

# USING THE COMMERCE CLAUSE TO SHORT-CIRCUIT STATES' ABILITY TO PASS POWER COSTS ONTO NEIGHBORS

Vance Little\*

## I. INTRODUCTION

On the afternoon of August 14, 2003, the electric power grid across the Northeastern United States collapsed resulting in comprehensive loss of power across the Northeast and Midwest.<sup>1</sup> Though a summer day, the temperature was not abnormally high. The region's massive use of air conditioners drew high demand on the system, but this demand was within a reasonable range.<sup>2</sup> Network operators at Ohio's FirstEnergy were monitoring the behavior of Cleveland's electric power grid.<sup>3</sup> A series of problems were to develop, including loss of diagnostic meters, misinformation, and human error, which resulted in an uncontrollable cascade of power and ultimately, a catastrophic system failure.<sup>4</sup> This failure caused a domino effect, rapidly spreading to states across the Midwest and the Northeast.<sup>5</sup> The result: billions of dollars in damage and tens of millions of people stranded in the dark.<sup>6</sup>

We are all connected. There is no better way to appreciate the broad interconnectedness of modern society than to consider the electric power grid in the United States. The United States has created a system where, now more than ever, the most minor event—such as a tree falling on a transmission line in Wyoming—can result in power failure as far away as California, and can

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\* J.D., University of Illinois College of Law, 2008; M.A. Economics, University of Oklahoma, 2003; B.S. Aeronautical and Astronautical Engineering, University of Illinois, 2000. The author would like to thank Professor Paul Stancil for his insight into energy law and his suggestion of this topic.

1. U.S.-CAN. POWER SYS. OUTAGE TASK FORCE, FINAL REPORT ON THE AUGUST 14, 2003 BLACKOUT IN THE UNITED STATES AND CANADA: CAUSES AND RECOMMENDATIONS 1 (2004).

2. *Id.* at 25.

3. *Id.* at 45.

4. *Id.* at 46. Richard Pérez-Peña, *Utility Could Have Halted '03 Blackout, Panel Says*, N.Y. TIMES, Apr. 6, 2004, at A16; see also, Eric Slater & Ricardo Alonso-Zaldivar, *Millions of Paths to Blackout; To Find the Cause of the Power Outage, Experts Must Study Innumerable Bits of Data from Many Local Systems – from Ohio to New York*, L.A. TIMES, Aug. 19, 2003, at A8.

5. U.S.-CAN. POWER SYS. OUTAGE TASK FORCE, *supra* note 1, at 74.

6. *Id.* at 1.

divert an aircraft landing at San Francisco International Airport.<sup>7</sup> Our world became one where seemingly insignificant and isolated events can shut down an entire region of the country.<sup>8</sup>

A morass of problems looms on the horizon as the power grid balances ever so precariously, straining to meet the growing demands of modern civilization. Crises have already hit the nation. The massive power failures across the Northeast in 2003, and perhaps more spectacularly in California in 2001, should be shocking examples of a massive utility on the brink of failure.<sup>9</sup> Obvious security considerations aside, repercussions of such failures risk the health, safety, and welfare of potentially hundreds of millions of Americans.

Over the past century, power grids have become more and more interconnected, growing into modern mega-networks spanning across states and regions.<sup>10</sup> As the size of these networks increased, their management and design have become more critical.<sup>11</sup> Decisions relating to the power grids no longer affect a single city limited to thousands of people, but now reach millions across entire regions of the United States.<sup>12</sup> Though the grids have grown, the power of regulating these networks has remained with the state and local authorities, not evolving relative to the growth of the networks.<sup>13</sup> Previously, due to the limited scope of the issues, state and local decision-makers had the capacity to make adequate decisions regarding the appropriate management of the utilities. Now, with the wide-reaching nature of these networks, state and local governments cannot be expected to make decisions that consider the interests of all who are affected by these networks. Provincial management now drives many critical decisions relating to the siting and construction of grid infrastructure, inappropriately burdening residents of other areas of the state and, more importantly, neighboring states.<sup>14</sup>

This is of tremendous concern because, within a state, citizens are able to participate in the legislative process, sorting out inequities and enacting legislation by consensus. However, when one state burdens the residents of a neighboring state through decisions affecting the common power system, the victims' representation and rights are impeded.

The evolution of the electricity network should prompt policy makers to

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7. See Tim Golden, *2d Power Failure in 6 Weeks Creates Havoc for the West*, N.Y. TIMES, Aug. 12, 1996, at A13 (discussing the first of two major blackouts effecting the western region in less than six weeks); see also *Blackout Inquiry Looks at Wyoming Plant*, N.Y. TIMES, July 5, 1996, at A18. (reporting that a short-circuit in Wyoming may have caused blackouts in eight Western states). Falling tree limbs are among the top three contributors to electricity service interruptions in the United States. RICHARD BROWN, *ELECTRIC POWER DISTRIBUTION RELIABILITY* 104 (2002). Animals and lightning are the other two main contributors. *Id.*

8. Pérez-Peña, *supra* note 4, at A16.

9. Golden, *supra* note 7, at A13. See generally U.S.-CAN. POWER SYS. OUTAGE TASK FORCE, *supra* note 1 (identifying deficiencies in the current power scheme and providing recommendations to prevent future blackouts).

10. ENERGY LAW AND TRANSACTIONS § 52.01(6)(b) (David Muchow & William Mogel eds., Aug. 2007).

11. *Id.* at § 52.01(6)(d).

12. Peter Behr, *Electricity Overseer Says Grid Must Grow*, WASH. POST, Oct. 17, 2007, at D2.

13. *Id.*

14. Robert Hamilton, *A Battle over Larger Power Lines*, N.Y. TIMES, July 28, 2002, at 14CN.

reconsider the implications of what previously were strictly intrastate decisions. Decisions regarding maintenance, construction, or upgrades to the electric power system have turned inherently interstate in the twenty-first century. In light of ever-increasing consumption demands,<sup>15</sup> it must be questioned whether state regulatory bodies have the right, morally or legally, to opt out of necessary infrastructure, thereby threatening the delicate balance of an entire region of the country. In other words, since nobody wants to live next to a power plant, or near high power transmission wires, can one state force those burdens on other states?

An innovative framework is needed that permits enforcement of states' responsibilities with respect to other states. Using the dormant Commerce Clause, courts can play a role in preventive intervention by invalidating decisions that endanger the regional power grid when state regulators veto proposals for needed power plants and transmission lines.

This Note will begin by exploring why the modern electric power network is so delicate, and how its spidery web is able to reach so wide and far. Section II presents a basic introduction to the physical and technological nature of the modern electricity grid, including how electricity is generated and transmitted to the user. This section also shows how the electric grid grew to a point where everything is interconnected, where one small event can have serious consequences literally thousands of miles away. The history and the current state of energy regulation at both the state and federal level are explored, including a brief history of Commerce Clause jurisprudence. Section III explains the need for a comprehensive federal regulatory structure, and why solutions do not appear to be likely through either state or federal regulatory measures. This being so, Section IV proposes how the courts can use the Commerce Clause to hold state regulators accountable for decisions they make. The article culminates by describing the pros and cons of implementing the standard balancing test associated with the dormant Commerce Clause, and improvements on the test are suggested to more adequately handle these difficult issues.

## II. BACKGROUND

In an effort to establish common ground for analysis of the issue, this section will begin with a brief introduction to power transmission in the United States. This section will discuss the general mechanics involved in the generation and distribution of electric power, emphasizing the fragility of the system and our society's extreme interconnectedness. Subsequently, this section walks through the development of Commerce Clause jurisprudence, and examines the history of both the federal and state electric power regulatory frameworks.

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15. *Id.*

### A. Power Transmission

There is hardly an aspect of modern society that does not depend on the use of electricity.<sup>16</sup> Electricity is available in every home and building, and is accessible at the flick of a switch. It is a commodity upon which modern society relies, not only for comfort but for survival.<sup>17</sup>

When the flow of electricity fails, there can be disastrous consequences, as have been shown on a number of occasions over the last decade.<sup>18</sup> One dramatic example occurred in 2003, when the entire Northeastern region of the United States experienced a major electrical system failure, forcing 261 plants offline,<sup>19</sup> and affecting eight states in the Northeast and Midwest, as well as the Canadian province of Ontario.<sup>20</sup> The complete blackout resulted in an estimated damage of between four and ten billion dollars in the United States alone.<sup>21</sup> Canadians estimated an additional 2.3 billion dollar loss.<sup>22</sup> These estimates account only for the monetary damages. Consider the human factors: limited back-up power in hospitals and nursing homes (where patients and residents rely on electric powered life-support instruments),<sup>23</sup> safety and security issues relating to loss of street lamps, traffic signals and communications systems; people trapped in subway tunnels; and health threats relating to loss of heating or air conditioning systems.<sup>24</sup>

Electricity is distributed to consumers using a combination of transmission and distribution lines that form the electric power grid.<sup>25</sup> These lines supply constant and dependable electricity to millions of users. Energy stored in fuels, such as coal, oil and natural gas, is converted into electricity by means of combustion,<sup>26</sup> generally at a thermal generating plant.<sup>27</sup> These plants burn fuels to create heat<sup>28</sup> used to boil water, which generates pressurized steam.<sup>29</sup> The steam then drives turbine blades on large electric generators.<sup>30</sup>

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16. U.S. FED. POWER COMM'N, THE 1970 NATIONAL POWER SURVEY, PART IV: TECHNICAL ADVISORY COMMITTEE REPORTS TO THE FEDERAL POWER COMMISSION 3-16 (1971).

17. *Id.* Service reliability requirements vary with the nature of the load and area being served. A very high degree of reliability is considered essential for metropolitan downtown areas since a service interruption in these locations adversely affects large groups of individuals and businesses, and continuous operation of elevators as well as other public facilities is essential. *Id.*

18. Golden, *supra* note 7, at A13.

19. Les Pereira, *Cascade to Black, Similarities Between the 14 August, 2003 Blackout and the Western System Collapses of 1996*, IEEE POWER & ENERGY MAG., May/June 2004, at 54, 54.

20. U.S.-CAN. POWER SYS. OUTAGE TASK FORCE, *supra* note 1, at 1.

21. *Id.*

22. *Id.*

23. CAL. CODE REGS. tit. 22, § 72641 (2006). Hospitals and nursing homes are generally required to have back-up electricity generators to be used temporarily in the event of a power failure. *Id.*

24. James Barron, *The Blackout of 2003, the Overview; Power Surge Blacks out Northeast, Hitting Cities in 8 States and Canada; Midday Shutdowns Disrupt Millions*, N.Y. TIMES, Aug. 15, 2003, at A1.

25. FRED BOSSELMAN ET AL., ENERGY, ECONOMICS AND THE ENVIRONMENT; CASES AND MATERIALS 656 (2000).

26. *Id.* at 654.

27. KENNETH H. SEBRA, *Thermal Generating Plants*, in THE ELECTRIC POWER ENGINEERING HANDBOOK 2-20 (Leonard L. Grigsby ed., 2001).

28. George Karady, *Introduction* to THE ELECTRICAL ENGINEERING HANDBOOK 1295-96 (Richard C. Dorf ed., 1997).

29. *Id.*

Engineers have also found ways of harnessing the tremendous energy of falling water or the steam pressure from a thermal spring to drive turbine generator blades.<sup>31</sup> Because the electric power grid is so massive, thousands of generators across the country are required to supply enough power to meet consumers' demand.<sup>32</sup>

The backbone of the electricity grid is formed by the transmission lines, which are designed to serve as "trunk" lines to move electricity from generation locations to the vast numbers of consumers a significant distance away.<sup>33</sup> Electricity is consumed at a relatively low voltage,<sup>34</sup> but transmitting electricity at low voltage levels is impractical for long distance transmission due to significant voltage losses.<sup>35</sup> When electricity voltage levels are low, simply moving across wires results in voltage loss.<sup>36</sup> At higher voltages, the transmission loss is greatly reduced.<sup>37</sup> In order to be able to move power around the country without such loss, the voltage is "stepped-up" to a very high level at the electric power plant.<sup>38</sup> This makes it possible to deliver the electricity over thousands of miles with negligible voltage loss.<sup>39</sup> At the destination, the electrical voltage from the transmission lines is "stepped-down" and distributed throughout the local distribution networks that crisscross our cities.<sup>40</sup> Distribution lines deliver power to each home and office, and each of these becomes an electrical load on the system.<sup>41</sup>

One of the great technical challenges of supplying electricity across such an extensive network is that, generally, electricity cannot be stored.<sup>42</sup> The rate at which electricity is used must be the rate at which electricity is generated.<sup>43</sup>

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30. SEBRA, *supra* note 27, at 2-20. "Thermal generating plants are designed and constructed to convert energy from fuel (coal, oil, gas, or radiation) into electric power." *Id.* "The actual conversion is accomplished by a turbine-driven generator." *Id.*

31. Steven R. Brockschink et al., *Hydroelectric Power Generation*, in THE ELECTRIC POWER ENGINEERING HANDBOOK 2-1 (Leonard L. Grigsby ed., 2001) ("Hydroelectric power generation involves the storage of a hydraulic fluid, normally water, conversion of the hydraulic energy of the fluid into mechanical energy in a hydraulic turbine, and conversion of the mechanical energy to electrical energy in an electric generator."). Hydroelectric plants make up approximately 22% of the world's power generation. *Id.*

32. ENERGY INFORMATION ADMINISTRATION, EXISTING CAPACITY BY ENERGY SOURCE (Oct. 22, 2007), <http://www.eia.doe.gov/cneaf/electricity/epa/epat2p2.html>.

33. BOSSELMAN ET AL., *supra* note 25.

34. George G. Karady, *Concept of Energy Transmission and Distribution*, in THE ELECTRIC POWER ENGINEERING HANDBOOK 4-4 (Leonard L. Grigsby ed., 2001) [hereinafter Karady, *Concept*].

35. GIOVANNI MIANO & ANTONIO MAFFUCCI, TRANSMISSION LINES AND LUMPED CIRCUITS 22 (2001).

36. A.M. HOWATSON & P.G. LUND, PRINCIPLES OF HEAVY CURRENT ENGINEERING 64 (L. Solymar ed., 1974).

37. *Id.*

38. HOWATSON & LUND, *supra* note 36, at 64.

39. *See id.* (explaining transmission at higher voltage helps overcome the resistance loss in the transmission lines).

40. U.S. FED. POWER COMM'N, *supra* note 16, at 3-2 ("Distribution is that system component that delivers the energy from the generators or the transmission system to the customers. It includes the substations that reduce the high voltage of the transmission system to a level suitable for distribution, and the circuits that radiate from the substation to the customers."). Voltage is generally reduced to 120 volts for average residential consumption. *Id.*

41. Karady, *Concept*, *supra* note 34, at 4-6.

42. BOSSELMAN ET AL., *supra* note 25, at 655.

43. U.S.-CAN. POWER SYS. OUTAGE TASK FORCE, *supra* note 1, at 6.

Therefore, in order to maintain a stable electrical grid, network engineers must actively manage the constant delicate balance between generation and demand.<sup>44</sup> Network managers schedule power plant generation during a specific window of time depending on the expected demand.<sup>45</sup> Though somewhat predictable, there is often considerable variation in the demand on the electric power grid throughout any given day,<sup>46</sup> and it is the manager's responsibility to keep the network within a very narrow range of limits.<sup>47</sup> To accomplish this, sophisticated computer systems employ mathematical models to monitor and schedule power generation.<sup>48</sup> At any given time, there are numerous power generation stations operating simultaneously, adjusting the power available in direct relationship with the demand of users.<sup>49</sup> Load levels on the transmission lines are continually monitored by devices that give critical feedback to the system operator about the health of the system.<sup>50</sup> This equipment, along with standard operating procedures can, under certain conditions, automatically start up and shut down generators or help the operator do so manually, based on system behavior.<sup>51</sup>

Theoretical models used to monitor the system consider both variable and constant loads on the system.<sup>52</sup> Engineers recognize that across a city or region, a constant demand exists for a certain amount of electricity regardless of external factors.<sup>53</sup> This constant demand, for example in the form of street lights and household refrigerators (appliances that must be running constantly), is referred to as the base load.<sup>54</sup> Network designers have recognized that generating plants, such as nuclear and coal-burning facilities, operate most efficiently at a constant rate.<sup>55</sup> Costs associated with starting and stopping a nuclear generation plant can quickly make its operation prohibitively expensive.<sup>56</sup> Hence, these power stations operate very inexpensively when they are supplying electricity for the "base load" and run for months on end.<sup>57</sup> In contrast, network designers have come to rely on smaller natural gas or

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44. U.S. FED. POWER COMM'N, *supra* note 16, at 2-40.

45. *Id.*

46. BOSSELMAN ET AL., *supra* note 25, at 655 ("The demand for electricity varies considerably on both daily and yearly cycles.").

47. U.S.-CAN. POWER SYS. OUTAGE TASK FORCE, *supra* note 1, at 8 (explaining that stability problems can develop in as little as 1/60th of a second.); HOWATSON & LUND, *supra* note 36, at 65. "The transmission network must be operated in a way that keeps the voltage and frequency constant within very narrow limits." BOSSELMAN ET AL., *supra* note 25, at 656.

48. FED. POWER COMM'N, *supra* note 16, at 2-85.

49. Karady, *Concept*, *supra* note 34, at 4-7.

50. *Id.* at 4-4.

51. BOSSELMAN ET AL., *supra* note 25, at 656; Karady, *Concept*, *supra* note 34, at 4-3 ("The safe operation of the system requires switches to open lines automatically in case of fault, or manually when the operation requires it.").

52. BOSSELMAN ET AL., *supra* note 25, at 655 ("The type of fuel, its cost, and generating plant efficiency can determine the way a particular generating plant is used.").

53. *Id.* ("[B]ase load 'must run' plants, mostly nuclear and newer coal plants, which have low fuel costs and cannot be turned off and on rapidly.").

54. *See id.* (describing base load facilities as "must run" facilities).

55. *See id.* (noting that such plants have low fuel costs but high startup and shutdown costs).

56. *Id.*

57. *Id.*

diesel plants for shorter peaks in load at various times throughout the day, because the power production of these plants is much easier to ramp up at a moment's notice to meet the fluctuating demand throughout the day.<sup>58</sup>

Since electricity generally cannot be stored, balancing the system is absolutely critical.<sup>59</sup> Even a slight imbalance in the power grid can lead to system abnormalities, which have the potential to damage generator turbines or transmission lines if the input to the power grid is too small or too great.<sup>60</sup> To protect this valuable infrastructure, network fail safes are in place to automatically cut off sections of the grid if a power over-load or under-load develops.<sup>61</sup> If the load deviates drastically, then the system risks a devastating total collapse.<sup>62</sup>

In addition to maintaining the supply-versus-demand balance, network engineers must constantly be concerned about the flow of electricity over the transmission lines.<sup>63</sup> High voltage transmission lines are designed to carry an enormous amount of electric power,<sup>64</sup> but there is a limit to the amount of flow that can travel through the line at one time.<sup>65</sup> Electric power flowing through the lines must be closely regulated to prevent overheating and damage to the lines.<sup>66</sup> Since the network is a system of loops and branches, regulating power transmission becomes very complicated.<sup>67</sup>

### *B. Hyper-Connectedness*

The modern electric power grids grew from isolated population centers.<sup>68</sup> As the local urban networks expanded to include rural areas and neighboring towns, incentives were created to connect previously separate electricity transmission networks.<sup>69</sup> Today, almost all electric power grids reach across state boundaries.<sup>70</sup> Though it would be technologically feasible, the United States does not have a single electric power grid.<sup>71</sup> There are three separate regional transmission networks in the United States: the Eastern Interconnection, the Western Systems Coordinating Council, and the Texas

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58. *Id.* (“[P]eaking plants, typically natural gas or diesel fueled, which have higher operating costs but are relatively inexpensive to build and can be taken on and off line quickly.”).

59. *Id.*

60. *Id.*

61. U.S.-CAN. POWER SYS. OUTAGE TASK FORCE, *supra* note 1, at 54 (stating that network controllers plan for and maintain surplus generators on standby, which can be activated if necessary).

62. Arun Phadke, *Transmission Protection*, in *THE ELECTRICAL ENGINEERING HANDBOOK* 1372 (Richard C. Dorf ed., 1997).

63. BROWN, *supra* note 7, at 33.

64. *Id.* at 5.

65. *Id.*

66. *Id.* at 8.

67. George Karady, *Energy Distribution*, in *THE ELECTRICAL ENGINEERING HANDBOOK* 1435-38 (Richard C. Dorf ed., 1997).

68. See generally PERCY DUNSHEATH, *A HISTORY OF ELECTRICAL POWER ENGINEERING* 141-56 (1962) (describing the history and development of the electric grid in the United States).

69. *Id.*

70. BROWN, *supra* note 7, at 5.

71. *Id.*

Interconnection.<sup>72</sup> A regional grid connecting the Western states began developing as early as the 1920s; however, it was not until the construction of the Pacific Northwest-Southwest Intertie in 1968 that states along the West coast could enjoy significant power-sharing.<sup>73</sup> The regional grids as a group have expanded to cover the entire country, and the industry estimates that the system contains more than 200,000 miles of transmission lines and is worth more than one trillion dollars.<sup>74</sup>

The benefits of joining the power infrastructure across multiple states are significant.<sup>75</sup> When demand exceeds capacity in the system, the regionalized network allows managers to increasingly turn to out-of-state suppliers to fill electricity shortfalls.<sup>76</sup> However, there is a problem with the growing reliance on out-of-state suppliers of electricity. The transmission infrastructure is not robust enough to handle such an enormous volume of electricity.<sup>77</sup> When too many communities turn to distant generators to supply their needs, long-distance transmission lines easily become bottlenecked.<sup>78</sup>

An example of such a bottleneck is "Path 15," California's main intrastate North-South transmission highway.<sup>79</sup> Along this corridor, long-distance transmission lines narrow from three to two.<sup>80</sup> When it was built, its capacity was sufficient for its use,<sup>81</sup> but over a period of two decades California's demand for electricity has significantly expanded.<sup>82</sup> During the summer months, Northern California exports massive amounts of hydroelectric generated electricity to help meet the Southern California air conditioning demands.<sup>83</sup> In the winter, Northern California's hydroelectric power production decreases and Southern California repays the favor by sending power north to help with the demands in the Bay Area.<sup>84</sup> As early as the 1980s, the capacity of the two Path 15 lines was predicted by network

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72. U.S. CONG. OFF. OF TECH. ASSESSMENT, *ELECTRIC POWER WHEELING AND DEALING: TECHNOLOGICAL CONSIDERATIONS FOR INCREASING COMPETITION* 36 (1989); BOSSELMAN ET AL., *supra* note 25, at 656.

73. U.S. FED. ENERGY REGULATORY COMM'N, *POWER POOLING IN THE WESTERN REGION* 74 (1981); John A. Casazza, *Understanding the Transmission Access and Wheeling Problem*, PUB. UTIL. FORTNIGHTLY, Oct. 1985, at 39, 39.

74. U.S.-CANADA POWER SYS. OUTAGE TASK FORCE, *supra* note 1, at 5.

75. U.S. FED. POWER COMM'N, *supra* note 16, at 2-4.

76. HOWATSON & LUND, *supra* note 36, at 63.

77. *Id.* at 64.

78. U.S. FED. POWER COMM'N, *supra* note 16, at 2-7.

79. Press Release, Fed. Energy Reg. Comm'n, *Comm'n Moves to Ease West Coast Transmission Constraints, Approves Rate Treatment for Key Project* (June 12, 2002), available at <http://www.wapa.gov/sn/ops/transmission/path15/FERCapproval/transmission.pdf>.

80. Energy Serv. Bulletin, *Path 15 Upgrade Project Uses Teamwork to Break Transmission Bottleneck*, June 2004, <http://www.wapa.gov/es/pubs/esb/2004/june/jun0410.htm>.

81. *See id.* (noting that this expansion has been planned since the 1980s).

82. U.S. DEPT. OF ENERGY, *ENERGY EFFICIENCY AND RENEWABLE ENERGY, EERE STATE PARTNERSHIPS AND ACTIVITIES, CALIFORNIA ENERGY STATISTICS* (2004), [http://www.eere.energy.gov/states/state\\_specific\\_statistics.cfm/state=CA#consumption](http://www.eere.energy.gov/states/state_specific_statistics.cfm/state=CA#consumption) ("California electricity consumption increased by 67,414 million kilowatt-hours (kWh) between 1980 and 2001, representing an annual average increase of 1.6%.")

83. Press Release, Fed. Energy Reg. Comm'n, *supra* note 79.

84. *Id.*

engineers to be insufficient for long-term demand projections.<sup>85</sup> As seasonal demands on the system shifted, managers fought to balance pockets of congestion, which built up on these lines.<sup>86</sup>

Despite electricity transmission reliability being a national objective,<sup>87</sup> it was not until the Western energy crisis of 2001 and the resulting rolling blackouts that the Department of Energy acted to relieve the “severely limited flow of electric power” along Path 15 by building a third transmission line.<sup>88</sup> The line was completed in 2004, and is currently under the joint ownership of the federal government and private entities.<sup>89</sup> Though Path 15 marks a grave failure of the state political system to cope with the dynamics of a regional electric network, California is not the only state with congestion problems. The Department of Energy estimates that congestion along the East Coast Corridor will cost consumers as much as eight billion dollars.<sup>90</sup>

The fragile balance of the regional systems is difficult to overstate. Even relatively minor happenings in one place can have a catastrophic effect across an entire region, the entire nation, or several nations. An example of a blackout with international ramifications is the Northeast Blackout of 2003.<sup>91</sup> An in-depth joint U.S.-Canadian investigation attributed the blackout to mistakes made by electric power managers in Ohio who failed to isolate local network problems and thereby allowed the entire region to crash.<sup>92</sup>

To further emphasize this point, officials now link a major 1996 blackout that affected parts of eight western states, plus parts of Canada and Mexico, to a single tree that fell on a power line in Idaho.<sup>93</sup> The loss of power caused air transport flights to be diverted at San Francisco International Airport, and caused brownouts and surges as far away as Arizona.<sup>94</sup> This incident illustrates why infrastructure shortfalls like Path 15 are such critical issues: the vulnerability of a wholly intrastate transmission line, such as the one severed by the tree in Idaho, can have enormous effects not only on the state in which it is situated, but an entire region or country.

The interconnection of the electric power systems will only grow. Aggressive research is currently being conducted to find ways to further increase the efficiency of transmission lines and thereby increase line capacity.<sup>95</sup> Superconducting technology promises virtually perfect

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85. Intent to Relieve Path 15 Transmission Constraints, 66 Fed. Reg. 31,909 (June 13, 2001).

86. Bill Dietrich, *California's Energy Planners Looking to Canadian Power*, L.A. TIMES, Jul. 10, 1989, § 4, at 1-2.

87. U.S. FED. POWER COMM'N, *supra* note 16, at 2-5, 2-7.

88. Intent to Relieve Path 15 Transmission Constraints, *supra* note 85.

89. Energy Serv. Bulletin., *supra* note 80.

90. David C. Johnston, *Grid Limitations Increase Prices for Electricity*, N.Y. TIMES, Dec. 13, 2006, at A1.

91. U.S.-CAN. POWER SYS. OUTAGE TASK FORCE, *supra* note 1, at 1.

92. *Id.* at 45; *see also* Pérez-Peña, *supra* note 4, at A16 (discussing the investigation's findings that Ohio could have prevented the blackouts).

93. Golden, *supra* note 7, at A13.

94. *Id.*

95. Press Release, Oak Ridge Nat'l Lab., Dep't of Energy, New Superconductor Research Laboratory Dedicated (Apr. 19, 2001) (on file with author).

transmission efficiency, allowing electricity to be carried over long distances with no losses.<sup>96</sup> Conceivably, a generator in Arizona could supply power to states in New England as efficiently as it would to the local community. Projections on future electricity demands indicate that it will only grow,<sup>97</sup> therefore interstate effects will also continue to grow, as will the need for interstate regulation.

### *C. The Commerce Clause and the Regulation of Electric Power*

Article I Section 8 of the U.S. Constitution establishes the Federal Commerce Power,<sup>98</sup> and allows Congress to regulate commerce among the states.<sup>99</sup> There are two types of Commerce Clause power: positive and dormant.<sup>100</sup>

The positive Commerce Clause refers to Congress' express constitutional authority to regulate areas of commerce affecting more than one state.<sup>101</sup> States have the power to regulate commerce in the absence of federal regulation when the matter is not discriminatory and is so local as not to require uniform federal regulation.<sup>102</sup>

The original scope of states' power under the positive Commerce Clause allowed each state to regulate "commerce, which is completely internal . . . and which does not extend to or affect other States."<sup>103</sup> However, over the years this window of exclusive jurisdiction has widened considerably. In *Cooley v. Board of Wardens*, the U.S. Supreme Court upheld nondiscriminatory state law regulating ship pilots, even though federal law also regulated the matter.<sup>104</sup> The Court reasoned in part that this constituted a localized issue overriding federal regulation.<sup>105</sup>

Congress' power to regulate "all things commercial" expanded until the Court changed direction in *United States v. Lopez*, invalidating the Federal Gun Free Zone Act because gun possession was not seen as commercial activity that substantially affected interstate commerce.<sup>106</sup> Under the modern interpretation of the Commerce and Supremacy Clauses, Congress has a positive power to regulate 1) channels of interstate commerce; 2) instrumentalities of interstate commerce; and 3) single-state activities that

96. HOWATSON & LUND, *supra* note 36, at 64.

97. See NAT'L ENERGY POLICY DEV. GROUP, NATIONAL ENERGY POLICY: RELIABLE, AFFORDABLE, AND ENVIRONMENTALLY SOUND ENERGY FOR AMERICA'S FUTURE, at 1-1 (2001) ("U.S. energy consumption is projected to increase by about 32 percent by 2020.")

98. U.S. CONST. art. I, § 8, cl. 3.

99. *Id.*

100. See JOHN NOWAK & RONALD ROTUNDA, CONSTITUTIONAL LAW 319 (7th ed. 2000) (discussing the dormant Commerce Clause).

101. See *id.* at 157 (examining the language of the Commerce Clause).

102. *Cooley v. Bd. of Wardens*, 53 U.S. 299, 318-19 (1852).

103. *Gibbons v. Ogden*, 22 U.S. 1, 194 (1824).

104. *Cooley*, 53 U.S. at 320-21.

105. *Id.* at 314.

106. *United States v. Lopez*, 514 U.S. 549, 559-68 (1995).

substantially affect interstate commerce.<sup>107</sup>

The dormant Commerce Clause is essentially a restriction on states' ability to discriminate against, or unduly burden, interstate commerce.<sup>108</sup> Many aspects of interstate commerce are so local in nature that Congress does not attempt to regulate them.<sup>109</sup> When Congress has not preempted state regulation, two different tests—the heightened scrutiny test and the *Pike* Balancing test—are used to determine if a state is allowed to regulate the matter.<sup>110</sup>

When a state overtly discriminates against out-of-state interests in the form of a tariff or trade barrier, the regulation must be absolutely necessary to promote a legitimate interest.<sup>111</sup> The most famous case of overt interstate discrimination is *Dean Milk Co. v. City of Madison*, where the U.S. Supreme Court struck down a Wisconsin ordinance forbidding the sale of pasteurized milk outside of Madison unless inspected by local officials.<sup>112</sup> Another case involving discrimination against state imports is *Hunt v. Washington State Apple Advertising Commission*, where the Court found that a North Carolina law forbidding the importation of Washington apples without a USDA marking violated the U.S. Constitution because the practical effect of the law was to protect the local apple industry in the state.<sup>113</sup>

In addition, in *City of Philadelphia v. New Jersey*, the Court struck down a New Jersey statute due to its discriminatory intent. The statute had banned most out-of-state solid and liquid waste for the purpose of preventing in-state landfills from filling up with out-of-state waste.<sup>114</sup> In a seven-two decision, the Justices pointed out that the state had other means of deterring the dumping of waste coming from other states, such as creating a uniform tax or paying a state subsidy.<sup>115</sup> The Court applied the heightened scrutiny test in all of the previous cases.<sup>116</sup> Key to the Court's decisions was the goal of promoting an economic union between the states by preventing economic protectionism.<sup>117</sup>

When a non-discriminatory state law poses a burden on interstate commerce, the Court has applied a balancing test rather than the virtual per se rule of the heightened scrutiny test.<sup>118</sup> In *Pike v. Bruce Church*, the Court struck down an Arizona statute that prohibited a commercial farming operation from transporting uncrated cantaloupes to packing and processing facilities located across the border in California.<sup>119</sup> The Court weighed Arizona's

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107. *Id.* at 558-59.

108. *Minnesota v. Cloverleaf Creamery Co.*, 449 U.S. 456, 471 (1981).

109. *See Cooley*, 53 U.S. at 314 (pointing out that some issues are inherently local).

110. NOWAK & ROTUNDA, *supra* note 100, at 322.

111. *City of Philadelphia v. New Jersey*, 437 U.S. 617, 629 (1978).

112. *Dean Milk Co. v. City of Madison*, 340 U.S. 349, 353-57 (1951).

113. *Hunt v. Washington State Apple Adver. Comm'n*, 432 U.S. 333, 354 (1977).

114. *City of Philadelphia*, 437 U.S. at 629.

115. *Id.*

116. NOWAK & ROTUNDA, *supra* note 100, at 328.

117. *Id.*

118. *Id.* at 325.

119. *Pike v. Bruce Church*, 397 U.S. 137, 137 (1970).

legitimate interests against the burden the statute imposed on interstate commerce to decide whether the burden was “clearly excessive.”<sup>120</sup> The state claimed that the purpose of the statute was to protect the reputation of local growers by prohibiting the shipment of poor quality and deceptively labeled produce.<sup>121</sup> The impact of the statute was to require the grower to build a \$200,000 packaging facility in Arizona, thereby delaying the shipment of the produce for months, potentially costing the grower the entire crop of cantaloupes for the year—an estimated loss of \$700,000.<sup>122</sup> Because the Court found that requiring the grower to construct a new and unneeded facility was clearly excessive in relation to the benefits of avoiding poor quality produce, misleading packaging, and enhanced local industry reputation, the Court struck down the statute.<sup>123</sup>

The Court also found that a state rule burdened interstate commerce in *Southern Pacific Co. v. Arizona*, holding that an Arizona law forbidding long railroad trains was unconstitutional because it greatly disrupted interstate train schedules without significantly enhancing safety.<sup>124</sup> In addition, in *Kassel v. Consolidated Freightways*, the Court found that an Iowa regulation prohibiting double semi-trucks on Iowa roads created a clearly excessive burden on commerce because it had the practical effect of banning out-of-state trucks in favor of local trucking.<sup>125</sup>

When a statute regulates even-handedly with the objective of accomplishing local interests that affect interstate commerce, the constitutionality of the statute is determined by weighing the legitimate local interests against the burden on interstate commerce.<sup>126</sup> Under the *Pike* balancing test, the plaintiff must show that the burden on commerce is “clearly excessive.”<sup>127</sup> State laws of this type are presumptively valid, meaning that the state is likely to win if it can provide facts supporting a legitimate state interest.<sup>128</sup> This showing of evidence constitutes the rational basis standard.<sup>129</sup> Despite this low evidentiary standard, the state is still required to show that the means employed under the regulation present the least burden on commerce.<sup>130</sup>

#### D. The Energy Regulatory Environment

The nineteenth century saw the introduction of electric illumination,<sup>131</sup>

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120. *Id.* at 140-42.

121. *Id.* at 143.

122. *Id.* at 140.

123. *Id.* at 145.

124. *S. Pac. Co. v. Arizona*, 325 U.S. 761, 783 (1945).

125. *Kassel v. Consol. Freightways*, 450 U.S. 662, 678-79 (1981).

126. *Pike*, 397 U.S. at 142.

127. *Id.*

128. *See Kassel*, 450 U.S. at 670 (stating those who challenge bona fide safety regulations must overcome a strong presumption of validity).

129. *McCulloch v. Maryland*, 17 U.S. 316, 316 (1819).

130. *Dean Milk Co. v. Madison*, 340 U.S. 349, 349 (1951).

131. PERCY DUNSHEATH, A HISTORY OF ELECTRICAL POWER ENGINEERING 134 (1962) (explaining that Edison filed a patent for the incandescent light bulb in November 1879). Electric arc-lamps were installed in

and with the growth of the new industry came the beginning of a need for regulation. The first pieces of legislation regulating utilities came from states at the end of the nineteenth and first years of the twentieth century.<sup>132</sup> As the industrial revolution took its first steps, scientists endeavored to create incandescent illumination as one of the ways to use the power of electricity to transform life and society in a new era. Beyond simple convenience, electric illumination allowed for the lengthening of the work day and dramatically increased the efficiency of commercial manufacturing.<sup>133</sup> As a result, electricity became an absolute necessity in modern life.

It was apparent early in the development of broad commercial electrification that governmental regulation would be necessary.<sup>134</sup> In the absence of comprehensive regulation, the industry providing electricity to users grew into an incoherent patchwork of companies.<sup>135</sup> The company supplying power to street lamps was invariably different from that supplying power for household or industrial needs.<sup>136</sup> Lack of standards and cooperation between these companies resulted in poor reliability, duplication of lines and incompatibility between voltage and type of electrical current delivered.<sup>137</sup> These problems prompted the government's decision to regulate the industry from a very early stage.<sup>138</sup>

As the electric power industry evolved, business interests, including economies of scale and centralized control of operations, led the diverse field of independent producers and distributors to begin to coalesce into a few "Power and Light" corporate holding companies.<sup>139</sup> These new conglomerates, using the business structures of the railroads and oil companies as models, began supplying large pockets of users and, in some cases, even entire cities.<sup>140</sup>

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Paris' Gare-du-Nord in 1875. *Id.* at 141. Incandescent illumination soon took over Europe and the United States. *Id.* at 145. Edison introduced the first electric power station in New York in 1882. *Id.* at 144.

132. ERNEST ABRAMS, *POWER IN TRANSITION* 7-9 (1940).

133. MALCOLM MACLAREN, *THE RISE OF THE ELECTRICAL INDUSTRY DURING THE NINETEENTH CENTURY* 96-97 (1943) (discussing specifically the electrification of steel mills by the Westinghouse Company, which included both lighting and power, and exploring the introduction of electricity by other companies to industry).

134. *Id.* at 145-49.

135. BOSSELMAN, ET AL., *supra* note 25, at 642.

136. *Id.*

137. DUNSHEATH, *supra* note 131, at 151.

138. See SEYMOUR DWIGHT THOMPSON, *THE LAW OF ELECTRICITY: A TREATISE ON THE RULES OF THE LAW RELATING TO TELEGRAPHS, TELEPHONES, ELECTRIC LIGHTS, ELECTRIC RAILWAYS, AND OTHER ELECTRIC APPLIANCES* 74-77 (1891) (listing several nineteenth-century statutes regulating the electric industry); see also HOWATSON & LUND, *supra* note 36, at 63 (explaining that the Electricity Supply Act of 1926 established regulatory bodies to control and thereby standardize power generation).

139. DUNSHEATH, *supra* note 131, at 133-34. In an interesting legal note, the first joint merger of an electric light company was the result of threatened litigation over a patent dispute between Thomas Edison and his British rival Joseph Swan, creating the Edison and Swan United Electric Light Company, Ltd. *Id.*; see also INTERNATIONAL COMPARISONS OF ELECTRICITY REGULATION 179-80 (Richard J. Gilbert et al., 1st ed. 1996) (describing the historical, institutional, and economic forces affecting electricity regulation).

140. DUNSHEATH, *supra* note 131, at 134. As early as 1892, a group of major manufacturers led by Westinghouse formed the General Electric Company. *Id.* This is a good example of the electricity holding company where one company holds shares of another company. *Id.*

### 1. Federal Regulation

From previous experience with the railroad and petroleum industries, the federal and state governments recognized the potential for problems in emerging corporate conglomerates.<sup>141</sup> The railroad and oil trusts had forced governments to create regulatory bodies to help prevent shady business practices.<sup>142</sup> State public utility commissions generally possess exclusive licensing authority over a wide range of utilities. Industries including telecommunications, natural gas, water service, motor carriers, railroads, electric power, and even consumer protection and safety generally fall under the jurisdiction of these state commissions.<sup>143</sup> The U.S. Supreme Court has given the green light to state government regulation of a business enterprise if the business is “affected with a public interest.”<sup>144</sup>

In contrast, the scope of the federal government’s regulation of the electric power industry has been much narrower; manifesting itself only in very specific circumstances. The Federal Power Commission (“FPC”) was created in 1920 to regulate wholesale electricity prices and interstate electric transmission.<sup>145</sup> In recognition of the special environmental and safety concerns inherent in the generation of electric power by means of nuclear energy and hydroelectric dams, Congress took steps to create agencies granting the authority to regulate in these particular areas.<sup>146</sup> To this end, the Atomic Energy Act of 1954 requires permits from the Nuclear Regulatory Commission for both the construction and operation of a nuclear-fueled power generation facility.<sup>147</sup>

Hydroelectric generating plants, on the other hand, have long been regulated differently. The Federal Power Act of 1920 gives exclusive licensing to plants constructed on navigable streams, thereby preempting state authority to license on these waterways.<sup>148</sup> The justification given for Congress to regulate this narrow sector of the electricity market was the interstate riparian effects that result when one state dams a part of an interstate

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141. ENERGY INFORMATION ADMINISTRATION, PUBLIC UTILITY HOLDING COMPANY ACT OF 1935: 1935-1992 1 (1993), available at <http://tonto.eia.doe.gov/ftproot/electricity/0563.pdf>. The Public Utility Act of 1935 contained the Public Utility Holding Company Act, designed to restructure the electric power industry and bolster utility regulation of activities seen as abusive. *Id.*

142. The Public Utility Commission of Ohio was created in 1867 primarily to address the regulatory concerns of the railroad and telegraph industries. Electronic Brochure, THE PUBLIC UTILITIES COMMISSION OF OHIO, AGENCY OVERVIEW 1, <http://www.puco.ohio.gov/emplibrary/files/media/Publications/Brochures/PUCO%20Agency%20Overview.pdf> (last visited Mar. 13, 2008).

143. *See generally id.* (discussing regulation of Ohio’s utility services); CALIFORNIA PUB. UTIL. COMM’N, WORK PLAN 2006 (Jan. 17, 2006), [http://www.cpuc.ca.gov/word\\_pdf/REPORT/53008.pdf](http://www.cpuc.ca.gov/word_pdf/REPORT/53008.pdf) (discussing regulation of California’s public utilities).

144. *Munn v. Illinois*, 94 U.S. 113, 126 (1876).

145. Federal Power Act, 16 U.S.C. §§ 791-825 (2000). In 1977, the authority to formulate national energy policy was centralized under the Department of Energy with the passing of the Department of Energy Organization Act. 42 U.S.C. § 7101 (2000). With this act, the Federal Power Commission was replaced by the Federal Energy Regulatory Commission as an agency under the Department of Energy. *Id.*

146. Atomic Energy Act of 1954, 42 U.S.C. § 2011 (2000).

147. *Id.*

148. 16 U.S.C. §§ 791-828 (2000).

river.<sup>149</sup> Some argue that Congress' real motivation in regulating this narrow (and insignificant) slice of energy commerce was more to counteract, or at least to limit, the evils of major electric companies in the early part of last century, in the absence of the political will to take on broad regulatory responsibility.<sup>150</sup>

Since the 1960s, electric transmission has concerned the federal government only to the extent that transmission lines are associated with a generation plant over which the federal government has exercised jurisdiction.<sup>151</sup> Congress has specifically limited its involvement in regulating power to matters that are not subject to state legislation.<sup>152</sup> In 1992 Congress passed the Energy Policy Act, which gave the Federal Energy Regulatory Commission ("FERC") the authority to force transmission line owners to accommodate the movement of electricity to the extent that it is in the "public interest."<sup>153</sup> This includes the authority to force transmission companies to expand capacity to meet the prevailing need. The only limit in the Act was that it not "unreasonably impair" the reliability of the network (i.e. dependability and security) according to national reliability standards.<sup>154</sup>

By referring to national reliability standards, Congress was indirectly sanctioning the procedures and technical expertise of the North American Electric Reliability Council ("NERC") and the ten regional reliability councils, which essentially act as self-regulating bodies of the electric power industry.<sup>155</sup> The NERC is an accredited developer of standards under the American National Standards Institute, and is responsible for setting the standard transmission voltage levels in the United States.<sup>156</sup> These bodies have played a central role in the evolution and development of the industry over the last three decades, but their effectiveness has been questionable. Recently, officials at the NERC have complained about the organization's ineffectiveness due to its lack of enforcement power:

Recent changes in the electric industry have altered many of the traditional mechanisms, incentives and responsibilities of the entities involved in ensuring reliability, to the point that the voluntary system of compliance with reliability standards is generally recognized as not adequate to meet current needs.<sup>157</sup>

Federal jurisdiction over the electrical grid is based on its direct effect on

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149. See § 797(a) (requiring authorization for dams).

150. *Id.*

151. § 824(b).

152. § 824(a). The FERC was born from the 1977 reorganization of the FPC. Department of Energy Organization Act of 1977, Pub. L. No. 95-91; Exec. Order No. 12,009, 42 Fed. Reg. 46,267 (Sept. 13, 1977).

153. Energy Policy Act of 1992, Pub. L. No. 102-486, 106 Stat. 2776.

154. *Id.*

155. BROWN, *supra* note 7, at 5.

156. U.S. FED. POWER COMM'N, *supra* note 16, at 2-1, 3-27. Other federal regulatory agencies that make decisions affecting the electrical network include the Department of Transportation, Department of the Interior and Forest Service, Federal Aviation Administration, Federal Housing Administration, and Housing and Urban Development. BOSSELMAN ET AL., *supra* note 25, at 656.

157. U.S.-CAN. POWER SYS. OUTAGE TASK FORCE, *supra* note 1, at 10-11.

interstate commerce. The U.S. Supreme Court cited the Commerce Clause in upholding the FPC's jurisdiction over wholesale electric power involved in interstate commerce in 1964.<sup>158</sup> The decision emphasized that when the supplier of power is located in a neighboring state, federal jurisdiction is triggered.<sup>159</sup> In a subsequent case, the Court expanded FPC jurisdiction over a Florida electric company engaged solely in commerce in a single state.<sup>160</sup> The decision highlighted the fact that the company involved was tied to the interstate electricity grid.<sup>161</sup> If electricity reaches another state, regardless of how small the amount, it is considered to flow in interstate commerce.<sup>162</sup> The Court rested its holding on the nature of electricity, precluding the differentiation between interstate and solely intrastate electricity once the electricity enters the network flow.<sup>163</sup>

## 2. State Regulation

Beyond the above detailed sector regulation preempted by Congress, states are generally proactive in exercising their authority to control the construction, modification and operation of electric power facilities within their boundaries.<sup>164</sup> Every state has passed an enabling act authorizing the state's public utility commission to license both the construction and siting of power generation stations and power lines.<sup>165</sup> This includes the authority to inspect, enforce, and license public utilities.<sup>166</sup> Though the federal government has preempted states in the area of regulating the wholesale electricity prices, states have authority to control the retail rates for sales to end customers.<sup>167</sup>

The California Energy Commission ("CEC") is an example of a state regulatory commission that plays an active paternal role in overseeing the state's electric power industry. In California, the Commission has exclusive jurisdiction over licensing power generation facilities under the California Environmental Quality Act of 1970.<sup>168</sup> California Public Resources Code

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158. Fed. Power Comm'n v. S. Cal. Edison, Co., 376 U.S. 205, 210 (1964). The state of Texas is largely exempt from federal regulation because the state's transmission lines have avoided crossing state boundaries. *Id.* The state's electric power system is regulated by the Electric Reliability Council of Texas. ELECTRIC RELIABILITY COUNCIL OF TEXAS, ANNUAL REPORT 2005, available at [http://www.ercot.com/news/presentations/2006/2005\\_Annual\\_Report.pdf](http://www.ercot.com/news/presentations/2006/2005_Annual_Report.pdf).

159. *Id.*

160. Fed. Power Comm'n v. Florida Power & Light Co., 404 U.S. 453, 469 (1972).

161. *Id.* at 472.

162. *Id.* at 462-63 ("We do not find it necessary to approve or disapprove the Federal Power Commission's analysis based on unity of electromagnetic response. Its alternative assertion that energy commingles in a bus is, in our opinion, sufficient to sustain jurisdiction.")

163. *Id.* at 467-68.

164. Rhode Island, Colorado, and Ohio are examples of states with legislation empowering the state utility commission to control power development within the state. R.I. GEN. LAWS § 39-1-30.1 (2006); COLO. REV. STAT. § 40-5-101 (2004); OHIO REV. CODE ANN. § 4906.03 (LexisNexis 2007).

165. Nat'l Assoc. of Regulatory Util. Comm'rs, About NARUC, <http://www.naruc.org/about.cfm> (last visited Jan. 10, 2008). The organization boasts membership of all fifty states and the District of Columbia. *Id.*

166. See *supra* note 164.

167. 16 U.S.C. § 824(b) (2000) (providing authority to regulate wholesale prices). An example of state legislation protecting consumer prices can be found in COLO. REV. STAT. ANN. § 40-3-101 (2004).

168. California Environmental Quality Act, CAL. CODE REGS. tit. 14 (2006).

section 25500 provides:

[T]he [C]ommission shall have the exclusive power to certify all sites and related facilities in the state, whether a new site and related facility or a change or addition to an existing facility. The issuance of a certificate by the commission shall be in lieu of any permit, certificate, or similar document required by any state, local or regional agency, or federal agency to the extent permitted by federal law, for such use of the site and related facilities, and shall supersede any applicable statute, ordinance, or regulation of any state, local, or regional agency, or federal agency to the extent permitted by federal law . . . . [No] construction of any facility or modification of any existing facility shall be commenced without first obtaining certification for any such site and related facility by the [C]ommission, as prescribed in this division.<sup>169</sup>

The CEC is the lead agency in California for certifying facilities and stipulating conditions of construction, operation, and retirement.<sup>170</sup>

In California, a developer is required to submit a proposal to the state regulatory body to construct a new generator or to install new transmission lines.<sup>171</sup> The application process imposes a substantial burden on the electric company to demonstrate that there is a need for the proposed infrastructure and that the facilities will not pose undue harm to the environment.<sup>172</sup> Construction application requirements are relatively standard compared with those of other states across the nation.<sup>173</sup> The company must present detailed design drawings and building plans, including blueprints of the facility.<sup>174</sup> Specifications relating to the electrical hardware, construction materials of transmission towers and the building foundation, and total estimated capital costs are also required.<sup>175</sup> A developer must also show analysis of the current local electric power service in order to justify the need for additional facilities.<sup>176</sup>

In most states, local or regional air pollution control districts and the regional water quality control board must approve all power generation facilities prior to construction.<sup>177</sup> Consultation with local city or country land

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169. CAL. PUB. RES. CODE § 25500 (2006). Virginia requires a certificate of convenience. VA. CODE ANN. § 56-265.2.A (2005). (“It shall be unlawful for any public utility to construct, enlarge or acquire, by lease or otherwise, any facilities for use in public utility service, except ordinary extensions or improvements in the usual course of business, without first having obtained a certificate from the Commission that the public convenience and necessity require the exercise of such right or privilege.”)

170. Cal. Energy Comm’n, General Information, <http://www.energy.ca.gov/commission/index.html> (last visited Jan. 16, 2008).

171. CAL. ENERGY COMM’N, ENERGY FACILITY LICENSING PROCESS: DEVELOPERS GUIDE OF PRACTICES & PROCEDURES 4 (2000) [hereinafter CAL. ENERGY COMM’N, ENERGY FACILITY].

172. *Id.*

173. *Id.* at 3.

174. N.Y. COMP. CODES R. & REGS. tit. 16 §§ 86.1-86.10, 88.1-88.6 (2005).

175. *Id.* §§ 88.1-88.6.

176. *Id.*

177. CAL. ENERGY COMM’N, ENERGY FACILITY, *supra* note 171, at 19, 33. *E.g.*, CAL. PUB. UTIL. CODE § 6202 (2007).

use planning boards is also required.<sup>178</sup> These agencies and councils direct the developer on how to follow the various local ordinances and standards that relate to the project.<sup>179</sup> Some states have acted to consolidate this application process, resulting in a streamlined review which can decrease development cycles down to as little as six months.<sup>180</sup>

In the case of California's CEC, a staff of specialists works to independently examine the environmental, health and safety, and engineering aspects of proposed projects.<sup>181</sup> Their analysis culminates in a determination of whether a proposed project may proceed or whether changes must be made by the developer.<sup>182</sup> The report issued by the Commission is not an environmental impact survey, but its purpose is similar in that it identifies potential problems and directs mitigation procedures.<sup>183</sup>

### III. DISCUSSION

The analysis of this issue begins by arguing that the solution will not be found in the state legislature. This section describes various impediments to local and state regulation in this matter, including why local bodies have no incentives to consider effect within a regional scope. Finally, this section examines the inaction on the part of federal legislators who have failed to use their authority to address this issue despite having knowledge of the crisis for many years.

#### *A. The Unlikely Prospect of a State Regulatory Solution*

State governments delegate their police power to regulate land use to local growth management bodies.<sup>184</sup> These management bodies have a wide variety of tools to shape and control the development in the local area.<sup>185</sup> Controls such as zoning and building codes are among the powers authorized by states to assure adequate infrastructure to support community development.<sup>186</sup> Permits are routinely conditioned upon the payment of an impact fee, used by the government to build adequate roads, schools, parks, and drainage. In certain circumstances communities may require dedication of easements of property before a permit is issued.<sup>187</sup>

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178. CAL. ENERGY COMM'N, ENERGY FACILITY, *supra* note 171, at 25; *see also* KY. REV. STAT. ANN. § 278.020(3) (requiring a certificate of public convenience and necessity prior to submission of application.).

179. CAL. ENERGY COMM'N, ENERGY FACILITY, *supra* note 171, at 18.

180. Al Picardi et al., *Fast-Track Development Strategies*, ELECTRIC PERSPECTIVES, Mar.-Apr. 2001, [http://www.eei.org/magazine/editorial\\_content/nonav\\_stories/2001-03-01-fastrack.htm](http://www.eei.org/magazine/editorial_content/nonav_stories/2001-03-01-fastrack.htm).

181. Cal. Energy Comm'n, Systems Assessment and Facilities Siting Division, <http://www.energy.ca.gov/siting/index.html> (last visited Jan. 16, 2008).

182. CAL. ENERGY COMM'N, ENERGY FACILITY, *supra* note 171, at 40.

183. *Id.* at 18.

184. JULIAN JUERGENSEMEYER & THOMAS ROBERTS, LAND USE PLANNING & DEVELOPMENT REGULATION LAW 47 (2003).

185. *Id.*

186. *Id.*

187. *Id.* at 47-48, 350-52; *see also* Dolan v. Tigard, 512 U.S. 374, 386 (1994) (grappling with the

Under the states' police power, local governments' growth management bodies could take a more active role in mandating solutions at the subdivision level to meet the increased electric demand caused by proposed developments. Regardless of whether communities are able to appropriately manage development in their area, their focus will tend to be local, and will fail to take state and regional interests into account.

### 1. *Community Veto Power*

Compliance with state impact requirements can be a challenge, but heated opposition to new projects by local residents can present even tougher barriers for electric power companies. Despite the recent rapid growth in population in many areas, communities do not want the associated infrastructure.<sup>188</sup> Campaigns against the installation of new power plants and transmission lines have already seen notable success.<sup>189</sup>

The local community's campaign and subsequent defeat of the Southgate California electric power facility proposal is a good example of community opposition to new power generation facilities. In 1999, construction of a power generation plant was planned on the site of an existing diesel truck depot.<sup>190</sup> Critics conceded that the new power plant would actually reduce pollution emission.<sup>191</sup> This improvement, along with a range of financial incentives for the municipality and local schools, was not enough to appease community opposition.<sup>192</sup>

In addition to generation plant construction projects, the siting of new transmission lines is another target for community opposition.<sup>193</sup> California-based Pacific Gas and Electric Company proposed a vital transmission line upgrade and associated construction of new power substations to meet the

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controversial constitutional issues arising out of the local government's ability to condition the use of private land, where major issues include due process, equal protection, and takings); *cf.* *Nollan v. Cal. Coastal Comm'n*, 483 U.S. 825, 837-42 (1987) (refusing to uphold the grant of an easement, because there was not an essential nexus between the state interest and the permit condition).

188. Michael Pena, *Power Suppliers Encounter Opposition in Tri-Valley Area*, S.F. CHRON., Nov. 4, 2000, at A17.

189. SierraClub.org, Environmental Law Program, Coal Victories Across the Nation!, <http://www.sierraclub.org/environmentallaw/coal/victories.asp> (last visited Mar. 12, 2008) (listing successful campaigns waged by the organization and others to oppose new coal fired electric power plant facilities).

190. Mark Berstein et al., *Power to the Cities: A Homegrown Way to Recharge California*, 25-2 RAND REV. 20, 23 (2001). In 2001, Sunlaw Energy Company withdrew their CEC application for certification for the facility in response to a city-wide vote, a hunger strike by the town's Mayor, and allegations of environmental racism for proposing to cite a power plant in poor ethnic minority neighborhoods. *Id.* Alternative arguments have been proposed regarding which came first: "the environmental hazard or the racial and/or class make-up of the area. This alternative argument suggests that facilities [in this case the Southgate Facility] were not being disparately sited in poor or minority areas, but that market dynamics led to poor certain categories of people living in those areas after facilities have been built." S. Hayden Lesbirel & Daigee Shaw, *Facilities Siting: Issues and Perspectives*, COLUMBIA EARTHSCAPE, 6, <http://www.faess.jcu.edu.au/downloads/facility&20siting%20perspectives.pdf> (last visited Mar. 12, 2008).

191. Berstein et al., *supra* note 190, at 20, 23.

192. *Id.*

193. Hamilton, *supra* note 14, at § 14CN; Scott Gold, *Communities Fighting \$270-Million Power Line*, L.A. TIMES, May 14, 2001, at 1.

rapid growth of approximately 50,000 new households in one northern California community.<sup>194</sup> The company originally offered to bury the new transmission lines for the residents, an option significantly more expensive than installing standard over-head lines.<sup>195</sup> With seemingly no basis, opponents feared that the proposed underground cables “might generate an electromagnetic field that could cause cancer or send chunks of street crashing through living-room windows if the underground line explode[d].”<sup>196</sup>

Local communities have tremendous veto power over new construction projects. The local civic groups wield their muscle by threatening to tie up proposed projects with months or years of hearings and litigation; this frustrates utility managers who scramble to find solutions to the technical problems of accommodating the enormous residential growth over the last ten years.<sup>197</sup> The mere prospect of delaying a project can be enough to cause a developer to scrap a project because of the inordinate costs involved.<sup>198</sup> Utility providers’ dilemma is how to safely give people the power they need without stringing new lines or constructing new power plants the people do not want. As the California rolling blackouts of 2001 demonstrated, the network cannot support communities having it both ways.

## 2. *The Problem with Community Veto Power*

The problem with allowing local authorities to have so much veto power over the planning and regulation of local electric power networks lies in the impact local decisions have on the broader network. When local decisions adversely affect citizens as far away as other states, the “inner political check” has failed.<sup>199</sup>

The production and consumption of electricity is an economic transaction. The costs to the company supplying the electricity are generally reflected in the price paid by consumers.<sup>200</sup> However, there are additional costs not reflected in this price.<sup>201</sup> These costs are referred to as economic externalities.<sup>202</sup> Generally, these costs should be paid by those creating the costs—in this case, electricity consumers.<sup>203</sup> However, the value of externalities is difficult to measure, and therefore, it is seen as more acceptable if these costs are borne by an entire population. When borne by a community, affected citizens are represented, and local governments are able to make

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194. Pena, *supra* note 188.

195. *Id.*

196. *Id.* Four months later a follow-up story ran in the Chronicle on how the company bowed to local pressure and presented plans for an alternate route. The article details how local residents were still not satisfied because the alternate route resulted in unsightly lines within views from residents’ homes. Michael Pena, *Sparks Fly Over PG & E Power-Line Plan*, S.F. CHRON., Feb. 13, 2001, at A16.

197. Pena, *supra* note 188.

198. William Glaberson, *Coping in the Age of ‘Nimby’*, N.Y. TIMES, Jun. 19, 1988, § 3, at 1.

199. NOWAK & ROTUNDA, *supra* note 100, at 321-22.

200. ROBERT COOTER & THOMAS ULEN, *LAW & ECONOMICS* 167 (4th ed. 2004).

201. *Id.*

202. *Id.*

203. *See id.* (discussing the internalization of externalities).

decisions about how to deal with the costs in a structured manner.<sup>204</sup> Externalities are much more acceptable when there is some form of representative democracy in place to ensure that all affected parties are represented.<sup>205</sup> Local and state political bodies can better bargain for how these externalities are going to be borne.<sup>206</sup>

Now that electricity networks have expanded, externalities associated with electric generation and transmission have shifted to residents outside of not just the local community, but the state as well. Being able to make such a shift unfairly favors local residents at the expense of out-of-state citizens who are not represented in the state democratic system. When states opt to purchase out-of-state electricity, the citizens who are consuming the electricity are no longer required to bear the entire cost of its production.

Regulatory commissions are only accountable to the legislative and executive branches of their respective states.<sup>207</sup> Considerable problems result when decisions have just as much impact on the network outside of the state borders as on the network within its boundaries. Commissions are candid about their dedication to serve the citizens of their state<sup>208</sup> and have no incentive to protect the interests of people outside of their jurisdiction.<sup>209</sup>

Growing populations and industrial demands have put pressure on states' electricity infrastructure.<sup>210</sup> Technology has provided the ability to import massive amounts of power from neighboring states. This phenomenon has allowed many state officials to sidestep tough energy decisions. A number of states have knowingly allowed their state's production capacity to be eclipsed by their state's energy consumption.<sup>211</sup> Faced with the need to expand capacity, officials have been able to avoid politically unsavory electricity development projects, relying on importation of power from other states.<sup>212</sup> When local constituents block efforts to site needed generation facilities to meet the local demand from the community, authorities turn to out-of-state generators to supply the shortfall, often placating local community

204. *Id.* at 141.

205. *Id.* at 142.

206. *See id.* (giving the example of efficient externality management by Icelandic farmers who hold pastures in common).

207. *E.g.*, OHIO REV. CODE ANN. § 4901.02 (LexisNexis 2008); MICH. COMP. LAWS SERV. § 460.1 (LexisNexis 2008).

208. *See e.g.*, Public Utilities Commission of Ohio, About the PUCO, <http://www.puco.ohio.gov/PUCO/About/index.cfm> (last visited Mar. 12, 2008) ("The PUCO was created to assure Ohioans adequate, safe, and reliable public utility services at a fair price.").

209. *See* THE PUBLIC UTILITIES COMMISSION OF OHIO, *supra* note 142, at 1 (noting the explicit mission to serve Ohio); CALIFORNIA PUBLIC UTILITIES COMMISSION, WORK PLAN 2006 5 (2006), *available at* [http://www.cpuc.ca.gov/word\\_pdf/REPORT/53008.pdf](http://www.cpuc.ca.gov/word_pdf/REPORT/53008.pdf) (discussing its services and objectives for the state of California).

210. *See generally* CAL. ENERGY COMM'N, CALIFORNIA'S SUMMER 2004 ELECTRICITY SUPPLY & DEMAND OUTLOOK, Jul. 2004, [http://www.energy.ca.gov/reports/2004-07-08\\_700-04-005rev.pdf](http://www.energy.ca.gov/reports/2004-07-08_700-04-005rev.pdf) [hereinafter CAL. ENERGY COMM'N, SUMMER 2004] (showing lowering reserves in California); Bill Dietrich, *California's Energy Planners Looking to Canadian Power*, L.A. TIMES, Jul. 10, 1989, § 4, at 1.

211. CAL. ENERGY COMM'N, SUMMER 2004, *supra* note 210, at 4.

212. BOSSSELMAN ET AL., *supra* note 25, at 646. "Robert Mussetter, commissioner of the California Energy Commission . . . is worried about the political struggle necessary to upgrade or replace the state's aging oil- and gas-fired plants." Dietrich, *supra* note 210, § 4, at 1.

opposition.<sup>213</sup>

Failure to construct vital electricity generation capacity, particularly when supplemental power can be imported from out of state, results in a shift of negative externalities.<sup>214</sup> This produces harm that is not represented in the marketplace and results in costs that are not paid by producers or consumers.<sup>215</sup>

Failing to build capacity and thereby turning to the importation of electricity is only a temporary solution. As demand continues to grow, it will ultimately out-stretch the limits of existing transmission and distribution lines.<sup>216</sup> The Path 15 bottleneck is emblematic, merely foreshadowing the potential widespread, over-stretched condition of the network. The most concerning threat is of a system-wide collapse. The damage to a single overloaded line can cost a few millions dollars, but a blackout of a regional network on the scale seen in the Northeast in 2003 can result in billions of dollars in damages, not to mention threats to human safety.<sup>217</sup> Due to the size of these regional electric networks, the lion's share of the damages would be borne by out-of-state victims whose voices are non-existent in the local democratic process.<sup>218</sup>

Externalities are not limited to the siting of power plant and transmission lines; the price of transactions includes additional harm imposed on the natural environment of neighboring states that export electricity. Environmental pollution produced by electric power plants is essentially a zero-sum game.<sup>219</sup> Fossil fuel powered generation plants will emit a certain amount of pollution into the environment.<sup>220</sup> State residents require a certain amount of electricity for consumption. Whether or not a state chooses to prohibit the siting of such plants within their boundaries, meeting the demands of consumers results in pollution. When a state avoids construction of local electricity generating plants and instead turns to generators outside of the state for needed electricity, the pollution is still created—the only difference is that the pollution is created where the users do not feel its adverse effects. States are essentially pushing off the environmental costs onto other states, creating a significant unfair burden on them<sup>221</sup>—a burden that could be discouraged by use of the dormant Commerce Clause.

Certainly, heightening state emissions standards have beneficial effects for the air, land, and water enjoyed by local constituents, and curbing pollution

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213. BOSSELMAN ET AL., *supra* note 25, at 672-74 (discussing San Diego's use of power from New Mexico).

214. *Id.* at 674-75.

215. *Id.*

216. *Id.*

217. U.S.-CAN. POWER SYS. OUTAGE TASK FORCE, *supra* note 1, at 1.

218. *See id.* (discussing 2003 power outage).

219. For the origins of "Comparative Advantage" and "Zero-Sum Game" concepts, see generally DAVID RICARDO, ON THE PRINCIPLES OF POLITICAL ECONOMY AND TAXATION (3d ed.1821) (1817).

220. BOSSELMAN ET AL., *supra* note 25, at 287-88.

221. Dietrich, *supra* note 210, § 4 at 1 ("We're not going to degrade our environment to power air conditioners in Southern California," vowed Calvin Sanborn, staff lawyer for the West Coast Environmental Law Assn. in Vancouver.").

can be instrumental in protecting local natural resources.<sup>222</sup> However, problems occur when states enact environmental laws that inhibit the development of adequate electrical generation capacity. When states do nothing to compensate for the electricity shortfall with alternative renewable sources or fail to reduce local consumption, pollution is shifted onto residents in another state. Though residents would be forced to pay higher prices to import electricity over great distances, electricity prices only reflect the added transmission charges. These increased prices will not reflect the avoided pollution costs that would be paid by out-of-state residents.<sup>223</sup> Residents thereby enjoy the benefits of clean air and water along with as much power as they can purchase. Should not Nevada have a say in how much pollution it is willing to tolerate in order for Californians to have clean air and beautiful views of San Francisco?

### *B. The Unlikely Prospect of a Federal Regulatory Solution*

There are two roles that the federal government could play in increasing the reliability of the electric grid. The first role is that of regulator. The number one recommendation given by the U.S.-Canada Power System Outage Task Force, formed to investigate the August 2003 blackout, was to “[m]ake reliability standards mandatory and enforceable, with penalties for noncompliance.”<sup>224</sup> Currently, there is nothing requiring states to hold industry to the standards. As discussed previously, the self-regulatory model implemented by the NERC falls short in inducing adherence to their standards.<sup>225</sup> Under *Cooley*, the federal government is legally empowered to assert its authority in this area.<sup>226</sup>

The second role is that of facilitator, engaged in finding solutions to foreseeable network challenges. When the National Energy Policy Report of 2001 was published, it specifically identified Path 15 as a major California bottleneck.<sup>227</sup> The report went so far as to recommend that the federal government, through the Department of Energy’s Western Area Power Administration (“WAPA”), sponsor and act as co-owner of an additional transmission line in order to ease the congestion.<sup>228</sup> The project was completed in 2004, and WAPA remains a primary owner.<sup>229</sup> As compared with the individual state governments, the federal government has greater resources and objectivity to develop the network from a broad, national perspective.<sup>230</sup>

There is generally no question that Congress can regulate the electric

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222. Clean Air Act, 42 U.S.C. § 7401 (2000).

223. BOSSELMAN ET AL., *supra* note 25, at 674-75.

224. U.S.-CAN. POWER SYS. OUTAGE TASK FORCE, *supra* note 1, at 3.

225. BOSSELMAN ET AL., *supra* note 25, at 656.

226. *Cooley v. Bd. Of Wardens*, 53 U.S. 299, 320-21 (1852).

227. NAT’L ENERGY POLICY DEV. GROUP, NATIONAL ENERGY POLICY 1-3 (2001).

228. *See id.* at 7-17 (discussing relief of the Path 15 bottleneck).

229. Energy Serv, Bulletin, *supra* note 80.

230. NAT’L ENERGY POLICY DEV. GROUP, *supra* note 227, at 1-3.

power industry because it is an area of commerce with substantial interstate ties.<sup>231</sup> Regulating the implementation of individual power plants and transmission lines at the federal level would provide valuable benefits in being able to strategically plan the overall evolution of the system. In light of the problems that have arisen from inadequate infrastructure implementation, it would be natural for Congress to authorize the Department of Energy to take regulatory control over the national power network. A federal regulatory structure would lend itself to decision making focused on benefiting the nation as a whole. Conceivably, a federal agency would be more removed than a state authority from local political pressures and would be able to compel infrastructure where objectively needed.

Although the issue has been prominent for almost a decade, Congress has yet to move in the direction of enacting a federal regulatory system for the electric power industry. After so much time, it currently seems clear that Congress has no intention of making any major changes in the electric power regulatory structure.

Since states have no incentive to take national or regional objectives into account and since Congress has failed to lead in any meaningful way, perhaps it is time to turn to the courts to protect the electric power grids.

#### IV. RECOMMENDATION

The nature of the current dormant Commerce Clause doctrine allows states to avoid responsibility for their growing energy consumption. This doctrine fails to account for externalities inherent in the transmission of electricity in interstate commerce. Many years have gone by since the Supreme Court updated its method of analyzing burdens on interstate commerce. Since that time, the electric power network, in particular, has grown to a massive size. With this growth, externalities that may have been originally overlooked due to their negligible scale have now grown to a point where they can no longer be ignored.

The Court has a long history of analyzing burdens on interstate commerce.<sup>232</sup> Recognition of externalities as costs that pose real burdens on interstate commerce would be an important move forward in creating incentives for states to make responsible decisions while still taking into account what is best for their respective region as a whole.<sup>233</sup> The current Commerce Clause doctrine must be revised to capture these burdens and to assign them to the users who should ultimately pay these costs.

Nevertheless, proving causation when dealing with externalities in the form of environmental pollution can be difficult.<sup>234</sup> However, calculating the costs related to a regional blackout is much less difficult, and system

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231. BOSSELMAN ET AL., *supra* note 25, at 15.

232. *See supra* part II.C (discussing the development of the Commerce Clause).

233. BOSSELMAN ET AL., *supra* note 25, at 674-75.

234. WILLIAM RODGERS, JR., ENVIRONMENTAL LAW 106-07 (2d. ed., 1994).

technicians have precision tools to determine the cause of the disruption after the fact.<sup>235</sup> After all substantial power disruptions, the NERC independently investigates and publishes reports on their findings.<sup>236</sup> The nature of the system makes it possible for engineers and system operators to autopsy and model the physical characteristics of the power flowing through the network at all points in time prior to the collapse.<sup>237</sup> Using this data, causal links can be identified, allowing courts to determine culpability in most cases. Further, the effects of damages resulting from a collapse of the regional electric grid are fairly easy to quantify. For example, a supermarket can easily calculate the amount of inventory lost as a result of loss of electricity needed to maintain a cold storage facility.

In the event of damage caused by a power failure originating in a particular state, the issue would be whether the incidental effects of the decisions made by state agencies caused excessive harm (that is, damages caused by power system collapse) to interstate commerce. Private parties who can show causal links can generally obtain standing.<sup>238</sup> States can also bring suit against other states in federal court.

When courts look at state legislation that gave rise to the faulty planning that caused the power failure, states generally will not have exhibited discriminatory behavior against an import of a good or service. States typically act evenhandedly by requiring all electric companies that operate power plants in the state to abide by emissions and siting standards.<sup>239</sup> Because the damages caused by the faulty planning are incidental, the courts would likely apply the *Pike* balancing test, thereby relaxing the per se rule and weighing the legitimate local interests against the burden on interstate commerce.

The *Pike* balancing test requires a determination of the state's legitimate interest in regulating a particular area.<sup>240</sup> State interests are typically those which are justified under the state's police power – actions that seek to protect the health, safety and welfare of the citizens.<sup>241</sup> In *Huron Portland Cement Co. v. City of Detroit*, the U.S. Supreme Court recognized that “[l]egislation designed to free from pollution the very air that people breathe clearly falls within the exercise of even the most traditional concept of what is compendiously known as the police power.”<sup>242</sup> Environmental statutes that reasonably seek to protect residents from the ill effects of noxious emissions will likely be accepted by the court as pursuant to the legitimate objective of

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235. Slater & Alonso-Zaldivar, *supra* note 4.

236. Disturbance Analysis Working Group Homepage, North American Electronic Reliability Corporation, <http://www.nerc.com/~filez/dawg.html> (last visited Mar. 12, 2008).

237. *Id.*

238. *Kassel v. Consol. Freightways*, 450 U.S. 662, 670 (1981) (showing how a group of private out-of-state transport companies brought suit against the state of Iowa).

239. CAL. ENERGY COMM'N, *supra* note 171, at 4.

240. NOWAK & ROTUNDA, *supra* note 100, at 320-22.

241. *Huron Portland Cement Co. v. City Detroit*, 362 U.S. 440, 442 (1960).

242. *Id.*

state governments.<sup>243</sup>

In contrast to the *per se* rule under the heightened scrutiny test, the balancing test grants significant deference to the states.<sup>244</sup> Under the *Pike* test, the state's interests are considered justified unless the regulation causes an excessive burden on interstate commerce.<sup>245</sup>

Demonstrating excessive burden is a very high standard and it will be even more difficult in cases that involve shifting externalities with environmental effects. Establishing causal connections in environmental cases has traditionally been problematic.<sup>246</sup> The nature of air and water pollution does not always lend itself easily to assigning responsibility for damage.<sup>247</sup> Further, proving damages can be even more elusive, and speculative damages have very little weight in court.<sup>248</sup>

State agencies already have the authority to plan and approve power infrastructure construction proposals that reflect beneficial, long-term, regional and national policy objectives.<sup>249</sup> Nevertheless, further incentive is necessary for states to take responsibility for current and future electric power infrastructure planning. By reducing the high standard of "excessive burden" on interstate commerce to a standard that recognizes the burden that short-sighted, locally-interested state regulations pose, the Court would create an incentive for state regulators to consider the ramifications their legislation have on their neighbors.

## V. CONCLUSION

Serious threats to the integrity of the entire regional electric power grid exist today because states have failed to meet the growing local demands on the system with adequate electricity infrastructure. The past decade has seen a rash of catastrophic system failures in regions across the country. For a society reliant on electric power, the United States is dangerously close to continued episodes of crisis. When the power goes out, it can have destructive consequences. In the absence of a national regulatory system, incentives are needed to force states to be accountable for their energy policies. These incentives should come through a slight broadening of the Court's interpretation of the Commerce Clause, by recognizing the damage one state can cause to another state through its energy policies. When states fail to make responsible choices for the system as a whole, and choose instead to pass the hazardous effects of their own energy consumption onto other states, they must be held accountable for the unfair burden on neighboring states.

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243. *Id.*

244. NOWAK & ROTUNDA, *supra* note 100, at 326.

245. *Id.*

246. See RODGERS, *supra* note 234, at 106-07 (arguing that causation can be defeated by mechanistic versions of science and "judicial resistance to versions of historical causation presented by plaintiffs.").

247. See *id.* (discussing causation with regard to water and air pollution).

248. *Id.*

249. JUERGENSMEYER & ROBERTS, *supra* note 184, at 47.