup>19</sup> *Kentucky Utilities Co.* at 890.

<sup>20</sup> *Electronic Application of East Kentucky Power Cooperative, Inc. for an Amendment to Its Certificate of Public Convenience and Necessity for the Construction of Transmission Facilities in Madison County, Kentucky*, Case No. 2024-00263, Order (December 23, 2024) (citing *Joint Application of Louisville Gas and Electric Company and Kentucky Utilities Company for the Construction of Transmission Facilities in Jefferson, Bullitt, Meade, and Hardin Counties, Kentucky*, Case No. 2005-00142, Order (Sept. 8, 2005)).

<sup>21</sup> *Id.* (citing *Kentucky Utilities Co. v. Pub. Serv. Comm’n*, 390 S.W.2d 168, 175 (Ky. 1965) and *The Application of East Kentucky Power Cooperative, Inc. for a Certificate of Public Convenience and Necessity to Construct a 138 kV Electric Transmission Line in Rowan County, Kentucky*, Case No. 2005-00089, Order (Aug. 19, 2005)).

<sup>22</sup> *Id.* (citing *The Application of East Kentucky Power Cooperative, Inc. for a Certificate of Public Convenience and Necessity to Construct a 138 kV Electric Transmission Line in Rowan County, Kentucky*, Case No. 2005-00089, Order (Aug. 19, 2005)).

<sup>23</sup> KRS 278.010(14).

#### **4. Energy Policy Of The Commonwealth**

Pursuant to KRS 164.2807, the General Assembly has declared the energy policy of the Commonwealth. That policy includes an in-state supply of abundant and reliable electric generation to promote the economic health and well-being of the citizens of the Commonwealth, and to support the current economy and future economic development. KRS 164.2807 provides:

- (a) The long-term economic health and well-being of the citizens of the Commonwealth and the United States depends upon the availability of reliable sources of energy;*
- (c) The energy needs of the Commonwealth are best met by continuing to engage in an all-of-the-above approach to electric generation resources, including but not limited to coal, oil, natural gas, wind, solar, hydropower, nuclear, and any future or emerging technologies like hydrogen power;*
- (d) The current economy and future economic development of the Commonwealth requires reliable, resilient, dependable, and abundant supplies of electrical power;*
- (f) It is in the interest of the Commonwealth that it be able to generate sufficient electricity within its borders to serve its own industrial, residential, and commercial demand and to power its own economy;*
- (j) It is the policy of the Commonwealth to maintain adequate capacity of available, reliable, dispatchable, and resilient electric generation to provide for the existing and reasonably projected future energy consumption needs of all wholesale, retail, and other consumers of electricity in the Commonwealth;*
- (n) Local economic development is essential to the health, happiness, safety, and general welfare of the citizens of the Commonwealth;*
- (o) Local economic development requires an adequate supply of electricity to support new and expanding industries and is enhanced by robust employment in coal mining and coal transportation and at electric generating facilities, the local job multiplier effect of employment in the coal, natural gas, and electric generating industries, and state and local taxes and other forms of economic value creation for the Commonwealth.*

#### **5. States Have Jurisdiction Over Electric Generation Facilities And Are Responsible For Maintaining Resource Adequacy**

Under Section 201 (b) of the Federal Power Act of 1935 (“FPA”), FERC “*shall not have jurisdiction ... over facilities used for the generation of electric energy...*” 16 U.S.C. 824 (b) (1). *Citizens Action Coal v. FERC*, 125 F. 4<sup>th</sup> 229, 238-39 (D.C. Cir. 2025), finding that “*the States retain authority to choose their preferred mix of energy generation resources. CenterPoint’s new gas-fired units, and the decision whether to build them, are thus wholly beyond FERC’s*

*jurisdiction ... Congress entrusted the choice of electricity generation to the States, and FERC has no authority to second-guess those choices on environmental or any other grounds.” Under the FPA, “the states retain their traditional responsibility in the field of regulating electrical utilities for determining questions of need, reliability, cost, and other related state concerns.” Pac. Gas & Elec. Co. v. State Energy Res. Conservation & Dev. Comm’n, 461 U.S. 190, 205 (1983).*

## **ARGUMENT**

This is a watershed event for EKPC, its 16 distribution cooperative member-owners and their 570,000 end-use customers. EKPC’s Board began consideration of building a CCGT in 2017<sup>24</sup>, and that process was expedited after Winter Storm Elliott in December 2022.<sup>25</sup> The due diligence given by the EKPC Board regarding this Application was second only to the decision to join PJM in 2013.<sup>26</sup> A modernized electric system is being designed to meet organic load growth, not speculative data center load growth, while complying with current and anticipated environmental regulations. The price tag for the value being provided is surprisingly modest—annual rate increases for twenty years of approximately 2%.<sup>27</sup>

Motive is important. As a not-for-profit electric utility, EKPC has no incentive to invest in unneeded or speculative rate base to grow top-line revenues and bottom-line earnings.<sup>28</sup> Instead, it has the opposite incentive to keep its costs and rates as low as possible while providing reliable and adequate service.<sup>29</sup>

The Load Forecast supporting the Cooper CCGT, co-firing Cooper 2 and co-firing Spurlock 1-4 is reasonable. The Load Forecast properly includes all load served by EKPC’s 16

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<sup>24</sup> April 21, 2025 Tr. 09:36:45 (Mosier).

<sup>25</sup> April 21, 2025 Tr. 09:38:44 (Mosier).

<sup>26</sup> April 21, 2025 Tr. 09:37:39 (Mosier).

<sup>27</sup> Nucor Exhibit 3.

<sup>28</sup> April 21, 2025 Tr. 09:39:09 (Mosier).

<sup>29</sup> Id.

members, which is different from how PJM calculates EKPC's load.<sup>30</sup> The Load Forecast does not include any speculative data center load even though EKPC has had many inquiries from potential data center customers.<sup>31</sup> EKPC's summer load forecast now includes a 7% reserve margin as a hedge against having to buy expensive generating capacity from the PJM market to meet EKPC's summer load obligation.<sup>32</sup> A 7% reserve margin was added to the Company's winter load forecast as a hedge against having to purchase expensive PJM market energy to serve winter native load.<sup>33</sup> If not used, these hedges can be monetized by selling capacity in the PJM Base Residual and Incremental Auctions and selling energy in the PJM energy market.

Under state law, it is the responsibility of EKPC and this Commission to ensure generation reliability and adequate service.<sup>34</sup> *"It is the policy of the Commonwealth to maintain adequate capacity of available, reliable, dispatchable, and resilient electric generation..."*<sup>35</sup> Generation resource adequacy is not the job of PJM.<sup>36</sup> PJM can dispatch the power plants in its footprint and it can offer Reliability Must Run ("RMR") agreements to keep existing plants open temporarily, but it cannot order that new power plants must be built, even in the face of a known reliability crisis.<sup>37</sup> This limitation on PJM's authority reflects the long-standing state-federal jurisdictional divide under the FPA over facilities used for the generation of electricity. It also explains why this Commission must approve a CPCN for utility-owned generation and there is a Kentucky State Board to approve the construction of merchant generation (KRS 278.702), but there is no federal equivalent.

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<sup>30</sup> April 22, 2025 Tr. 14:06:12 (Tucker).

<sup>31</sup> Mosier Direct Testimony at 9; Tucker Direct Testimony at 9.

<sup>32</sup> Tucker Direct Testimony at 13.

<sup>33</sup> Id. at 14.

<sup>34</sup> KRS 278.030 (2) and KRS 278.010(14); April 22, 2025 Tr. 4:39:45 (Cronin).

<sup>35</sup> KRS 164.2807 (j).

<sup>36</sup> April 22, 2025 Tr. 4:37:10 (Cronin).

<sup>37</sup> April 22, 2025 Tr. 4:35:27 (Cronin).

EKPC's 16-Member Board voted unanimously for the projects under review after years of consultation with PJM, ACES Power Marketing, EPRI, other G&T cooperatives and Burns & McDonnell.<sup>38</sup>

## **1. Cooper CCGT**

The \$1.317 billion 745 MW Cooper CCGT will be a state-of-the-art power plant that will provide low-cost energy and reliable capacity for decades.<sup>39</sup> It is the only financeable base load technology.<sup>40</sup> It is also the best hedge against future environmental regulations.<sup>41</sup> It will facilitate the economic development of energy-intensive industrial manufacturers consistent with the policy of the Commonwealth.

Combined cycle technology is currently the industry standard. With a heat rate of 6,500, it will efficiently convert natural gas to low-cost electric energy. EKPC estimates that the Cooper CCGT will provide \$1.1 billion of energy savings over its first ten years of operations, compared to purchasing from the PJM energy market.<sup>42</sup>

Because it is a reliable technology coupled with back-up fuel storage, PJM assigns the CCGT a very high ELCC capacity rating.<sup>43</sup> This means that EKPC will avoid approximately \$100 million per year of PJM capacity costs over its first five years of operations.<sup>44</sup> \$500 million of capacity savings over only five years will pay for more than one-third of the plant.

This \$1.317 billion project will receive long-term financing from RUS at the U.S. Treasury security rate plus 1/8 of 1%.<sup>45</sup> Low-cost financing results in low rates for consumers. Low-cost

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<sup>38</sup> April 21, 2025 Tr. 09:37:52 (Mosier).

<sup>39</sup> April 22, 2025 Tr. 14:24:39 (Tucker).

<sup>40</sup> April 21, 2025 Tr. 09:17:14 (Mosier).

<sup>41</sup> April 21, 2025 Tr. 09:16:26 (Mosier).

<sup>42</sup> Nucor Exhibit 4; April 22, 2025 Tr. 14:14:30 (Tucker).

<sup>43</sup> Nucor Exhibit 1.

<sup>44</sup> Nucor Exhibit 5; April 22, 2025 Tr. 14:22:01 (Tucker).

<sup>45</sup> Stachnik Direst Testimony at 7.



government financing and the exemption from federal and state income taxes are major economic advantages of the cooperative financial structure.

The Cooper CCGT will provide much needed voltage support for the southern portion of EKPC's service territory.<sup>46</sup> Without voltage support, this portion of the EKPC system could face rolling blackouts, especially during the winter months.<sup>47</sup> The application for the Cooper CCGT to enter the PJM generator interconnection queue was filed on January 24, 2024.<sup>48</sup> EKPC is seeking expedited review by PJM since the CCGT is needed to enhance PJM grid reliability.<sup>49</sup> EKPC's request for the CCGT to receive Cooper Unit 1's transmission injection rights was filed on April 3, 2025, and if granted, will save approximately \$50 million.<sup>50</sup>

Timing is important. EKPC is fortunate to have the ability to purchase this 745 MW plant.<sup>51</sup> Only three manufacturers worldwide make 110 CCGTs per year.<sup>52</sup> If the option to purchase this CCGT is not exercised, then there would be a 3-4 year delay and the price for a replacement is expected to be 30% higher.<sup>53</sup> Also, gas pipeline capacity is quickly filling up. If EKPC does not contract for firm gas service now it would go to the back of the line, and pipeline capacity may not be available in the future.<sup>54</sup>

If the EPA's Green House Gas ("GHG") rule is affirmed, then the Cooper CCGT will be limited to a 40% annual capacity factor.<sup>55</sup>

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<sup>46</sup> Mosier Direct Testimony at 7; Young Direct Testimony at 7; April 22, 2025 Tr. 14:24:10 (Tucker).

<sup>47</sup> April 21, 2025 Tr. 09:29:04 (Mosier).

<sup>48</sup> Adams Direct Testimony at 10.

<sup>49</sup> April 21, 2025 Tr. 09:34:58 (Mosier); April 22, 2025 Tr. 14:26:07 (Tucker).

<sup>50</sup> April 21, 2025 Tr. 09:53:15 (Mosier); April 22, 2025 Tr. 14:26:21 (Tucker).

<sup>51</sup> Mosier Direct Testimony at 12.

<sup>52</sup> April 21, 2025 Tr. 09:34:22 (Mosier).

<sup>53</sup> April 21, 2025 Tr. 09:34:36 (Mosier); April 22, 2025 Tr. 14:26:21 (Tucker).

<sup>54</sup> April 22, 2025 Tr. 14:27:25 (Tucker).

<sup>55</sup> Johnson Direct Testimony at 6.

If the GHG rule is vacated, then it will operate as a base-load unit thus increasing its value to customers.<sup>56</sup>

## **2. Cooper Unit 2 100% Gas Co-Firing**

The \$73.8 million capital cost for burner upgrades to allow the 225 MW Cooper 2 to co-fire 100% with natural gas will be more than offset by \$117 million of energy savings over ten years compared to buying energy from the PJM market.<sup>57</sup>

This 225 MW dual-fuel unit will have a high PJM ELCC rating which will provide significant capacity value.<sup>58</sup> ACES Power Marketing forecasts that PJM capacity prices in the EKPC zone will average \$473/MW-day over the 26/27 delivery year to the 38/39 delivery year.<sup>59</sup> Financing with low-cost RUS debt will minimize the rate impact of this capital-intensive project.

Keeping Cooper 2 operational will continue to provide needed voltage support in Southern Kentucky (the very bottom of PJM). Cooper 2 does not dispatch often, but when it does run it is needed for reliability. Serving this unit from the gas pipeline being constructed for the CCGT will result in economies of scale.

The GHG rule applies to existing coal units and new natural gas plants.<sup>60</sup> The GHG rule does not apply to existing natural gas plants. If the GHG rule survives, then 100% natural gas co-firing will allow Cooper 2 to operate through at least the end of 2038, instead of being forced to retire at the end of 2031.<sup>61</sup>

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<sup>56</sup> Id.

<sup>57</sup> Nucor Exhibit 4; April 22, 2025 Tr. 14:16:10 (Tucker).

<sup>58</sup> Nucor Exhibit 1.

<sup>59</sup> Nucor Exhibit 5.

<sup>60</sup> Purvis Direct Testimony at 10.

<sup>61</sup> Purvis Direct Testimony at 15.

If the GHG rule is vacated, then Cooper 2 will be able to burn any combination of coal or natural gas past 2038, depending on the economics.

### **3. Spurlock 1-4 50% Gas Co-Firing**

The \$187 million capital cost for 50% natural gas co-firing all four Spurlock units will be more than offset by \$745 million of projected energy savings compared to market purchases over the first ten years.<sup>62</sup> This is not a surprise. The 1,346 MW Spurlock Station in Maysville on the Ohio River is the workhorse of the EKPC system.<sup>63</sup> It is one of the cleanest coal plants in the U.S. and is in the top 10% efficiency of all PJM coal plants.<sup>64</sup> Continuing to run it with a blend of barged coal and natural gas appears to be a sound business decision.

These 1,346 MW dual-fuel units will have high PJM ELCC ratings which will provide significant capacity value.<sup>65</sup> ACES Power Marketing forecasts that PJM capacity prices in the EKPC zone will average \$473/MW-day over the 26/27 delivery year to the 38/39 delivery year.<sup>66</sup> Financing with low-cost RUS debt will minimize the rate impact of this capital-intensive project.

Burns & McDonnell has verified the technological feasibility of co-firing the Spurlock 3-4 CFB units.<sup>67</sup>

O&M savings of \$13.7 million per year are estimated by operating Spurlock on 50% natural gas.<sup>68</sup> Natural gas generation has fewer moving parts.

The GHG rule applies to existing coal units and new natural gas plants.<sup>69</sup> The GHG rule does not apply to existing natural gas plants. If the GHG rule survives, then 50% natural gas co-

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<sup>62</sup> Nucor Exhibit 4.

<sup>63</sup> April 21, 2025 Tr. 09:25:53 (Mosier).

<sup>64</sup> April 21, 2025 Tr. 09:32:09 (Mosier).

<sup>65</sup> Nucor Exhibit 1.

<sup>66</sup> Nucor Exhibit 5.

<sup>67</sup> April 22, 2025 Tr. 14:33:09 (Tucker).

<sup>68</sup> Johnson Direct Testimony at 13.

<sup>69</sup> Purvis Direct Testimony at 10.

firing will allow Spurlock to operate through the end of 2038, instead of being forced to retire at the end of 2031.<sup>70</sup>

If the GHG rule is vacated, then Spurlock will be able to operate long-term with a combination of coal or gas depending on the economics.

## CONCLUSION

EKPC has demonstrated that its proposed Cooper CCGT and its proposed modifications to Cooper 2 and Spurlock 1-4 are needed and will not result in wasteful duplication. These investments are needed to avoid even higher costs and risks from relying on the PJM capacity and energy markets. These investments are also consistent with the Legislative policy of in-state reliable generation. And the rate impact is a surprisingly modest 2% rate increase per year for 20 years. The Application should be approved.

Respectfully submitted,

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<sup>70</sup> Purvis Direct Testimony at 15.