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# Louisiana Lignite Mining in the Wake of the Haynesville Shale

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## INTRODUCTION

Lignite-fueled power generation supplied by mine mouth operations has consistently been among the most cost-efficient and reliable sources of electricity in Louisiana for nearly thirty years.<sup>1</sup> In 2009, the Louisiana Public Service Commission unanimously approved the acquisition by two utilities of an additional lignite surface mine located immediately adjacent to their lignite-fired power plant in Northwest Louisiana.<sup>2</sup> After extensive review, the Commission found that the addition of the second surface mine to provide fuel for the Dolet Hills Power Station (DHPS) was “prudent, reasonable, continue[d] desired fuel diversity and result[ed] in the most economic fuel cost alternative for the DHPS and the lowest reasonable cost for Louisiana ratepayers.”<sup>3</sup> During the same time period, Northwest Louisiana was also beginning to experience a boom in natural gas drilling from a deep shale formation known as the Haynesville Shale.<sup>4</sup> Since portions of the Haynesville Shale zone extended beneath the same location as two of the lignite surface mines, the stage was set for potential disputes between the oil and gas operators and the lignite miners; each would seek to develop their respective mineral interests in and beneath the same tracts of land.<sup>5</sup>

Lignite mining and reclamation operations occupy a larger portion of the surface within the mine permit boundary than oil and gas operations, and since the inception of lignite mining in

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1. A “mine mouth” operation for a coal fired power plant is where a power plant is located adjacent to a coal mine fuel source, so as to minimize the transportation of fuel costs.

2. Cleco Power, L.L.C., Order No. U-30975 (La. Pub. Serv. Comm’n Sept. 30, 2009), at 4–5.

3. *Id.*

4. Jesse Bogan, *Boom Times at the Haynesville Shale*, FORBES (June 5, 2009, 8:00 PM), <http://www.forbes.com/2009/06/05/natural-gas-haynesville-shale-business-energy-haynesville.html>.

5. Vickie Welborn, *Natural Gas, Lignite Collide in DeSoto, Red River*, SHREVEPORT TIMES (Sept. 19, 2009), available at LexisNexis.

Louisiana, potential conflicts between oil and gas operators and lignite miners could develop.<sup>6</sup> However, Louisiana courts have not yet directly addressed the issue of oil and gas drilling within an active and permitted lignite surface mine. While the Louisiana Mineral Code requires each respective mineral owner to give “reasonable regard” to the other,<sup>7</sup> there are unique issues within the context of lignite mining. Such issues include the need to avoid stranding lignite reserves and the limitations imposed by ongoing mining and reclamation activities.<sup>8</sup>

However, technological advances in horizontal drilling that facilitated the Haynesville Shale boom, combined with innovative regulatory approaches, such as authorization of cross unit lateral wells<sup>9</sup> (and other techniques that allow flexibility in selection of surface locations), appear to offer a practical solution to these issues. If a proposed gas well drill site can be relocated into an area that (1) has already been mined and released from reclamation bond, or (2) into an adjacent area outside the mine permit where it does not risk either stranding future lignite reserves or interfering with ongoing mining operations, then both the lignite and gas can be produced for the benefit of mineral owners and ratepayers. Communication and coordination is essential to avoid conflict between the oil and gas operator and the lignite miner. The operator and the miner must work together to determine mutually agreeable well locations within, or adjacent to, the mine permit.

Adequate notice to mine operators and mining permittees—notice prior to the permitting of any well—is essential to facilitate this coordination. The Commissioner of Conservation has authority to regulate both oil and gas operations,<sup>10</sup> as well as lignite mining.<sup>11</sup> As a result, the Commissioner has previously issued unitization orders that require such notice prior to filing for a drilling permit for

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6. See Lisa Diane Conly, Note, *Reasonable Regard: A Solution to the Lignite Problem*, 43 LA. L. REV. 1239, 1239 (1983).

7. LA. MIN. CODE art. 11(A) (2013) (“The owner of land burdened by a mineral right or rights and the owner of a mineral right must exercise their respective rights with reasonable regard for those of the other. Similarly the owners of separate mineral rights in the same land must exercise their respective rights with reasonable regard for the right of other owners.”).

8. See Louisiana Surface Mining and Reclamation Act, Act No. 141, 1976 La. Acts 500 (current version at LA. REV. STAT. ANN. §§ 30:901–932 (2007 & Supp. 2013)).

9. See Louisiana Office of Conservation, Memorandum, *Horizontal Cross Unit Lateral Wells in Shales, Tight Gas Sands and Unconventional Reservoirs*, November 2, 2012.

10. LA. REV. STAT. ANN. § 30:4 (2013).

11. LA. REV. STAT. ANN. § 30:905 (2013).

units within the mine permit.<sup>12</sup> Expanding these drilling permit notice requirements to encompass the entire boundary of lignite mine permits would be an important step toward avoiding conflicts between mineral owners.<sup>13</sup> Expanded notice requirements allow utility ratepayers to benefit from a diversified fuel mix,<sup>14</sup> while also allowing for oil, gas, and lignite mining.

#### I. BACKGROUND: HISTORY OF LIGNITE MINING IN LOUISIANA

Lignite is a soft, brownish-black coal that can be used as an energy source.<sup>15</sup> Lignite typically must have a heating value range of 6,300 to 8,300 British thermal units per pound to be rated as class “A.”<sup>16</sup> Economically recoverable lignite in Louisiana is relatively shallow, at depths of 200 feet or less from the surface.<sup>17</sup> Lignite deposits of commercial importance were first found in northwestern Louisiana in 1812, almost a century before petroleum development began in the state.<sup>18</sup> Interest in mining lignite as a potential source of fuel for electricity generation began in the 1950s and early 1960s when utilities began exploratory drilling to assess potential lignite reserves in both DeSoto and Red River Parishes.<sup>19</sup>

In the 1970s, there was an increased interest in surface mining for lignite as a fuel for electricity generation as a national need for new energy sources necessitated the development of lignite deposits in several states, including Louisiana and Texas.<sup>20</sup> In 1976, the Louisiana Legislature passed the Louisiana Surface Mining and

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12. State of Louisiana Office of Conservation Order No. 700-F-1 was the first such order providing for notice to the lignite mine. Cent. La. Elec. Co., Order No. 700-F-1 (La. Office of Conservation Jan. 24, 1990). More recently, State of Louisiana Office of Conservation Order No. 109-X-50 expanded the applicable notice period as to that particular unit. *See* Order No. 109-X-50 (La. Office of Conservation Sept. 1, 2009). Several subsequent orders of the Louisiana Office of Conservation have further expanded upon this notice requirement.

13. *Id.*

14. *See infra* Part II for further discussion of fuel diversity.

15. SYED M. HAQUE, LOUISIANA GEOGRAPHICAL SURVEY, LIGNITE RESOURCES IN LOUISIANA 1 (2000), <http://www.lgs.lsu.edu/dep/dep/5lignite.pdf>.

16. *Id.*

17. *Id.* at 2.

18. *Id.*

19. Alan A. Troy et al., *Coal and Lignite in Louisiana*, LA. DEP'T OF NATURAL RES. (May 14, 1993), <http://dnr.louisiana.gov/index.cfm?md=pagebuilder&tmp=home&pid=305> (follow “Lignite Mining in Louisiana” hyperlink).

20. *See* *Continental Grp., Inc. v. Allison*, 379 So. 2d 1117, 1126–27 (La. Ct. App. 1979), *rev'd on other grounds*, 404 So. 2d 428 (La. 1981) (discussing the history of Louisiana lignite).

Reclamation Act,<sup>21</sup> finding that “[t]he extraction of lignite and other forms of coal by surface mining operations is a basic and essential activity making an important contribution to the economic wellbeing of the state and nation.”<sup>22</sup> The following year, Congress enacted the Surface Mining Control and Reclamation Act of 1977,<sup>23</sup> providing for the establishment of a nationwide program to regulate surface coal mining and reclamation. The Act vests authority to regulate surface coal mining and reclamation with the federal government but allows delegation of jurisdiction over surface coal mining regulation to the states, subject to federal approval of each state’s program.<sup>24</sup>

As development of economically recoverable lignite mining projects began in several states across the country in the late 1970s and early 1980s,<sup>25</sup> two Louisiana public utility companies agreed to pool their lignite resources to provide fuel to a jointly-owned lignite fired generating plant at Dolet Hills.<sup>26</sup> In 1982, construction began on the Dolet Hills Power Station,<sup>27</sup> a 650 megawatt lignite-fired generating plant fueled with Louisiana lignite primarily mined from the adjacent Dolet Hills Lignite Mine, a 30,000 acre site located in DeSoto Parish, Louisiana.<sup>28</sup> In 1983, pursuant to authority delegated under the Louisiana Surface Mining and Reclamation Act,<sup>29</sup> the Louisiana Office of Conservation approved the utility company permittee’s application for the Dolet Hills Lignite Mine.<sup>30</sup> The Office’s order approving the application, as well as subsequent orders from the Office of Conservation,<sup>31</sup> set forth specific

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21. Act No. 141, 1976 La. Acts 500 (current version at LA. REV. STAT. ANN. §§ 30:901–932 (2007 & Supp. 2013)).

22. LA. REV. STAT. ANN. § 30:902(A) (2007).

23. 30 U.S.C. §§ 1201–1316 (2006).

24. 30 U.S.C. § 1253 (2006).

25. Higher energy prices starting in the mid 1970’s, particularly higher oil prices in the aftermath of the 1973 foreign oil crisis, spurred interest in additional domestic energy resources, including coal and lignite for electricity generation, *See* Andrew Scott Hanen, Comment, *The Surface Mineral Producer v. the Oil and Gas Producer: A Need for Peaceful Coexistence*, 29 BAYLOR L. REV. 907, 907 (1977); Bruce Kramer, *Conflicts Between the Exploitation of Lignite and Oil and Gas: The Case for Reciprocal Accommodation*, 21 HOUS. L. REV. 49 (1984).

26. Troy et al., *supra* note 21; *see also* Continental Grp., Inc. v. Allison, 379 So. 2d 1117, 1126–27 (La. Ct. App. 1979), *rev’d on other grounds*, 404 So. 2d 428 (La. 1981).

27. *Id.*

28. Troy et al., *supra* note 21.

29. LA. REV. STAT. ANN. §§ 30:901–932 (2007 & Supp. 2013).

30. *See* State of Louisiana Office of Conservation Order No. LSM-3 (effective June 9, 1983).

31. *See id.*; LA. ADMIN. CODE tit. 43, pt. 15 (2012).

provisions for the regulation of surface mining and reclamation operations.<sup>32</sup> These provisions included mining plans, plans for access roads, a groundwater and surface water monitoring program, soil monitoring, re-vegetation requirements, and posting of reclamation performance bonds.<sup>33</sup>

The first commercial surface mining of lignite in Louisiana began in 1985 at the Dolet Hills Lignite Mine (LSM-3).<sup>34</sup> The Dolet Hills Power Station commenced operation in 1985.<sup>35</sup> Also, during the early 1980s, the Oxbow Lignite Mine (LSM-1), located in Red River, DeSoto, and a portion of Natchitoches Parishes were initially approved by the Louisiana Office of Conservation.<sup>36</sup> The Oxbow Lignite Mine (LSM-1) was originally permitted to Phillips Coal Company to supply a proposed lignite fueled power plant built by Cajun Electric Power Cooperative Inc. near Coushatta, Louisiana; however, difficulties in financing resulted in the cancellation of the plant.<sup>37</sup> In 1989, the Office of Conservation approved the transfer of the Oxbow Mine Permit (LSM-1-A) to Red River Mining Company,<sup>38</sup> and the Oxbow Mine began mining and delivering lignite to the nearby Dolet Hills Power Station pursuant to a contract with the utilities.<sup>39</sup> The Oxbow Mine Permit (LSM-1-A) and lignite reserves were later acquired in 2009 by the utilities to further expand the available lignite fuel supply for the Dolet Hills Power Station after approval by both the Louisiana Public Service Commission<sup>40</sup> and the Louisiana Office of Conservation.<sup>41</sup>

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32. See State of Louisiana Office of Conservation Order No. LSM-3 (effective June 9, 1983).

33. *Id.*

34. *Id.*

35. Troy et al., *supra* note 21.

36. See State of Louisiana Office of Conservation Order No. LSM-1 (effective Dec. 11, 1981).

37. See *Sw. Eng'g Co. v. Cajun Elec. Power Coop., Inc.*, 915 F.2d 972 (5th Cir. 1990) (discussing contractual disputes resulting from the cancellation of the Big Cajun Oxbow lignite power plant project).

38. See State of Louisiana Office of Conservation Order LSM-1-A (effective Feb. 2, 1989).

39. Troy et al., *supra* note 21.

40. See Cleco Power, L.L.C., Order No. U-30975 (La. Pub. Serv. Comm'n Sept. 30, 2009), at 4 ("The new reserves acquired through the Oxbow Mine purchase will extend life of the Dolet Hills Lignite Unit from 2016-2019 to at least 2026.").

41. State of Louisiana Office of Conservation Supplemental Order LSM-1-A (10-1) (effective Dec. 30, 2009).

## II. THE UTILITY OF LIGNITE FIRED GENERATION AND FUEL DIVERSITY

Louisiana public utility companies that own and operate lignite-fueled power generation are subject to the jurisdiction of the Louisiana Public Service Commission, pursuant to Article IV, Sec. 21 of the Louisiana Constitution,<sup>42</sup> Louisiana Revised Statutes section 45:1163(A)(1),<sup>43</sup> and Louisiana Revised Statutes section 45:1176.<sup>44</sup> In light of the Commission's authority to regulate utility rates and its review and evaluation of the reasonableness and prudence of public utility companies' decisions,<sup>45</sup> it is notable that lignite-fueled power generation supplied by local Louisiana mining has consistently been among the most cost efficient and reliable sources of electricity in Louisiana for nearly thirty years.<sup>46</sup>

During the 1980s, the Louisiana Public Service Commission used lignite-fired power plants as a benchmark for comparison to other generation alternatives available at the time.<sup>47</sup> In refuting the assertion that "the nuclear option was the only reasonable alternative in light of fuel constraints, to provide diversity and reliability to its system," the Commission noted that the claim was effectively rebutted because "witnesses testified that lignite would provide diversity. [Lignite was] actually *avored* under the federal law restricting the use of natural gas in electric generating plants."<sup>48</sup> The Commission further noted the benefits of local lignite-fired generation by comparison, finding that, "since the source of lignite

42. LA. CONST. art. IV, § 21(B) ("The commission shall regulate all common carriers and public utilities and have such other regulatory authority as provided by law. It shall adopt and enforce reasonable rules, regulations, and procedures necessary for the discharge of its duties, and shall have other powers and perform other duties as provided by law.").

43. LA. REV. STAT. ANN. § 45:1163(A)(1) (2010) ("The commission shall exercise all necessary power and authority over any street railway, gas, electric light, heat, power, waterworks, or other local public utility for the purpose of fixing and regulating the rates charged or to be charged by and services furnished by such public utilities."); LA. REV. STAT. ANN. § 45:1176 (2010).

44. LA. REV. STAT. ANN. § 45:1176 (2010).

45. LA. REV. STAT. ANN. § 45:1163; *id.*

46. *See* Cleco Power, L.L.C., Order No. U-30975 (La. Pub. Serv. Comm'n Sept. 30, 2009), at 4 (noting in pertinent part: "DHPS has been such an economical power source for the Companies' ratepayers—the incremental cost of electricity being produced out of the Dolet Hill mines has been and remains at or below 2¢/KWH." The expert testimony presented to the Public Service Commission in the proceeding further describes the data supporting the findings regarding reliability and reasonableness of prices.).

47. *See* Gulf States Util. Co., Order No. U-17282-D (La. Pub. Serv. Comm'n Nov. 15, 1988), at 9.

48. *Id.*

fuel would be located in or near the Gulf States service territory, on property owned or leased by the company, [the lignite option] would subject the Company to fewer risks associated with transportation difficulties and changes in regulatory requirements.”<sup>49</sup> In disallowing the recovery of certain costs related to nuclear power plant construction, the Commission’s consultants “determined that a more reasonable option would have been the construction of a lignite unit.”<sup>50</sup>

More recently, in 2009, the Commission unanimously approved the acquisition of the Oxbow Lignite Mine Permit and Reserves by two utilities.<sup>51</sup> After an extensive review, the Commission found that the acquisition was “prudent, reasonable, continue[d] desired fuel diversity and results in the most economic fuel cost alternative . . . and lowest reasonable cost for Louisiana ratepayers.”<sup>52</sup> In a separate analysis of the rate stabilizing benefits of fuel diversity, the Commission noted that the utility’s “reliance on coal and lignite has provided its customers with these extremely stable and low cost energy prices.”<sup>53</sup> The Commission’s analysis also confirmed that the utility’s “diversified fuel mix, and particularly its solid fuel baseload units, have contributed to achieving and maintaining lower generation cost”<sup>54</sup>; this lower generation cost was achieved because the utility “[was] less vulnerable to the significant price volatility of natural gas. There is merit in having a diversified fuel mix. Historically gas performance has been more erratic than coal. Fuel mix is an important attribute that should be taken into account in an overall strategic plan.”<sup>55</sup> Thus, natural gas, coal, lignite, and more recently, renewables such as wind,<sup>56</sup> can provide a beneficial fuel mix.

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49. *Id.* at 10.

50. *Id.* at 4.

51. *See* Order No. U-30975 (La. Pub. Serv. Comm’n Sept. 30, 2009).

52. *See* Cleco Power, L.L.C., Order No. U-30975 (La. Pub. Serv. Comm’n Sept. 30, 2009), at 4.

53. Sw. Elec. Power Co., Order No. U-29702 (La. Pub. Serv. Comm’n Apr. 29, 2008), at 20 (Staff’s Post-Hearing Brief, at 16–17).

54. *Id.* at 21, 29 (internal citations omitted).

55. *Id.* at 20–21 (internal citations omitted).

56. Sw. Elec. Power Co., Order No. U-32095 (La. Pub. Serv. Comm’n Dec. 22, 2011), at 2. The Commission unanimously approved an initial 31MW of Wind Energy contracts pursuant to the Public Service Commission’s Renewable Energy Pilot Program. The Renewable Energy Pilot Program was established by General Order R-28271–Subdocket B, dated December 9, 2010, which attached Implementation Plan states in pertinent part: “The Commission has stated a desire to meet a set of policy objectives for renewable resources that include providing additional resources that result in a reliable and economical long-term electric supply; diversifying Louisiana’s fuel mix, creating greater energy security through the use of indigenous resources; encouraging private investment; improving air



Fuel diversity also provides resource flexibility that can be essential to maintaining electrical reliability in an uncertain regulatory environment.<sup>57</sup> The Director of the Electric Reliability Coordinating Counsel (ERCC) noted in comments submitted to the Environmental Protection Agency last year that, “[g]iven the regulatory uncertainty related to future EPA regulations on a wide variety of energy sources—and not just coal—keeping all options on the table for energy generation . . . is essential to maintaining America’s energy supply.”<sup>58</sup> Highlighting the reliability risks from a loss of fuel diversity, particularly solid fueled generation, the Director of the ERCC further advised:

[T]he country may experience a shortage of electricity, and the reliability of our electricity grid will face substantial risks. The loss of future coal-fired generation, investment in current coal-fired generation, and closures of existing coal-fired generation capacity that may result from the combination of the proposed rule and other EPA regulatory actions risks a variety of reliability problems. In most cases, coal-fired plants cannot be replaced overnight by natural gas plants, as the time it takes to install pipeline and other infrastructure necessary even to begin conversion of an old plant or construction of a new one is considerable.<sup>59</sup>

Despite last year’s D.C. Circuit Court of Appeals ruling vacating the proposed Cross-State Air Pollution Rule as exceeding the EPA’s statutory authority,<sup>60</sup> there continues to be regulatory uncertainty

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quality; developing additional in-state renewable resources; and encouraging job creation and job retention, while avoiding the uncertainty associated with the cost impacts of a long term policy decision in an uncertain economic and political climate.”

57. Letter from Scott Segal, Director, Electric Reliability Coordinating Counsel, to EPA (June 25, 2012), *available at* [www.electricreliability.org/ercc-comments-submitted-epa-new-source-performance-standards-power-plant-carbon-emissions](http://www.electricreliability.org/ercc-comments-submitted-epa-new-source-performance-standards-power-plant-carbon-emissions).

58. *Id.*

59. *Id.*

60. In *EME Homer City Generation, L.P. v. EPA*, the District of Columbia Circuit Court noted that the Cross State Air Pollution Rule (CSAPR) “limits emissions from upwind States’ coal- and natural gas-fired power plants, among other sources. Those power plants generate the majority of electricity used in the United States . . . .” 696 F.3d 7, 11 (D.C. Cir. 2012), *cert. granted*, *Am. Lung Ass’n v. EME Homer City Generation, L.P.* 133 S. Ct. 2857 (2013). The District of Columbia Circuit Court concluded that, “[a]bsent a claim of constitutional authority (and there is none here), executive agencies may exercise only the authority conferred by statute, and agencies may not transgress statutory limits on that authority.” *Id.*

regarding not only other new EPA regulations, but also the Cross-State Air Pollution Rule, as the U.S. Supreme Court recently granted certiorari to review the D.C. Circuit Court's decision.<sup>61</sup>

Moreover, even in light of current low natural gas prices, the need for fuel diversity is based on a long-term approach, rather than a short-term rush to utilize whatever energy source is trendy today.<sup>62</sup> As the Director of the ERCC noted last summer,

[N]otwithstanding the historically low cost of natural gas and newly adopted regulatory obstacles for coal, several power producers in the U.S. are seeking to develop new state-of-the-art coal-fired power plants for a variety of reasons. Some of them are concerned about the historic volatility in natural gas prices and their inability to obtain long-term contracts with stable pricing for natural gas, preferring the long-term price stability that comes with coal. Some of them are developing new plants in areas that have localized, economical supplies of coal or other solid fuel. Others simply do not want to put all their eggs in one basket and want to maintain fuel diversity in their generation mix.<sup>63</sup>

Further, natural gas is not without risk considering the opposition to fracking.<sup>64</sup>

Significantly, when evaluating pricing stability and long-term fuel costs of coal, the Commission's consultants concluded:

[G]as is about 21 times more volatile in price than is coal. ICF International recommended a mixture of gas and coal capacity, so as to hedge against pricing differentials and market changes[.] The cost of coal is more stable than the cost of natural gas[.] The long-term costs, and particularly the risks, are greater if gas-fired facilities are selected to the exclusion of coal.<sup>65</sup>

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61. EPA v. EME Homer City Generation, L.P., 133 S. Ct. 2857 (No. 12-1182) (2013); Am. Lung Ass'n v. EME Homer City Generation, L.P. 133 S. Ct. 2857 (No. 12-1183) (2013).

62. Segal, *supra* note 57.

63. *Id.*

64. See Tennille Tracy, *Proposed New Fracking Rules Draw Fire from Industry*, WALL ST. J. (May 16, 2013), <http://online.wsj.com/article/SB10001424127887324082604578487482397534830.html>; Michael Shari, *The New Oil Rush*, GLOBAL FINANCE (June 2012), available at <http://www.gfmag.com/archives/154-june-2012/11766-cover-global-impact-of-us-energy-boom.html#axzz2fUAI0h8U>.

65. Sw. Elec. Power Co., Order No. U-29702 (La. Pub. Serv. Comm'n. Apr. 29, 2008).

Reducing price volatility through fuel diversity and maintaining reasonably priced electricity also helps support economic growth and boost investor confidence in energy intensive industries.<sup>66</sup>

In addition to the advantages offered by fuel diversity, the beneficial economic impact of mining lignite in Louisiana was reviewed in 2009 by Dr. Loren C. Scott in connection with the acquisition of the Oxbow Lignite Mine (LSM-1-A).<sup>67</sup> Dr. Scott's economic impact study concluded that extending the life of the lignite mine for ten years had both direct and secondary effects that spread to other sectors of the state economy.<sup>68</sup> Such effects include boosting sales in Louisiana firms by \$3.4 billion, increasing direct and indirect household earnings in Louisiana by over \$1 billion, and supporting an average of 2,472 jobs a year throughout the state.<sup>69</sup> Dr. Scott also estimated that the State of Louisiana would collect \$113.7 million in both direct and indirect taxes, and \$81.3 million in local and parish taxes as a result of the Oxbow Mine acquisition.<sup>70</sup> Notwithstanding the direct and indirect economic benefits of local lignite mining, from a regulatory perspective, the empirical pricing stability of solid fuel and the improved reliability offered by a mine mouth operation both support the reasonableness of regulatory decision to promote fuel diversity by maintaining lignite fired generation.<sup>71</sup>

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66. See BERNARD L. WEINSTEIN, SMU COX MAGUIRE ENERGY INSTITUTE, PROPOSED EPA POWER-SECTOR AIR RULES: WEAKENING ECONOMIC RECOVER AND PUTTING AMERICA'S MOST COMPETITIVE MANUFACTURING INDUSTRIES AT RISK 6-7 (September 2011), [http://pressdocs.cox.smu.edu/maguire/SMU\\_Utility\\_MACT\\_Report.pdf](http://pressdocs.cox.smu.edu/maguire/SMU_Utility_MACT_Report.pdf) ("The manufacturing sector is acutely sensitive to change in energy cost. . . . Beyond input and distribution costs, an escalating price for energy also creates a drag on investment confidence in the manufacturing sector. Observing that manufacturers 'use large amounts of electricity made from fossil fuels, especially coal,' Professor Hayden Murray of Indiana University found that, 'One of the most significant reasons for lack of investor confidence in the economy is the enormous cost of environmental regulation.' Sensitivity to energy costs can directly result in displacement of manufacturing jobs.").

67. Scott, *The Economic Impact on the Louisiana Economy of the Oxbow Coal Mine*, Louisiana Public Service Commission Docket No. U-29702, April 29, 2009.

68. *Id.* at 17-18

69. *Id.*

70. *Id.*

71. See Cleco Power, L.L.C., Order No. U-30975 (La. Pub. Serv. Comm'n Sept. 30, 2009).

III. DISTINGUISHING BETWEEN LIGNITE SURFACE MINING OPERATIONS, RECLAMATION REQUIREMENTS AND PERFORMANCE BONDS, AND AVOIDING THE RISKS OF STRANDED LIGNITE

Jurisprudence from Louisiana courts specifically addressing lignite mining and reclamation operations remains fairly limited. However, Louisiana courts have recognized the considerable differences between surface mining operations to produce lignite and traditional oil and gas drilling operations.<sup>72</sup> In *River Rouge Minerals, Inc. v. Energy Resources of Minnesota*, the Louisiana Second Circuit held that the right to surface mine lignite was not included in the form of a standard oil and gas lease.<sup>73</sup> The court found “[t]he essential distinction between solid coal, liquid oil, and natural gas is in the method of extraction from the ground.”<sup>74</sup> The *River Rouge* court also noted that “lignite coal cannot be produced by the methods used in the production of oil and gas.”<sup>75</sup> The Louisiana Second Circuit further elaborated on the process of surface mining and restoration in *Continental Group Inc. v. Allison*.<sup>76</sup>

The process of lignite mining was best described in a 1999 U.S. Western District of Louisiana opinion by Judge Stagg, as follows:

The Dolet Hills Mining Venture recovers lignite by surface mining using a giant dragline to remove 20 to 140 feet of dirt and expose the lignite below. The dragline is as tall as a 20-story building. It weighs 8 million pounds and has a 77 cubic yard bucket. The bucket holds enough dirt to fill a one-car garage. Seams of lignite are uncovered by the dragline around the clock. Once exposed, the lignite, in layers 6–10 feet thick, is removed with a large backhoe and loaded into trucks. Each truck is capable of carrying 85 tons of lignite. After the lignite is removed, the dragline fills the pit with dirt from the next pit that is being excavated, helping to return the area to its

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72. See *River Rouge Minerals, Inc. v. Energy Res. of Minn.*, 331 So. 2d 878 (La. Ct. App. 1976) (discussing the differences between the nature of coal and lignite mining compared to traditional oil and gas drilling operations as they relate to rights provided in an oil, gas and mineral lease).

73. *Id.* at 879.

74. *Id.*

75. *Id.*

76. *Continental Grp., Inc. v. Allison*, 379 So. 2d 1117, 1126 (La. Ct. App. 1979), *rev'd on other grounds*, 404 So. 2d 428 (La. 1981). In *Allison*, the Second Circuit further discussed the background and nature of lignite mining in Northwest Louisiana in connection with a dispute over mineral reservations. For further discussion of *Allison*, see Mark Alan Lowe, Note, *Louisiana Lignite—A Lumberman's Lament: Continental Grp., Inc. v. Allison*, 42 LA. L. REV. 1148 (1982)).

original contour. Trucks filled with lignite haul to a central collection site, and they dump their loads at the beginning of a seven-mile conveyor belt for transportation to the power plant. The conveyor belt travels 800 feet per minute and delivers 1000 tons of lignite to the plant every hour. The Louisiana fuel source provides the energy of 6 million barrels of crude oil each year.<sup>77</sup>

Given the necessary surface use in connection with lignite mining operations and the difficulty in conducting oil and gas operations on or near the properties, coordination and communication are necessary so that each mineral producer exercises their respective rights “with reasonable regard” for others.<sup>78</sup> Even after mining is completed, reclamation and restoration activities continue for many years and must meet extensive environmental protection standards established by the Louisiana Surface Mining and Reclamation Act<sup>79</sup> and the applicable Surface Mining regulations.<sup>80</sup> Additionally, these post-mining reclamation and restoration operations are subject to extensive regulation by the Louisiana Commissioner of Conservation pursuant to authority delegated by the Louisiana Surface Mining and Reclamation Act,<sup>81</sup> including the requirement to post a performance bond “sufficient to assure the completion of the reclamation plan.”<sup>82</sup>

Until reclamation operations are complete and the bond is released pursuant to the particular requirements set forth in the Louisiana Surface Mining and Reclamation Act<sup>83</sup> and the respective Mine Permits, access to tracts within the mine permit is very limited.<sup>84</sup> If the Commissioner was to issue gas drilling permits for a well on property within the mine permit subject to performance bonds before releasing the bond, there is the possibility of

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77. Cent. Louisiana Elec. Co., Inc. v. Dolet Hills Mining Venture, 116 F. Supp. 2d 710, 712–13 (W.D. La. 1999) (involving a contractual dispute with the former mine operator at the Dolet Hills Mine). In 2001, the former miner was replaced with a new mining company in a settlement term sheet approved by the Louisiana Public Service Commission in Order Nos. U-21453, U-20925(SC) and U-22092(SC), Subdocket G (La. Pub. Serv. Comm’n May 31, 2001)).

78. See LA. MIN. CODE art. 11(A) (2013).

79. LA. REV. STAT. ANN. § 30:915 (2007).

80. LA. REV. STAT. ANN. §§ 30:901–955 (2007 & Supp. 2013).

81. *Id.*

82. LA. REV. STAT. ANN. § 30:909 (2007) (establishing the requirement for performance bonds to be posted).

83. LA. REV. STAT. ANN. § 30:915 (2007) (establishing the requirements for the release of performance bonds).

84. There are extensive mine safety requirements established under the Federal Mine Safety and Health Act, 30 U.S.C. § 801 *et. seq.* The area within a coal mine subject to regulation includes access roads, 30 U.S.C. § 802(h).

conflicting orders.<sup>85</sup> The requirements for bond release include the completion of backfilling, re-grading, and drainage control in connection with the reclamation plan, as well as successful re-vegetation.<sup>86</sup> Additionally, the process of bond release takes time and is subject to specific public notice requirements, including that notice of the area to be released from bond be published in the local newspaper for four consecutive weeks and that there be a thirty-day period during which the government or affected landowners may request a public hearing.<sup>87</sup> After the inspection of the property to be released, the Commissioner has thirty to sixty days to decide whether to release the proposed area from bond, depending upon whether a hearing was requested and the findings of the investigation.<sup>88</sup>

In addition to the above requirements, it is also necessary to avoid stranding lignite reserves.<sup>89</sup> While the lignite mining less than 150 feet from the surface does not preclude recovery of oil and gas located thousands of feet below the surface (particularly when horizontal drilling and modern recovery techniques are used), the same is not true with lignite mining below 150 feet.<sup>90</sup> Mining plans are issued years in advance, and pre-mining activities are required before mining may begin.<sup>91</sup> If a transmission line, pipeline, road, or

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85. If performance bonds for surface mining and reclamation are issued pursuant to LA. REV. STAT. ANN. § 30:909 (2007), and the surface soil and vegetation has not yet met the conditions set forth in LA. REV. STAT. ANN. § 30:909 for bond release by the Commissioner, then a subsequent Drilling Permit issued by the Commissioner authorizing construction of an oil and gas surface location could be in violation of property reclamation requirements, unless also accompanied by a bond release or similar change in classification. *See id.*

86. LA. REV. STAT. ANN. § 30:919(C) (2007).

87. LA. REV. STAT. ANN. § 30:919(F) (2007).

88. LA. REV. STAT. ANN. § 30:919(B) (2007).

89. *See generally* Report of the public hearing held by the Office of Conservation, State of Louisiana, on January 26, 2010, *In Re: Application of Petrohawk Operating Company*, Red River-Bull Bayou Field, Dockets 10-0092, and 0093 and 0096 and 0099 and 100, DeSoto and Red River Parishes; and Report of the public hearing held by the Office of Conservation, State of Louisiana, on January 24, 2012, *In Re: Application of Petrohawk Operating Company*, Red River-Bull Bayou Field, Dockets No. 12-0051, DeSoto and Red River Parishes.

90. *Id.*

91. *See* Martin, Continuous Revision Committee for the Mineral Code, La. State Law Institute, *Proposed Amendments Relating to Lignite Development 1* (1981) (“The contrasts to oil and gas development should be noted: lignite cannot be mined in piecemeal fashion—it must be developed sequentially or it may not be economical to mine it at all; oil and gas underlying a large area can be produced with very small disturbance to the surface—lignite mining occupies all of the surface; oil and gas may be transported long distances before use, and a vast market exists for the substances—lignite will probably not be moved very far from its point of development, and it is difficult to say that it has a market value apart

well site obstructs mining, lignite can become “stranded” or “sterilized” especially if the obstruction cannot be moved or relocated.<sup>92</sup> In one Texas proceeding regarding relocation of a transmission line through the San Miguel Lignite Mine, the mining expert testified that “it would not be economical for the mining operation to return to the area already mined to recover the stranded lignite.”<sup>93</sup> Also, Texas has considered the risk of stranded lignite that could not be mined (for example, due to the location of a right of way) and has evaluated potential compensation to the mineral owner for the value of stranded lignite.<sup>94</sup>

The possibility that millions of tons of lignite could become permanently stranded by even a short easement crossing into an unmined area is particularly significant,<sup>95</sup> especially considering that the Dolet Hills Power Station needs approximately 3.5 million to 4 million tons of lignite per year.<sup>96</sup> Even when lignite mines were first permitted in Louisiana, it was understood that lignite mining could not be economically completed on a piecemeal basis.<sup>97</sup> Similarly, the Louisiana Commissioner of Conservation may consider the following risk: significant lignite reserves could become “stranded”—that is, obstructions within a lignite seam (such placement of drilling pad sites, access roads, or pipelines) might make it impossible to mine the lignite.<sup>98</sup> This outcome would have to be avoided. In light of the considerable costs to mineral owners and ratepayers resulting from permanently stranded lignite, it is

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from the single plant near the field built to utilize that particular sort of lignite; and a number of producers of oil or gas may operate in a single reservoir or field or even have separate rights as to different strata underlying the same tract of land—lignite development in one field by more than one producer is not very feasible.”)

92. S. Tex. Elec. Coop., Proposal for Decision, PUC Docket No. 21747 (Pub. Util. Comm’n of Tex. Aug. 10, 2000), at 28.

93. *Id.* (considering, in part, whether there should be a cost offset for the valuation of the lignite stranded by an existing transmission line under a particular route).

94. *Id.*

95. *Id.* at 27–28.

96. Cleco Power, L.L.C., Application, Docket No. U-30975 (La. Pub. Serv. Comm’n Apr. 30, 2009), at 4–7; *see also* Cleco Power, L.L.C., Supporting Testimony, Docket No. U-30975.

97. *See* Martin, Continuous Revision Committee for the Mineral Code, La. State Law Institute, *Proposed Amendments Relating to Lignite Development* 1 (1981) (“[L]ignite cannot be mined in piecemeal fashion—it must be developed sequentially or it may not be economical to mine it at all.”).

98. *See id.*; *see also* Louisiana Office of Conservation Docket No. 12-51 hearing date Jan. 24, 2012 (Order No. 109-X-148), Docket 10-93 hearing date Jan. 26, 2010 (Order 109-X-84), and Docket 10-670 hearing date June 29, 2010 (Order 109-X-105).

certainly reasonable for the respective oil and gas operators and lignite miners to communicate and coordinate on proposed locations to minimize the risk of stranded lignite reserves.<sup>99</sup> When considering the importance of lignite to overall fuel diversity and energy pricing stability, the need to avoid stranding lignite reserves is even more apparent.

#### IV. THE NEED FOR ADEQUATE NOTICE, COORDINATION AND THE POTENTIAL FOR HORIZONTAL DRILLING TO FACILITATE REASONABLE ACCOMMODATIONS

In light of the Mineral Code requirement that mineral owners give “reasonable regard” to each other,<sup>100</sup> there appears to be reasonable accommodations that can be made so that oil and gas operators may drill in certain areas within a lignite mine with adequate notice and coordination.<sup>101</sup> Reasonable accommodations, including the coordination of proposed drilling locations, access roads, pipelines, and other facilities, can help avoid the risk of stranding lignite reserves in un-mined areas.<sup>102</sup> Similar coordination can help oil and gas operators understand the unique limitations imposed by the mining reclamation and bonding requirements, so that drilling locations can be selected in either previously mined areas where bond has been released or in areas outside the mine permit which would not be mined. Moreover, the respective mineral owners can also enter into cooperative development agreements for their operations.<sup>103</sup>

One key to facilitating this coordination is adequate prior notice to the mine operator and permittees before any well permitting within an existing lignite mine permit. However, under current notice requirements, only the known owners within or adjacent to a given unit would be provided notice of the formation of a new drilling unit.<sup>104</sup> In the event an oil and gas title search misses or

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99. See LA. MIN. CODE art. 11(A) (2000).

100. LA. MIN. CODE art. 11(A) (2013) (“The owner of land burdened by a mineral right or rights and the owner of a mineral right must exercise their respective rights with reasonable regard for those of the other. Similarly the owners of separate mineral rights in the same land must exercise their respective rights with reasonable regard for the right of other owners.”).

101. For example, see Report of public hearing, dated Jan. 24, 2012, *supra* at 85.

102. *Id.*

103. *Id.*

104. LA. REV. STAT. ANN. § 30:6(B) (2007) does not discuss which parties are entitled to specific notice requirements, rather the parties entitled to notice for respective applications are set forth by regulations promulgated pursuant to Louisiana Office of Conservation Statewide Order No. 29-B, 43: Part XIX § 3903 and 3905. See also, LR 19:759 (June 1993), adopted by the Department of Natural



excludes any coal or lignite leases that are maintained pursuant to Louisiana Mineral Code article 115(C),<sup>105</sup> the lignite lease owner could potentially be denied the required notice to their substantial prejudice as a party who is adversely affected by the formation of a drilling unit. Moreover, after the unitization notices have been issued, subsequent Applications to Drill do not have nearly the same notice requirements.<sup>106</sup> This makes improved notice requirements for the lignite mine operator and permittees even more necessary. While certain oil and gas operators or applicants may make an effort to go beyond the minimum notice requirements, strengthening these requirements so that the lignite mine operator and permittees are always notified at least thirty days in advance of any application to drill anywhere within the mine permit boundary would only improve the chances that mineral owners can make reasonable accommodations to respect each other's correlative rights.

The Commissioner of Conservation has broad authority to regulate both oil and gas operations,<sup>107</sup> as well as lignite mining in Louisiana.<sup>108</sup> The Commissioner has been responsive and innovative in addressing the recent issues with gas drilling units located within lignite mine permits and has issued unitization orders requiring notice prior to filing for a drilling permit for particular units within the mine permit.<sup>109</sup> Unfortunately, while many units within the mines include similar notice requirements, not all units mandate such requirements. Also, there is a lack of uniformity in notice requirements that could lead to potential conflict between different mineral owners.<sup>110</sup> While certain oil and gas operators may enter

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Resources, Office of Conservation, October 1983, amended and promulgated by the Department of Natural Resources, Office of Conservation; and LR 19:760 (June 1993), adopted by the Department of Natural Resources, Office of Conservation, October 1983, amended and promulgated by the Department of Natural Resources, Office of Conservation.

105. LA. MIN. CODE art. 115(C) (2000).

106. See Louisiana Office of Conservation Statewide Order No. 29-B, Part XIX § 103, available at <http://doa.louisiana.gov/osr/lac/43v19/43v19.pdf>.

107. LA. REV. STAT. ANN. § 30:4 (2013).

108. LA. REV. STAT. ANN. § 30:905 (2013).

109. See Louisiana Office of Conservation Order No. 700-F-1 dated January 24, 1990, which was the first order providing for notice to the lignite mine. More recent examples providing thirty day notice include, Louisiana Office of Conservation Orders No. 109-X-50, Order No 109-S-11, and Order No. 109-N-20 dated September 1, 2009, Order No 109-X-84 dated March 31, 2010, Order No. 909-H-9 dated April 14, 2010, Order No. 909-H-7 dated April 14, 2010, Order No. 109-X-105 dated July 15, 2010, Order No. 109-X-148 dated January 24, 2012.

110. The notice requirements discussed in *supra* at 109 cover some but not all of the sections that are located within the boundaries of the Oxbow (LSM-1-A) and Dolet Hills (LSM-3) Lignite Mine Permits.

into cooperative development agreements with the mine to provide for similar provisions that assist surface location selection, an operator without such an agreement or notice would be at risk. Expanding these drilling permit notice requirements to uniformly encompass the entire boundary of the lignite mine permits is an important step towards avoiding future conflicts between respective mineral owners.

Ironically, it is the same technological advances that facilitated the Haynesville Shale boom that also appear to offer a practical solution to these conflicts between mineral owners.<sup>111</sup> When combined with innovative regulatory approaches like authorization of cross-unit lateral wells<sup>112</sup> that allow selection of drilling sites in off-unit, adjacent surface locations when necessary,<sup>113</sup> horizontal drilling presents a pragmatic solution. The regulatory means to enable reasonable accommodation, including adequate notice to facilitate coordination between the respective mineral owners, are established and available.<sup>114</sup> If a proposed gas well drill site can be relocated into a previously mined area that has been released from reclamation bond, or into an adjacent area outside the mine permit where there is no risk of stranding future lignite reserves or interfering with mining, both lignite and gas can be produced for the benefit of both mineral owners and utility ratepayers. Communication and coordination between the oil and gas operator and the lignite miner over mutually agreeable well locations is essential for avoiding conflict between respective mineral owners.

While notice alone cannot resolve all conflicts between mineral owners, it can be the first step towards achieving reasonable accommodation. Uniformity of notice is desirable. Adequate notice may raise awareness of the issues and promote cooperation between drillers and miners regarding well location selection within a lignite mine permit. Such cooperation can help prevent stranding lignite reserves as well as promote compliance with applicable environmental reclamation requirements. Coordination between oil and gas operators and miners allows respective mineral owners and ratepayers, as well as the State of Louisiana, to continue to benefit from gas production as well as lignite mining. By promoting both lignite mining and gas development through reasonable accommodations, Louisiana's dual goals of localized fuel diversity and access to reasonably priced, reliable energy may be achieved.

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111. See Louisiana Office of Conservation Docket No. 12-51 hearing date Jan. 24, 2012 (Order No. 109-X-148).

112. See Memorandum, *supra* note 9.

113. See Louisiana Office of Conservation Docket No. 12-51 hearing date Jan. 24, 2012 (Order No. 109-X-148).

114. See Orders, *supra* note 109.