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# LAND AND WATER LAW REVIEW

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## Preemption of State Geothermal Regulation—Federalism Gets into Hot Water

*Walter Perry, III\**

As the nation considers its energy future, it turns increasingly to non-traditional sources of energy such as conservation, cogeneration, small hydroelectric projects, solar and geothermal energy.<sup>1</sup> Compared to large nuclear-, coal- or gas-fired plants, nontraditional energy sources are preferable because they are relatively nonpolluting, are not dependent upon imported fuels, and are cost effective in small decentralized units.<sup>2</sup> The federal government and many states have attempted to encourage nontraditional energy sources. The primary federal incentive is the Public Utility Regulatory Policies Act of 1978<sup>3</sup> which requires utilities to purchase energy produced by nontraditional technologies.<sup>4</sup> In addition, developers of nontraditional resources may reap tax benefits, both state and federal.<sup>5</sup> In some cases, low-cost financing may be available.<sup>6</sup>

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\* Assistant Attorney General, Natural Resources Division, Department of Justice, State of Oregon. This article represents the views of the author only and does not necessarily represent the views of the Oregon Attorney General or the Oregon Department of Justice. The author expresses his appreciation for the assistance of Christine Achute, Assistant Attorney General, Department of Justice, State of Oregon.

1. See BUREAU OF THE CENSUS, U.S. DEP'T OF COMMERCE, STATISTICAL ABSTRACT OF THE UNITED STATES: 1986, at 556, 557 [hereinafter STATISTICAL ABSTRACT].

2. Flavin, *Electricity's Future: The Shift to Efficiency and Small Scale Power*, Worldwatch Paper 61, at 6, 7 (Nov. 1984).

3. 16 U.S.C. §§ 2601-2645 (1982).

4. Under the Act, utilities must purchase electricity from "qualified facilities," that is, generators under 80 megawatts. The purchase price is generally set at a rate which the utility would pay for energy from other sources ("avoided costs"). The Act is implemented by the Federal Energy Regulatory Commission (FERC) or by states in accordance with FERC regulations. *Id.* § 2623.

5. Renewable energy resource investment tax credit, Energy Tax Act of 1978, Pub. L. No. 95-618, § 301, 92 Stat. 3174, 3194-201 (1978); acceleration depreciation and depletion allowance for geothermal energy, *id.* §§ 401-404, 92 Stat. at 3201-05; energy tax credit for alternative energy sources, Crude Oil Windfall Profit Tax Act of 1980, Pub. L. No. 96-223, § 231, 94 Stat. 229, 268 (1980). See Grainey, *Recent Federal Energy Legislation: Toward a National Energy Policy at Last?* 12 ENVTL. L. 29 (1981). State tax credits are also available. See OR. REV. STAT. §§ 469.160 to .225 (1985). Some of the federal benefits, however, have expired. See 26 U.S.C. § 46(a)(2)(C)(i) (1982) (many energy property investment tax credits expired on December 31, 1985).

6. For instance, in Oregon, the Small Energy Loan Program provides low interest loans for alternative energy projects. See OR. REV. STAT. §§ 470.050 to .310 (1985). Loan guarantees

Given this encouragement, geothermal development should increase within the next decade. This is especially true if public distrust of nuclear power plants causes a loss of current generating supply as well.<sup>7</sup> This anticipated development may be delayed if current energy surpluses continue.<sup>8</sup> Need for new resources will mainly depend on future economic conditions. Historically, however, geothermal development has been hampered by a lack of information about the location and nature of the resources.<sup>9</sup> Additionally, although the technology for steam-to-electricity conversion is well established, low temperature conversion and "hot dry rock" technologies are still under development.<sup>10</sup>

Geothermal power is relatively nonpolluting because it does not produce the waste associated with coal-fired and nuclear plants.<sup>11</sup> Nevertheless, its development is not entirely benign. Geothermal development can cause air and water pollution, noise, erosion, road building, fish and wildlife disturbance and social and economic disruption.<sup>12</sup> Probably, the most serious impacts associated with geothermal development are the impacts to natural geysers such as those located in Yellowstone Park.<sup>13</sup> Geothermal development at a near active geyser has historically been associated with the destruction of or adverse impact to the geysers.<sup>14</sup> For

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for geothermal development may be available. Geothermal Energy Research, Development, and Demonstration Act of 1974, 30 U.S.C. §§ 1101-1164 (1982). Because demand for these loans exceeded supply, the U.S. Department of Energy announced on March 1, 1982, that it would suspend acceptance of applications for these loans. 47 Fed. Reg. 8555 (Mar. 1, 1982).

7. For instance, a measure on the ballot in November 1986 in Oregon would suspend the operations of Oregon's nuclear-fueled power plant until the federal government opens waste repositories for spent nuclear fuel. The measure failed. See Ballot Measure 14 (copy on file at Land & Water Law Review office).

8. There is a great deal of uncertainty in power-need projections. The Northwest Power Planning Council predicts that new resources may be needed in the Northwest as early as 1989, or there may be no need for 20 years. See NORTHWEST POWER PLANNING COUNCIL, 1986 POWER PLAN 8-12, 8-9. The Bonneville Power Administration (BPA) predicts that regional consumption may actually decline over the next two decades. BONNEVILLE POWER ADMIN., FORECAST OF ELECTRIC CONSUMPTION IN THE PACIFIC NORTHWEST: EXECUTIVE SUMMARY 4 (July 1986).

9. Recent efforts have substantially increased information on the resource. See BONNEVILLE POWER ADMIN., U.S. DEP'T OF ENERGY, EVALUATION RANKING OF GEOTHERMAL RESOURCES FOR ELECTRICAL GENERATION OR ELECTRICAL OFFSET IN IDAHO, MONTANA, OREGON AND WASHINGTON (1985).

10. *Id.* at 96. Hot dry rock consists of relatively water free rock at acceptable depths. Water must be pumped into the system in order to make use of the energy. See *infra* text accompanying notes 29-32.

11. When Congress authorized the leasing of geothermal resources under its control in 1971, it noted: "Environmentally the beneficial results will be from energy production without significant atmospheric pollutions such as those produced from hydrocarbon conversion forming noxious gases or radiation hazards from atomic conversion." It viewed the environmental hazards as limited to water quality control. H.R. REP. NO. 1544, 91st Cong., 2d Sess. (1970), reprinted in 1970 U.S. CODE CONG. & ADMIN. NEWS 5113, 5129.

12. Windren & Marr, *Environmental Problems and Geothermal Permitting*, XIV NAT. RESOURCES L. 675 (1982).

13. Yellowstone Park has at least 200 geysers of which 60 play to a height of 40 feet or more. This is more than any other region in the world. THE GEOLOGIC STORY OF YELLOWSTONE NATIONAL PARK, GEOLOGICAL SURVEY BULLETIN 1347, at 79 [hereinafter BULLETIN 1347].

14. Hamilton, *Geothermal Energy: Trouble Brews for the National Parks*, SIERRA 21, 22 (July/Aug. 1983) (citing Donald White of the U.S. Geological Survey (USGS)). White has noted that for any given geyser area, one can either exploit the area or preserve the geysers; in general, one cannot do both.

instance, Beowawe geyser area of Nevada, once second only to Yellowstone in North America, was destroyed by geothermal exploration conducted in the 1940s and 1950s. Even though commercial development never ensued, all springs and geysers in the area had ceased flowing by 1961.<sup>15</sup>

While encouraging this source of energy, revenue and jobs, the states obviously seek to ensure that development occurs in an orderly fashion and does not adversely affect other important interests. For instance, tourism is now a major industry in the western states.<sup>16</sup> Tourism related to volcanic and geothermal natural features, such as the Lavacast Forest, Mt. St. Helens, Yellowstone Park and Crater Lake provide the states with needed revenues.<sup>17</sup> Remote locations draw campers and hikers precisely because the areas are not developed. Full-scale, geothermal development may be inconsistent with such recreational use. On the other hand, geothermal resources may be located near population centers. The states are clearly interested in protecting the health and safety of urban citizens. The state then, has a clear duty to regulate and mitigate the adverse effects associated with geothermal development. This article addresses the extent of federal preemption of such state regulation.

This article addresses the ways in which the state's role in regulating and mitigating the impacts associated with geothermal development is preempted by federal law. Part I of the article analyzes the current tests employed by the U.S. Supreme Court in addressing preemption challenges to state action. Part II applies these tests in the geothermal context.<sup>18</sup> Part III analyzes case law in the related field of oil, gas, and mineral development.

#### BACKGROUND

Geothermal energy originates from the earth's hot interior and from the decay of radioactive materials in the earth's crust.<sup>19</sup> In some places, this heat comes to the surface in natural vents of hot water and steam. These have been used since prehistoric times for cooking and bathing.<sup>20</sup> Geothermal energy has been classified into four types.

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15. *Id.* Similar destruction of geyser areas in New Zealand and Iceland has also been noted.

16. For instance, in 1983, travelers spent nearly two billion dollars in Oregon, which directly provided jobs and income for 53,000 residents. U.S. TRAVEL DATA CENTER, THE ECONOMIC IMPACT OF TRAVEL ON OREGON COUNTIES 1983 (Mar. 1983) (study prepared for the Tourism Division, Oregon Economic Development Department) (copy on file at Land & Water Law Review office).

17. While most conflict is likely to occur at Yellowstone, Lassen and Mount Rainier National Parks, there are 21 parks system units with significant thermal features.

18. For illustration, this article will focus on Oregon's Energy Facility Siting Law, OR. REV. STAT. §§ 469.300 to .621 (1985).

19. U.S. DEP'T OF ENERGY, DRAFT UNITED STATES GEOTHERMAL ENERGY PROGRAM FIVE YEAR RESEARCH PLAN, 1986-1990, at 1 [hereinafter FIVE YEAR PLAN]. Hereinafter, the Department of Energy is referred to as DOE.

20. *Id.*

The first and most common is hydrothermal energy which consists of water and steam trapped in fractured or porous rocks.<sup>21</sup> Hydrothermal systems are either liquid dominated (hot water) or vapor dominated (steam) depending on the temperature and pressure.<sup>22</sup> The highest quality United States hydrothermal resources are in the western states where relatively young volcanoes or a thinning of the earth's crust are associated with many shallow high temperature sites.<sup>23</sup> Power production requires temperatures in the range of 150 to 360 degrees centigrade with most useful temperatures in the upper end of the range.<sup>24</sup> Approximately 2,400 quads<sup>25</sup> are predicted to be economically recoverable from hydrothermal systems in the United States.<sup>26</sup> This could contribute 95,000 to 150,000 megawatts (MW) of electricity for 30 years.<sup>27</sup>

The second is geopressed geothermal energy which consists of brine containing dissolved methane, at moderately high temperatures and at pressures higher than normal.<sup>28</sup>

The third is hot dry rock which consists of relatively water-free rock at accessible depths.<sup>29</sup> To extract usable heat, the rock must be fractured. Water is then pumped through this fissure system to bring heat to the surface.<sup>30</sup> The most accessible hot dry rock systems of sufficient temperature to produce power lie 1,300 to 2,000 feet beneath the surface and are found mostly in the west in young volcanic centers.<sup>31</sup> Up to 43,000 quads may be accessible and a small but significant portion may be economically recoverable.<sup>32</sup>

The fourth is magma energy which consists of high quality heat contained in molten or partially molten rock at accessible depths in the earth's crust.<sup>33</sup> The accessible depths are currently believed to be between 10,000

21. C. BROOK, R. MARINER, D. MABEY, J. SWANSON, M. GUFFANTI & L. MUFFLER, U.S. GEOLOGICAL SURVEY, HYDROTHERMAL CONVECTION SYSTEMS WITH RESERVOIR TEMPERATURES EQUAL TO OR GREATER THAN NINETY DEGREES CENTIGRADE, CIRCULAR No. 790, at 18 (1978) [hereinafter CIRCULAR 790].

22. *Id.* There are three vapor-dominated systems in the United States. Two (Yellowstone and Lassen) are in national parks, and the third is the Geysers field in California, which supports 21 power plants totaling nearly 1500 megawatts of electricity. U.S. DEP'T OF ENERGY, UNITED STATES GEOTHERMAL TECHNOLOGY, EQUIPMENT AND SERVICES FOR WORLDWIDE APPLICATIONS 24 (1985) [hereinafter GEOTHERMAL TECHNOLOGY].

23. *Id.* at 3.

24. FIVE YEAR PLAN, *supra* note 19, at 8.

25. A quad is a quadrillion British Thermal Units (BTUs). See CIRCULAR 790, *supra* note 21, at 6.

26. *Id.* at 18. The least expensive liquid dominated hydrothermal systems promise to deliver electricity at about 4.2 cents/per kilowatt-hour (cents/kwh). FIVE YEAR PLAN, *supra* note 19, at A-3.

27. CIRCULAR 790, *supra* note 21, at 18.

28. Wallace, Kraemer, Taylor & Wesselman, *Assessment of Geopressed-Geothermal Resources in the Gulf of Mexico Basin*, in CIRCULAR 790, *supra* note 21, at 132.

29. *Id.* DOE is currently supporting research in Fenton, N.M., to demonstrate the economic feasibility of this resource. It reports that electricity can be generated for as low as 6 cents/kwh. FIVE YEAR PLAN, *supra* note 19, at A-5.

30. FIVE YEAR PLAN, *supra* note 19, at 7.

31. *Id.*

32. *Id.*

33. *Id.*

and 30,000 feet.<sup>34</sup> Temperatures are on the order of 850 to 1,200 degrees centigrade.<sup>35</sup> Magma is limited to volcanic regions of the western states as well as Alaska and Hawaii.<sup>36</sup> About 500,000 quads are accessible and a small, but significant portion, may be economically recoverable.<sup>37</sup>

The most common methods for converting geothermal heat into electric power are the dry steam method,<sup>38</sup> the flash steam process,<sup>39</sup> the binary process<sup>40</sup> and the hybrid process.<sup>41</sup> The cost of obtaining useful heat from geothermal reservoirs varies with resource temperatures and depth.<sup>42</sup>

Geothermal development may occur on state, private or federal lands. The state's authority over state and private lands is unquestioned. However, its authority where the federal government controls the land or the resource is less obvious.

In the west, most geothermal resources are controlled by the federal government by virtue of its extensive land holdings.<sup>43</sup> In 1970, Congress enacted the Geothermal Steam Act,<sup>44</sup> opening the way for geothermal leasing and development of federally controlled resources. This act authorized the Department of the Interior (DOI), with the consent of the federal agency managing the surface lands, to issue leases for geothermal development.<sup>45</sup>

34. *Id.* at 9.

35. *Id.*

36. *Id.*

37. *Id.* The scientific feasibility of heat extraction from magma has been demonstrated only in laboratory and small-scale near surface field experiments in Hawaii. The engineering feasibility remains to be determined. *Id.* at 18.

38. In the dry steam process, naturally occurring dry steam is fed through pipelines to steam turbines. Dry steam is the least common of geothermal resources, but is the most economically viable. GEOTHERMAL TECHNOLOGY, *supra* note 22, at 23.

39. The flash steam process involves converting part of the geothermal fluid into steam ("flashing"). The steam is used directly in a turbine and generator to produce electric power. Flash steam technology may be used when the temperature is over 200 degrees centigrade. *Id.*

40. In the binary production process, the heat of the brine is transferred in heat exchangers to a pressurized hydrocarbon working fluid, such as isobutane, which is expanded through a turbine to produce power. Binary cycles are more thermodynamically efficient than flash cycles in the 150 to 200 degrees centigrade range. *Id.* at 24.

41. In a hybrid process, fossil or biomass fuel is used to raise the temperature of a geothermal brine before it is either flashed or fed into a heat exchanger. *Id.*

42. A reservoir temperature more than 200 degrees centigrade, well depth of two kilometers, and average flow rates of about 200 kilograms per hour (kg/hr) has a first year cost, including conversion equipment, of about 3-5 cents/kwh. The equivalent fuel costs for coal-fired electricity is about 2-4 cents/kwh. *Id.* at 43.

43. The federal government owns a great percentage of surface and subsurface lands in many western states. See STATISTICAL ABSTRACT, *supra* note 1, at 196. The Geothermal Steam Act authorizes leasing on all lands under the jurisdiction of the Forest Service or the Department of the Interior, as well as lands where the United States has retained mineral rights. 30 U.S.C. § 1002 (1982); see *United States v. Union Oil Co. of Calif.*, 549 F.2d 1271 (9th Cir.), *cert. denied*, 434 U.S. 930 (1977) (mineral reservation under Stock-Raising Homestead Act of 1916 reserved geothermal resources subject to Act); *Occidental Geothermal, Inc. v. Simmons*, 543 F. Supp. 870 (N. D. Cal. 1982) (developer entitled to make use of private surface to recover resource leased under the Act).

44. 30 U.S.C. §§ 1001-1025 (1982 & Supp. III 1985).

45. *Id.* § 1014(b).

## I. PREEMPTION—GENERAL PRINCIPLES

There are two types of preemption.<sup>46</sup> The first occurs where Congress evidences an intent to occupy completely a given field and the state law falls within that field. Second, even where Congress has not take over an area completely, "state law is still pre-empted to the extent it actually conflicts with federal law."<sup>47</sup>

The United States Supreme Court has redefined the limits of federal preemption during the last ten years.<sup>48</sup> In general, the Court has tended to find new ways to uphold state laws against preemption challenges. The Burger Court has modified the historic preemption analysis, tilting the scales toward the states.

A. *Assumption of Validity of State Law*

The Supreme Court has assumed the validity of state law for decades. The Court clearly articulated this policy in *Rice v. Santa Fe Elevator Corp.*,<sup>49</sup> stating, "Congress legislated here in a field which the States have traditionally occupied. So we start with the assumption that the historic police powers of the States were not to be superseded by the Federal Act unless that was the clear and manifest purpose of Congress."<sup>50</sup> The Burger Court did not create the assumption that state law is valid, but it has clearly embraced it.<sup>51</sup> The assumption is sensible. When Congress does not clearly state its intent to preempt, it essentially leaves the decision to the courts. If the courts foreclose state regulatory power, the state may no longer act in an area that may be of great local concern. If the courts uphold the state law however, the federal government still retains the power to explicitly legislate away state authority.<sup>52</sup> The assumption of validity requires the proponent of preemption to show either in the text of the law or in legislative history, a clear congressional intent to oust state law.

B. *Types of Preemption*

1. *Occupation of the Field.* Within the occupation doctrine, congressional intent to preempt state laws may be either express or implied. Where

46. The doctrine that federal law can "preempt" or override state law is rooted in the juxtaposition of the powers reserved to the states under the tenth amendment, U.S. CONST. amend. X, and the supremacy of federal law under the supremacy clause, *id.* art. VI, cl. 2.

47. *Silkwood v. Kerr-McGee Corp.*, 464 U.S. 238, 248, *reh'g denied*, 465 U.S. 1074 (1984).

48. See Note, *The Preemption Doctrine: Shifting Perspectives on Federalism and the Burger Court*, 75 COLUM. L. REV. 623 (1975); Wiggins, *Federalism Balancing and the Burger Court: California's Nuclear Law as a Preemption Case Study*, 13 U.C. DAVIS L. REV. 3 (1979).

49. 331 U.S. 218 (1947).

50. *Id.* at 230 (citations omitted). The Court would presumably use this assumption in the environmental area when the federal involvement is fairly recent and state powers are longstanding. Common law public nuisance powers in the state would pre-date most if not all federal environmental regulations governing geothermal development. States have traditionally exercised authority over mineral development on federal lands.

51. *N.Y. State Dep't of Social Serv. v. Dublino*, 413 U.S. 405 (1973).

52. As the Court has noted: "[T]he state is powerless to remove the ill effects of our decision, while the national government, which has the ultimate power, remains free to remove the burden." *Penn Dairies v. Milk Control Comm'n*, 318 U.S. 261, 275 (1943).

express congressional intent is absent, the Court has traditionally turned to other indicia of intent. The Court has identified three indices, which are the pervasiveness of the federal regulatory scheme, the national character of the regulated subject matter and the object of the federal law.<sup>53</sup>

Recently, however, the Supreme Court has discounted the importance of the pervasiveness doctrine. It "reject[s], to begin with, the contention that preemption is to be inferred merely from the comprehensive character of the federal" regulatory scheme.<sup>54</sup> Federal laws tend to be detailed and comprehensive in order to effectively address complex problems.<sup>55</sup>

The national character index continues to be an important factor although the Court has narrowed the category to areas which are "necessarily national in import."<sup>56</sup> Factors which determine national character are (1) the congressional attitude towards state regulation of the general area; (2) the degree to which effects of the challenged state regulations are localized so as not to affect other states; and (3) the degree to which the state bases its regulations upon uniquely local conditions.<sup>57</sup>

The court no longer considers the object of the federal law in determining whether or not federal law occupies a field. This factor is now addressed in the second type of preemption analysis: conflict between state and federal laws.<sup>58</sup>

2. *Conflict.* Even if Congress has not set aside a particular area for exclusive federal regulation, it may have intended to preempt any state law which conflicts with the federal program. The intent may be explicit, as where federal law specifically bars state law in addition to or different than federal standards.<sup>59</sup> Where the federal statute contains no explicit language, state law may still fall if it is impossible to comply with both state and federal law<sup>60</sup> or where state law stands as an obstacle to the federal program.<sup>61</sup>

During the last few years the Supreme Court has made it clear that, in evaluating the degree to which a state law stands as an obstacle to a federal program, conflicts between the two schemes will not be presumed.<sup>62</sup>

53. *Rice*, 331 US at 230.

54. *Dublino*, 413 U.S. at 415.

55. *De Canas v. Bica*, 424 U.S. 351, 359 (1976).

56. *Goldstein v. California*, 412 U.S. 546, 554 (emphasis in original), *reh'g denied*, 414 U.S. 883 (1973).

57. Maltz, *The Burger Court, The Regulation of Interstate Transportation, and the Concept of Local Concern: The Jurisprudence Categories*, 46 TENN. L. REV. 406, 420-23 (1979).

58. See *supra* note 48.

59. *Jones v. Rath Packing Co.*, 430 U.S. 519, *reh'g denied*, 431 U.S. 925 (1977); *Ray v. Atlantic Richfield Co.*, 435 U.S. 151 (1978); see also *The Hazardous Material Transportation Act*, 49 U.S.C. §§ 1801-1813 (1982 & Supp. III 1985).

60. *Florida Lime & Avocado Growers, Inc. v. Paul*, 373 U.S. 132, 142-43, *reh'g denied*, 374 U.S. 858 (1963).

61. *Hines v. Davidowitz*, 312 U.S. 52 (1941); *Rath Packing*, 430 U.S. 519.

62. Thus, the Court stated:

We must also be careful to distinguish those situations in which the concurrent exercise of a power by the Federal Government and the States or by the States alone may possibly lead to conflicts and those situations where conflicts will necessarily arise.



Furthermore, the preemptive inquiry is into the relationship between state and federal laws as applied, not merely as written.<sup>63</sup>

The Court however, accepts some conflict where the state and federal schemes have differing purposes. In *Huron Portland Cement Co. v. Detroit*,<sup>64</sup> the Court upheld a local smoke ordinance even though it was impossible for ships to comply with it using the boilers and fuels authorized in the Coast Guard. The Court found the federal scheme was designed to promote ship safety at sea, while the state law was designed to promote health and welfare on land.<sup>65</sup> Most recently the Court, in *Pacific Gas & Electric Co. v. State Energy Resources Conservation & Development Commission*,<sup>66</sup> upheld state regulation of nuclear power plants where the state purpose was economic rather than safety related.

Finally, at least on one occasion, the Court has let a state law stand regardless of conflict, and despite identical state and federal purposes, where the state and federal governments chose different *means* to accomplish this goal. Thus, in *Ray v. Atlantic Richfield Co.*,<sup>67</sup> the Court upheld a Washington law which required a tug escort for oil tankers even though it was a safety measure and the federal government had already imposed safety regulations of oil tankers in the form of design standards.

In summary, the modern preemption doctrine, as articulated by the Burger Court, retains the traditional categories of occupation of the field and conflict. However, the Court has narrowed these categories somewhat. First of all, occupation of the field will not be implied, but will only be found where Congressional intent is explicit. Second, the Court will not base preemption on the possibility of conflict; the necessity of conflict must be shown. Even where conflict is shown, state law may survive where the state and federal laws serve different purposes.

## II. PREEMPTION AS APPLIED TO GEOTHERMAL DEVELOPMENT

These preemption principles are especially important to state authority over geothermal power plant siting. Oregon, like many states, has a siting statute which mandates orderly energy development.<sup>68</sup> It creates a one-stop siting process, consolidating review of all aspects of large scale

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Goldstein v. California, 412 U.S. 546, 554 (1973) (emphasis in original). This may be more of strategic than substantive importance. A facial attack on a state statute is not likely to have a sufficient by detailed record to meet this hurdle. See *Askew v. American Waterways Operators, Inc.*, 411 U.S. 325, *reh'g denied*, 412 U.S. 933 (1973) (declining to preempt state law governing oil spills because it is impossible to determine if there is any conflict, until oil spills occur).

63. *Rath Packing*, 430 U.S. at 526.

64. 362 U.S. 440 (1960).

65. See also *Merrill Lynch, Pierce, Fenner & Smith, Inc. v. Ware*, 414 U.S. 117, 139 (1973) (relating to state and federal securities regulation laws)

66. 461 U.S. 190 (1983).

67. 435 U.S. 151, 171-73 (1978). See also *Exxon Corp. v. Governor of Maryland*, 437 U.S. 117, 132 (1978).

68. OR. REV. STAT. §§ 469.300 to .621 (1985).

energy facilities into one forum.<sup>69</sup> The applicant for a site certificate must address all aspects of development, including socioeconomic impacts, environmental effects, health effects and the need for power.<sup>70</sup> Interested state and local agencies may participate in the hearings and recommend appropriate mitigation for inclusion in the site certificate.<sup>71</sup> Once issued, state and local agencies are bound by the terms of the site certificate and must issue permits necessary for construction and operation.<sup>72</sup> These permits may not contain conditions which are inconsistent with the site certificate.<sup>73</sup> Once the certificate is issued, EFSC and other agencies retain ongoing regulatory authority over the facility.<sup>74</sup> The site certificate is the binding contract between the state and the applicant.<sup>75</sup>

EFSC may also designate areas in the state which are unsuitable as sites for geothermal power plants.<sup>76</sup> EFSC may place these areas completely off-limits to power production regardless of the proposed plant's ability to meet state health and environmental standards.

EFSC has adopted rules designating certain areas as unsuitable on the basis of soils, meteorology, land use, scenic and existing recreational value and population.<sup>77</sup> EFSC has also designated as unsuitable, such federal lands as wildlife refuges, scenic rivers, wilderness areas, and RARE II areas, as well as state scenic rivers and state parks. If the area is designated as unsuitable, EFSC will not issue a permit.<sup>78</sup>

The principle<sup>79</sup> federal law which regulates geothermal power production is the Geothermal Steam Act of 1970.<sup>80</sup> The Act authorizes the Secretary of the Interior (the Secretary) to issue leases for geothermal development.<sup>81</sup>

69. *Id.* § 469.510. Small geothermal facilities, that is, under 25 megawatts, are not subject to the jurisdiction of the Energy Facility Siting Council (EFSC). They are subject to the regulatory authority the Department of Environmental Quality (DEQ) and either the Water Resources Department or the Department of Geologic and Mineral Industries (DOGAMI), depending on the water temperature.

70. *Id.* §§ 469.310, .470(3), .510 (1985).

71. *Id.* § 469.350(3).

72. *Id.* §§ 469.300(20), .400(5).

73. *Id.* § 569.400(5).

74. *Id.* § 469.400(5).

75. *Id.* §§ 469.400(5), .300(20).

76. *Id.* § 469.470.

77. OR. ADMIN. R. 345-40-030 (1985) identifies a number of areas by reference to the *July 1974 Task Force Report* which provides the rationale for areas identified; additional areas around Newberry Crater were designated in response to direction from the Oregon House of Representatives. See 1975 Or. Laws 2332-33 (H. Joint Resolution 28).

78. OR. ADMIN. R. 345-40-020 (1985).

79. Other relevant federal laws include the land management statutes governing the Forest Service, 16 U.S.C. § 551 (1982) (Organic Act of 1897); *id.* §§ 528-531 (Multiple Use, Sustained Yield Act of 1960); see Wilkinson & Anderson, *Land and Resource Planning in the National Forests*, 64 OR. L. REV. 1 (1985), and those governing the Bureau of Land Management, 43 U.S.C. §§ 1701-1784 (1982 & Supp. III 1985) (Federal Land Policy and Management Act (FLPMA)); 42 U.S.C. §§ 4321-4370a (1982 & Supp. III 1985) (National Environmental Policy Act (NEPA)).

80. 30 U.S.C. §§ 1000-1025 (1982 & Supp. III 1985).

81. *Id.* § 1002.

The Secretary has authority to lease lands administered by the DOI including public, withdrawn and acquired lands, lands administered by the Forest Service, and lands conveyed by the United States subject to a reservation of geothermal resources.<sup>82</sup> Certain environmentally sensitive lands are not available for leasing.<sup>83</sup>

Only citizens of the United States, associations of United States citizens, domestic corporations or governmental units may be leaseholders.<sup>84</sup> Leases may not exceed 2,560 acres,<sup>85</sup> and leaseholders are generally limited to 20,480 acres within any one state.<sup>86</sup>

The primary term of a geothermal lease is ten years.<sup>87</sup> A lease may be extended for an additional forty years if steam is developed in commercial quantities.<sup>88</sup> Even if commercial quantities have not been developed, a lease may be extended for five years if it is in a unitized area and drilling has begun.<sup>89</sup> If commercial quantities are then developed, it may be extended another 35 years.<sup>90</sup> At the end of the 40-year period, the lease has preferential rights of renewal if the lands are not needed for other purposes.<sup>91</sup>

Leases in areas with known geothermal resources<sup>92</sup> must be competitively bid.<sup>93</sup> In other areas, leases are granted on a first come, first serve basis.<sup>94</sup>

Leases must contain conditions to insure multiple use of the lands<sup>95</sup> including use by other lessees of the same lands, if feasible.<sup>96</sup> Lessee must use all reasonable precautions to prevent waste of geothermal steam and associated resources.<sup>97</sup>

Lessees must pay royalties based on the amount or value of the steam or heat recovered<sup>98</sup> and on the byproduct minerals derivable from produc-

82. *Id.*

83. *Id.* § 1014(c). These include lands administered in accordance with 16 U.S.C. §§ 1, 2-4 (1982 & Supp. III 1985), fish hatcheries administered by the Department of the Interior, lands within a national recreation area, wildlife refuge, wildlife range, game range, wildlife management area, waterfowl production area, lands devoted to the protection of fish and wildlife threatened with extinction, tribally- or individually-owned Indian trust or restricted lands.

84. 30 U.S.C. § 1015 (1982).

85. *Id.* § 1006.

86. *Id.* Leases operated under an approved cooperative or unit plan are not counted under this section. *See id.* § 1017.

87. *Id.* § 1005(a).

88. *Id.* "Commercial quantities" are defined in *id.* § 1005(d).

89. *Id.* § 1005(c).

90. *Id.*

91. *Id.* § 1005(b).

92. Under 30 U.S.C. § 1020 (1982), the Secretary is required to publish his determinations as to which lands are known geothermal resource areas.

93. *Id.* § 1003.

94. *Id.*

95. *Id.* § 1016.

96. *Id.*

97. *Id.* § 1022.

98. *Id.* § 1004.

tion.<sup>99</sup> Lessees must also pay an annual rental based on acreage.<sup>100</sup> Leases producing in commercial quantities are subject to a minimum royalty in lieu of rent.<sup>101</sup> The Secretary may waive, suspend or reduce the rental or royalty in the interests of conservation or to promote development of the resource.<sup>102</sup>

The Secretary must obtain the consent of the affected federal agency in areas where the surface is not under the authority of the DOI.<sup>103</sup> The agency controlling the surface places conditions on the lease to insure adequate utilization of the lands for the purposes for which they were withdrawn or acquired.<sup>104</sup> If the surface is under the sole jurisdiction of the Department of the Interior, the lease must contain terms and conditions to insure that the lands may continue to be used for their appropriate purposes.<sup>105</sup>

Prior leases<sup>106</sup> or applications for leases or permits<sup>107</sup> under previous mineral leasing acts may be converted to a geothermal lease in areas where there is no known geothermal resource. Conversion is subject to DOI regulation, and the lessee must show substantial expenditures for exploration, development or production of geothermal steam.<sup>108</sup> In known geothermal areas, the land is subject to open bid, but the owner of the lease or application has the right of first refusal.<sup>109</sup> Conversion is limited to a maximum of 10,240 acres.<sup>110</sup>

The Secretary has the authority to revisit the terms and conditions of the lease as not less than ten-year intervals from the date of geothermal production.<sup>111</sup> If the readjustments relate to the use, protection or restoration of the surface, the federal agency with authority over the surface must approve of changes in the terms.<sup>112</sup> Rents and royalties may also be readjusted at twenty-five year intervals beginning thirty-five years after the date geothermal steam is produced.<sup>113</sup>

The Secretary must require the lessee to produce valuable byproducts if it is possible to do so.<sup>114</sup> He may, however, modify or waive this requirement in the interest of conservation of the resource or for other reasons.<sup>115</sup> Production of byproduct material is subject to the rights of preexisting

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99. *Id.* § 1004(b).

100. *Id.* § 1004.

101. *Id.* § 1004(d).

102. *Id.* § 1012.

103. *Id.* § 1014(b).

104. *Id.*

105. *Id.* § 1014(a).

106. *Id.* § 1003(a).

107. *Id.* § 1003(c).

108. *Id.* § 1002(e).

109. *Id.* § 1003(f).

110. *Id.* § 1003(d).

111. *Id.* § 1007.

112. *Id.* § 1007(c).

113. *Id.* § 1007(b).

114. *Id.* § 1008 (1982 & Supp. III 1985).

115. *Id.*

claims covering the same lands or minerals.<sup>116</sup> If the byproduct is leasable under a mineral leasing act, a lessee may convert the lease to a mineral lease.<sup>117</sup> Minerals which are not associated with the geothermal steam are not subject to the lease and may be located under the appropriate mining laws.<sup>118</sup>

A leaseholder may voluntarily relinquish rights under a lease. The lessee is then released from all obligations under the lease except (1) the obligation to drill; (2) the obligation to make payments of accrued rents and royalties; (3) the obligation to place wells in a condition for suspension or abandonment; and (4) the obligation to restore substantially the surface and surface resources.<sup>119</sup>

The Secretary may terminate a lease for violation of regulations or lease terms.<sup>120</sup> The lessee is entitled to a hearing on the claimed violation or proposed termination.<sup>121</sup>

The Secretary may authorize the lessee to suspend operations and production.<sup>122</sup> This may be done either at the request of the lessee or at the Secretary's own motion.<sup>123</sup> In either case, the Secretary may extend the lease term for the period of the suspension and may waive, suspend or reduce the rental or royalty required.<sup>124</sup>

Lessees may join together in a unitization agreement subject to be consent of the Secretary.<sup>125</sup> The Secretary may also require unitization as a condition of a lease.<sup>126</sup>

The Act gives the Secretary broad rulemaking powers.<sup>127</sup> These rules may cover the following areas (1) prevention of waste, (2) development and conservation of resources, (3) protection of the public interest, (4) assignment segregation, extension of terms, relinquishment of leases and unitization, (5) use of the surface, (6) maintenance of an active development program, (7) filing of surety bonds to insure compliance with the terms of the lease, and (8) protection of water quality land other environmental qualities.<sup>128</sup>

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116. *Id.* This section provides that "byproduct" includes "commercially demineralized water for beneficial use in accordance with applicable State water laws. . . ." Leases which are incapable of further commercial production may be extended for byproduct production. *Id.* § 1005(e).

117. *Id.* § 1005(e).

118. *Id.* § 1005(f).

119. *Id.* § 1009 (1982 & Supp. III 1985).

120. *Id.* § 1011.

121. *Id.*

122. *Id.* § 1010.

123. *Id.*

124. *Id.*

125. *Id.* § 1017.

126. *Id.*

127. *Id.* § 1023.

128. *Id.*

### A. *Occupation of the Field*

Congress may oust a state's authority over an activity by determining that an area is subject to exclusive federal authority.<sup>129</sup> In evaluating whether Congress intended to do so in the area of geothermal development, one must first look to the Geothermal Steam Act of 1970 and its legislative history.

The Geothermal Steam Act (Act) was proposed to end uncertainty concerning the authority of the federal government to lease geothermal steam under the Mineral Leasing Acts.<sup>130</sup> In 1970, there was considerable interest in geothermal energy as a substitute for fossil fuels, especially imported oil and gas. The Act encourages orderly development of geothermal resources and allows the government a reasonable royalty.<sup>131</sup> However, the Act does not mandate development of the resource at the expense of all other values. It protects environmentally sensitive areas, such as recreation areas, fish hatcheries, wildlife refuges and water fowl production areas, from development.<sup>132</sup> In addition, the Department of Agriculture may grant or withhold consent for development on lands under its control.<sup>133</sup> The Department may impose special conditions to ensure adequate use of the lands for the purposes for which they were withdrawn or acquired.<sup>134</sup>

The text of the Act will not support the argument that Congress expressly intended to occupy the field. The Act does not expressly allocate state and federal authority over regulation of development. The only explicit recognition of the issue appears in a section which specifically preserves the state's right to enforce water rights.<sup>135</sup> Arguably, by specifically mentioning state water laws, congressional silence as to other areas indicates an intent to preempt state law in other areas. However, the Supreme Court has stated that preemption cannot be based on mere congressional silence, a "clear manifestation" of congressional intent is required.<sup>136</sup>

In similar fashion, two other arguments for occupation based on the text of the Act should be rejected. The first is based on the fact that the Secretary of the Interior is granted broad powers to protect environmental and other natural resource values.<sup>137</sup> However, there is no indication that Congress intended that power to be exclusive. Where Congress has delegated oversight authority to an agency, the court gives deference to the agency's interpretation.<sup>138</sup> If the agency does not attempt to exercise

129. See *supra* text accompanying notes 53-58.

130. H.R. REP. NO. 1544, *supra* note 11, at 5115; see *infra* note 176.

131. 30 U.S.C. § 1004 (1982) (rents and royalties); *id.* § 1003 (competitive bidding); *id.* § 1017 (unitization).

132. *Id.* § 1014(c).

133. *Id.* § 1014(b).

134. *Id.*

135. *Id.* § 1021.

136. *Goldstein v. California*, 412 U.S. 546 (1973).

137. 30 U.S.C. § 1023(b), -(c)(i) (1982).

138. *Chevron U.S.A., Inc. v. Natural Resources Defense Council*, 467 U.S. 837, 844-45 (1984).

exclusive authority, the court will not imply preemption.<sup>139</sup> The Bureau of Land Management (BLM) rules governing geothermal leases<sup>140</sup> have explicitly recognized the state role providing that "[t]he lessee shall comply with all Federal and State standards with respect to the control of all forms of air, land, water, and noise pollution. . . ."<sup>141</sup>

Second, Congress' decision to place some lands off limits<sup>142</sup> might imply an intent not to restrict access to other lands not so protected. The rest of the Act belies this interpretation. Congress clearly provided authority to federal agencies to further restrict available lands.<sup>143</sup> The lands protected by Congress were intended only as a minimum. There is no indication that the states are barred from providing additional protection beyond that minimum.

In addition, inferring an intent to occupy would conflict with the Congressional intent to preserve state environmental law expressed in other federal laws applicable to environmental protection and energy resource development. Congress has clearly stated as a matter of general environmental policy, that it intends that states to play the primary role.<sup>144</sup> Thus, the major federal efforts to combat air pollution,<sup>145</sup> and water pollution,<sup>146</sup> and to regulate mining<sup>147</sup> have been through cooperative programs with the states. The federal government has set minimum standards, below which the states cannot go, in regulating these areas. The states retain the right to enforce more stringent requirements.

Congress' treatment of state jurisdiction over federal facilities provides further support for this view. States may only exercise authority over federal facilities when Congress has clearly and unambiguously provided.<sup>148</sup> Nevertheless, most federal pollution control laws authorize the exercise of state authority over federal projects.<sup>149</sup> Obviously, Congress

139. *Hillsborough County, Florida v. Automated Medical Laboratories, Inc.*, 471 US 707, 717-18 (1985).

140. BLM and USGS manage the Geothermal Leasing Program. See Secretary of the Interior's Order No. 2948 (Oct. 6, 1972). BLM rules are found at 43 C.F.R. Group 3200 (1985).

141. 43 C.F.R. § 3262.6 (1985).

142. Under 30 U.S.C. § 1014(c) (1982), the following types of federal land are placed off limits: national parks, national recreation areas, fish hatcheries, wildlife refuges, wildlife ranges, game ranges, wildlife management areas and waterfowl production areas.

143. *Id.* § 1014(b) grants to the Director of the Department of Agriculture the right to determine whether geothermal leasing shall occur on lands under the Department's control.

144. NEPA states that the "primary responsibility for implementing [environmental] policy rests with the state and local governments." 42 U.S.C. § 4371(b)(2) (1982).

145. *Id.* §§ 7401-7508 (1982) (the Clean Air Act).

146. 33 U.S.C. §§ 1251-1376 (1982 & Supp. III 1985) (the Federal Water Pollution Control Act, which is commonly referred to as the Clean Water Act). "It is the policy of the Congress to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution, to plan the development and use (including restoration, preservation, and enhancement) of land and water resources. . . ." *Id.* § 1251(b).

147. 30 U.S.C. §§ 1201-1328 (1982 & Supp. III 1985) (the Surface Mining Control and Reclamation Act (SMCRA)).

148. *Hancock v. Train*, 426 U.S. 167, 179 (1976).

149. See 42 U.S.C. § 7416 (1982) (Clean Air Act); 33 U.S.C. § 1323(a) (1982) (Clean Water Act); 42 U.S.C. § 6961 (1982) (Resource Conservation Recovery Act (RCRA)); 42 U.S.C. § 4903 (1982) (Noise Control Act).

has expressed a strong desire to preserve state environmental laws, even when they apply to federal facilities. Exempting private development from these laws would violate this intent.

Most, if not all, geothermal leasing in the west will occur in areas where the surface is owned by the federal government.<sup>150</sup> Merely because geothermal development might occur on federal land should not alter the analysis. Traditionally, courts have recognized that state laws apply throughout the state regardless of the ownership of the land in question.<sup>151</sup> Before 1976, conventional legal wisdom held that Congress acted as a proprietor of federal lands, subject to state law, rather than as a sovereign whose actions preempt state law.<sup>152</sup>

However, in 1976, the Supreme Court repudiated this distinction and declared that "Congress exercises the powers both of a proprietor and of a legislature over the public domain."<sup>153</sup> The Court explained that the U.S. Constitution's property clause<sup>154</sup> reserves to the federal government the power to override state authority over federal lands. Nevertheless, congressional intent to exercise federal power, to the exclusion of state laws, must be shown.<sup>155</sup>

Many statutes govern the management of federal lands. The Federal Land Policy and Management Act of 1976<sup>156</sup> contains Congress' most recent expression of intent regarding federal lands. The Act specifically requires the Department of the Interior to develop land use plans which "provide for compliance with applicable pollution control laws, including state and federal air, water, noise or other pollution standards or implementation plans."<sup>157</sup> In addition, holders of rights of way granted either by the BLM or the Forest Service must comply with state health, safety, environmental protection, siting and construction standards which are more stringent than federal standards.<sup>158</sup> At a minimum these sections establish that Congress has no intent to preempt state authority over *all* activities on federal land.<sup>159</sup> Particular activities must then be evaluated on a case-by-case basis.

150. 30 U.S.C. § 1002 (1982) does authorize leasing where the federal government controls only subsurface rights. However, other than the Geisers development in California, the DOI has not made significant use of that authority.

151. *McKelvey v. United States*, 260 U.S. 353 (1922).

152. *See Engdahl, State and Federal Power Over Federal Property*, 18 ARIZ. L. REV. 283, 297 n.50, 352-58 (1967).

153. *Kleppe v. New Mexico*, 426 U.S. 529, 540, *reh'g denied*, 429 U.S. 873 (1976).

154. The property clause of the U.S. Constitution provides, "The Congress shall have Power to dispose of and make all needful Rules and Regulations respecting the Territory or other Property belonging to the United States." U.S. CONST. art. IV, § 3, cl. 2.

155. *Kleppe*, 426 U.S. at 543.

156. 43 U.S.C. §§ 1701-1784 (1982 & Supp. III 1985).

157. *Id.* § 1712(c)(8).

158. *Id.* § 1765(a)(iv).

159. With regard to Forest Service land, 16 U.S.C. § 480 (1982) has long provided that the states shall maintain concurrent jurisdiction over national forests. *See United States v. California*, 655 F.2d 914 (9th Cir. 1980). But see *Granite Rock v. California Coastal Comm'n*, 768 F.2d 1077 (9th Cir. 1985), *rev'g* 490 F. Supp. 1361 (N.D. Cal. 1984), *argued orally*, 55 U.S.L.W. 3410 (1986), for the view that federal permitted activities on federal land are not



### B. Conflict

Even if state law is not preempted by virtue of federal occupation of the field it may be preempted under the second preemption test: conflict with federal regulation or goals. Under this test, state law is preempted to the extent it actually conflicts with federal law. As with the occupation test, congressional intent may be express or implied. On occasion, Congress may explicitly state that it intends to prohibit state laws which are inconsistent with federal law.<sup>160</sup> Congress is rarely that explicit. None of the federal statutes governing geothermal development contain such a provision.

Absent an explicit provision, the two tests for conflict are (1) whether it is physically impossible for a geothermal developer to comply with both state and federal requirements<sup>161</sup> and, (2) even if an accommodation is physically possible, whether the exercise of state authority frustrates or stands as an obstacle to a federal goal.<sup>162</sup>

1. *Physical Impossibility.* Physical impossibility may be either direct or indirect. Where the state and federal government regulate the same activity—for instance, well drilling—direct conflict can easily occur. Thus, if both jurisdictions specify the precise type or size of materials or wells, differences will necessarily conflict. However, if standards are set in terms of allowable minimums or maximums, it may be possible to comply with both standards, even when they cover the same activity.

Even where the state and federal governments do not regulate the same activities, it may be physically impossible to comply with both requirements. Regulation of well size or production rates could indirectly conflict in other areas, such as pollution control or electrical output.

Indirect conflicts, however, are less likely to preempt state law. Where the state and federal government regulate different activities they are probably pursuing different purposes. In such a case, under the modern preemption doctrine,<sup>163</sup> state law will likely survive a preemption challenge.

The Geothermal Steam Act's purpose is to develop the geothermal resource. Leasing, production, and protection of the resource are its main focus.<sup>164</sup> State regulation that either directly or indirectly conflicts with

subject to state permitting. See Burling, *Local Control of Mining Activities on Federal Lands*, XXI LAND & WATER L. REV. 33 (1986) (extensively discussing the *Granite Rock* decisions); see also *supra* text accompanying note 142.

160. *Ray v. Atlantic Richfield Co.*, 435 U.S. 151 (1978). See, for example, the Hazardous Materials Transportation Act, 49 U.S.C. §§ 1801-1813 (1982 & Supp. III 1985), which states: "Except as provided in subsection (b) of this section, any requirement of a state or political subdivision thereof, which is inconsistent with any requirement set forth in this chapter, or in a regulation issued under this chapter, is preempted." 49 U.S.C. § 1811(a) (1982).

161. *Florida Lime & Avocado Growers, Inc. v. Paul*, 373 U.S. 132, 142-43 (1963) (impossible for regulated party to meet state and federal standards which were in direct conflict).

162. *Hines v. Davidowitz*, 312 U.S. 52 (1941).

163. See *supra* text accompanying notes 64-66.

164. 30 U.S.C. §§ 1005, 1017, 1022 (1982).

federal requirements will probably fall. State laws implementing other purposes,<sup>165</sup> such as regulation of developmental impacts, should survive under this test.

2. *Frustration of Federal Purpose.* Application of the second conflict test is more difficult. To determine whether state law frustrates or stands as an obstacle to the federal purpose, one must first determine the federal purpose.

The legislative history of the Geothermal Steam Leasing Act reflects a congressional intent to promote geothermal development.<sup>166</sup> Congress perceived geothermal development as a beneficial source of energy because it is a domestic resource and is relatively nonpolluting.<sup>167</sup> The Act, like the other federal mineral development acts, encourages the recovery of the resource to meet the nation's needs while raising revenue.

Nevertheless, the legislative history will not support an inference that Congress intended development of the resource to prevail over all other values. Indeed, Congress has consistently expressed the intent to assure a clean environment.<sup>168</sup>

The Supreme Court has been cautious in its use of the frustration conflict test in recent years.<sup>169</sup> The Court avoids finding frustration of a federal purpose, where possible.

Two recent cases dealing with energy development illustrate the Court's caution.<sup>170</sup> *Commonwealth v. Montana*<sup>171</sup> focused on a state coal severance tax. The coal companies argued that Congress had expressed an overriding interest in the development of coal as part of a national energy plan. State taxation, they argued, would frustrate that federal purpose.<sup>172</sup> The Court rejected this argument, indicating that, even under the frustration test, Congress' intent to preempt must be manifest.<sup>173</sup> Similarly, in *Pacific Gas & Electric v. California*,<sup>174</sup> the utility argued that the federal government had an overriding interest in the promotion and

165. Determining "the" purpose of a state law is not a simple task. The Oregon siting law has as its policy, that "the siting, construction and operation of energy facilities shall be accomplished in a manner consistent with protection of the public health and safety and in compliance with the energy policy and air, water, solid waste, land use and other environmental protection policies of this state." OR. REV. STAT. § 469.310 (1985).

166. H. REP. NO. 91-1544, *supra* note 11.

167. *Id.* at 5128, 5129.

168. See *supra* notes 74-77 and accompanying text.

169. See *supra* text accompanying notes 46-50.

170. *Pacific Gas & Elec. Co. v. State Energy Resources Conservation & Dev. Comm'n*, 461 U.S. 190 (1983) [hereinafter *PG&E*]; *Commonwealth Edison v. Montana*, 453 U.S. 609, *reh'g denied*, 453 U.S. 927 (1981).

171. *Id.*

172. *Id.* at 633.

173. *Id.* at 633-37. The Court held that general statements encouraging use of coal do not "demonstrate a congressional intent to preempt all state legislation that may have an adverse impact on the use of coal." *Id.* at 633.

174. *PG&E*, 461 U.S. 190.

development of nuclear energy and that the states could, therefore, play no role. The Court also rejected this argument.<sup>175</sup>

State law may frustrate the federal purpose in many ways. The Supreme Court will find frustration-based preemption only where Congress clearly expresses the overriding importance of the federal purpose. Congress' main purpose behind the Geothermal Steam Act was to promote the use and production of the resource, by clarifying the resource's uncertain status in the mineral leasing scheme.<sup>176</sup> However, neither the statutory text nor the legislative history indicates that Congress considered that purpose sufficiently important to warrant the preemption of conflicting state laws. Therefore, state regulation of geothermal development should withstand a preemption attack based on conflict.

### III. MINERAL LEASING CASES

Although the preemptive effect of the Geothermal Steam Act has not been litigated, cases involving other types of mineral leasing are instructive. The courts have taken two approaches. The Ninth Circuit Court of Appeals<sup>177</sup> has easily found an overriding federal interest, and thus, an intent to preempt state law. On the other hand, several state courts<sup>178</sup> and at least one federal district court<sup>179</sup> have found more room for state involvement. This difference may be resolved in the near future by the United States Supreme Court.<sup>180</sup>

The Ninth Circuit first addressed the issue of state regulation of mineral development in 1979 in *Ventura County v. Gulf Oil Corp.*,<sup>181</sup> which involved the application of a county zoning ordinance to oil exploration

175. *Id.* "The NRC's imprimatur, however indicates only that it is safe to proceed with such plants, not that it is economically wise to do so." *Id.* at 218. This position was reaffirmed by the Court more recently in *Silkwood v. Kerr-McGee*, 464 U.S. 238 (1984).

176. See H. REP. NO. 1544, *supra* note 11, at 5113-31. "One reason for the lack of development of the geothermal steam potential of the United States can be directly attributed to the absence of reliable statutory authority to permit its development on public lands." *Id.* at 5115; see also Bible, *The Geothermal Steam Act of 1970*, 8 IDAHO L. REV. 86, 90-92 (1971) (noting that the act was in response to several opinions from the Solicitor's Office of the Department of the Interior contending that geothermal resources were merely hot water and not "minerals.") The Geothermal Steam Act specifically directed the Attorney General to bring a test lawsuit to quiet title to geothermal resources on patented lands. 30 U.S.C. § 1020(b) (1982).

177. The Ninth Circuit has authority to hear appeals from federal district courts located in Alaska, California, Idaho, Guam, Hawaii, Montana, Nevada, Oregon, and Washington. 28 U.S.C. § 41 (1982).

178. The issue has been addressed by the courts in Colorado, Idaho, Oregon and Wyoming. *Brubaker v. Board of County Comm'rs*, 652 P.2d 1050 (Colo. 1982); *State ex rel. Andrus v. Click*, 97 Idaho 791, 554 P.2d 969 (1976); *Elliot v. Oregon Int'l Mining Co.*, 60 Or. App. 474, 654 P.2d 663 (1982); *Gulf Oil Corp. v. Wyoming Oil & Gas Conservation Comm'n*, 693 P.2d 227 (Wyo. 1985).

179. See *Granite Rock v. California Coastal Comm'n*, 590 F. Supp. 1361 (N.D. Cal. 1984), *rev'd*, 768 F.2d 1077 (9th Cir. 1985), *appeal filed*, 54 U.S.L.W. 3508, *juris. postponed*, 54 U.S.L.W. 3647, *argued orally*, 55 U.S.L.W. 3410 (1986) (No. 85-1200).

180. *Granite Rock v. California Coastal Comm'n* is currently pending before the U.S. Supreme Court, Case No. 85-1200. See also *supra* note 179 (detailing the procedural standing of the appeal).

181. 601 F.2d 1080 (9th Cir. 1979). For an excellent critique of the case, see Percival, *State and Local Control of Energy Development on Federal Lands*, 32 STAN. L. REV. 373 (1980).

and drilling in a national forest.<sup>182</sup> The court found the local permitting authority conflicted with the extensive federal regulations of the BLM, the U.S. Geological Survey and the Forest Service.<sup>183</sup> The court characterized the zoning ordinance as an attempt to exercise "local veto power."<sup>184</sup> Relying in part on earlier Supreme Court cases dealing with hydroelectric power,<sup>185</sup> the court held that federal law preempted even a potential prohibition because the authority to veto would frustrate the federal goal.<sup>186</sup> The Ninth Circuit apparently viewed the federal authorization of oil exploration and drilling as an expression of Congressional intent to exclude the existence of state authority.<sup>189</sup> The Supreme Court summarily affirmed.<sup>188</sup>

However, the Ninth Circuit did not hold that federal law occupied the field of the regulation of oil development.<sup>189</sup> The court found a conflict in that the county ordinance vetoed a federally licensed project.<sup>190</sup> Read this way, the case can be fit into the traditional conflict/physical impossibility category.<sup>191</sup> This reading leaves open the viability of state regulation which do not go so far as to a veto, and state courts have so read *Ventura*. These courts have found that states may continue to regulate mining activities on federal lands. Regulation alone, they find, creates no necessary conflict with federal policy. *Prohibition* of mining by the states does create such a conflict and must be struck down.

Two Oregon cases illustrate this reading of *Ventura* and the distinction between regulation and prohibition. In *State ex rel. Cox v. Hibbard*,<sup>192</sup> the Oregon Court of Appeals determined that a placer mining operation on federal land was subject to the Oregon Fill and Removal Law.<sup>193</sup> The court found no necessary conflict between the federal and state requirements.

182. *Ventura*, 601 F.2d at 1082.

183. *Id.* at 1083.

184. *Id.* at 1086. It should be noted that the county had not attempted to veto the project but had asked the court for a temporary injunction until the permitting process could be completed. *Id.* at 1082.

185. The court relied on *Federal Power Comm'n v. Oregon*, 349 U.S. 435 (1955), and *First Iowa Hydroelectric Coop. v. Federal Power Comm'n*, 328 U.S. 152 (1946). *Ventura*, 601 F.2d at 1085. In those cases the Supreme Court found impermissible the very existence of a parallel hydroelectric regulatory scheme, regardless of its actual effect on the federal goal. The Court found that such duplicative authority was forbidden by the Federal Power Act. The extension of these cases into other areas was limited by the Supreme Court in *PG&E*, where the Court noted that the cases were based on the comprehensive planning authority given to the FPC (now FERC). 461 U.S. 190, 223 (1983).

186. The court stated: "The Federal Government has authorized a specific use of federal lands, and *Ventura* cannot prohibit that use, either temporarily or permanently, in an attempt to substitute its judgment for that of congress." *Ventura*, 601 F.2d at 1084.

187. The court characterized the fact that "the *Ventura* authorities wish to regulate conduct which Congress has authorized" as a prima facie conflict which could not be permitted. *Id.* 188. 445 U.S. 947 (1980).

189. *Ventura*, 601 F.2d at 1083. The court reserved judgment on this question, finding the issue resolved by virtue of the conflict.

190. *Id.* at 1086.

191. See *supra* text accompanying notes 59-67 and 163-65.

192. 31 Or. App. 269, 570 P.2d 1190 (1977); see also *State ex rel. Andrus v. Click*, 97 Idaho 791, 797, 554 P.2d 969, 975 (1976).

193. OR. REV. STAT. §§ 541.605 to .685 (1985).

Five years later in *Elliot v. Oregon International Mining Co.*,<sup>194</sup> the court dealt with two county ordinances. One of these prohibited surface mining in certain areas of the county, while the other excluded mining as a permissible use in a particular area. The court held both ordinances to be preempted stating:

Although we held in *State ex rel. Cox v. Hibbard*, 31 Or. App. 269, 274, 570 P.2d 1190 (1977), that federal mining laws were not intended to pre-empt state regulation, the Grant County ordinances at issue here do not simply supplement federal mining law, as did the state regulations in *Hibbard*. Rather, they completely prohibit a mineral claimant from conducting any surface mining on patented land.<sup>195</sup>

The Federal District Court for the Northern District of California adopted a similar approach, reasoning, "As long as the state's permit requirement does not render plaintiff's exercise of rights under the Mining Act impossible, no impermissible conflict exists."<sup>196</sup> This reading of *Ventura* was recently reversed by the Ninth Circuit Court of Appeals in the case of *Granite Rock v. California Coastal Commission*.<sup>197</sup> That case involved the validity of a state permitting system over a mining operation on federal forest land.<sup>198</sup> Although the court again declined to find that the federal law occupied the area,<sup>199</sup> it held that any independent state permit system would be preempted.<sup>200</sup> The court's analysis specifically rejected the regulation/prohibition dichotomy.<sup>201</sup>

Thus, the scope of permissible state regulation may depend upon which forum hears the dispute. In some state courts, the decision may turn on the regulation/prohibition dichotomy. It is not entirely clear how this dichotomy would apply to the exercise of state authority over geothermal development. A complete ban, such as the EFSC designation, would clearly fail.<sup>202</sup> However, whether a conditional approval will fail will de-

194. 60 Or. App. 474, 654 P.2d 663 (1982).

195. *Id.*, 654 P.2d at 667-68. The court also recognized the intervening opinion by the Ninth Circuit in *Ventura County* but felt that its earlier decision in *State ex rel. Cox v. Hibbard* was still valid.

196. *Granite Rock Co. v. California Coastal Comm'n*, 590 F. Supp. 1361 (N.D. Cal. 1984), *rev'd*, 768 F.2d 1077 (9th Cir. 1985), *argued orally*, 55 U.S.L.W. 3410 (1986) (No. 85-1200). 197. 768 F.2d 1077 (9th Cir. 1985).

198. *Id.* at 1083. *Granite Rock* had an unpatented mining claim to mine white limestone in the Los Padres National Forest. The California Coastal Act required a permit from the California Coastal Commission to continue mining.

199. *Id.* The court's characterization of its holding as based on conflict is open to question considering (1) its holding that any "independent state permit system" was preempted regardless of content, *id.*, and (2) its reliance on the "extensive" federal regulatory scheme, *id.* at 1083-84, a traditional occupation test.

200. *Id.* at 1083.

201. *Id.* at 1082.

202. *See Elliot v. Oregon Int'l Mining Co.*, 60 Or. App. 474, 654 P.2d 663 (1982). The Colorado Supreme Court also found such a ban impermissible stating, "This is not a denial of a permit because of failure to comply with reasonable regulations supplementing the federal mining laws, but reflects simply a policy judgment as to the appropriate use of the land." *Brubaker v. Board of County Comm'rs*, 652 P.2d 1050, 1059 (Colo. 1982).

pend on the interpretation of the regulation/prohibition test. Some geothermal projects will be unable to meet neutral state environmental standards. The technology needed to comply may not be available or may be too costly.<sup>203</sup>

Thus, the regulation/prohibition dichotomy may break down under close scrutiny.<sup>204</sup> Clever legislative drafting may introduce an actual prohibition into a regulatory formula. Conversely, a developer can convert a regulation into a prohibition by declining to apply for a permit.<sup>205</sup> To enforce its permitting requirements, the state must seek judicial assistance, generally injunctive relief.<sup>206</sup> The relief requested becomes the threatened prohibition.

In the Ninth Circuit the result is easier to predict. Under that circuit's approach, a federal authorization or permit will preempt the state from any permitting role over the mineral development. The particular mineral involved and the congressional attitude towards its development are not significant under this analysis. The developer need not allege that it would be impossible, or even burdensome, to comply with both state and federal permitting requirements. The court needs only to know whether the federal government has granted authority to proceed.

Neither the state courts' nor the Ninth Circuit's approach is consistent with the Supreme Court's recent decisions. Under the tests articulated in those decisions, reasonable state regulation of geothermal development should not be preempted. Congress has not expressed its intent to occupy the field,<sup>207</sup> or that states may not interfere with federal leasing decisions. State regulations should be preempted only where a developer can show physical impossibility and the state cannot demonstrate that its regulation is designed to achieve a state purpose not addressed by the federal scheme.<sup>208</sup>

The courts which address the geothermal preemption question should not adopt either of these approaches and should take a fresh look at Congress' goals and expectations in this area following the Supreme Court's

203. See, e.g., *Gulf Oil Corp. v. Wyoming Oil & Gas Conservation Comm'n*, 693 P.2d 227 (Wyo. 1985). There, the state permitting agency granted a permit to drill a well on national forest land with the condition that the site be not accessed by a particular route, leaving only feasible access by helicopter.

204. The regulatory/prohibitory distinction is clearly not a workable one in an area where the rights of a leaseholder may be qualified by the need to show production in commercial quantities. See, e.g., 30 U.S.C. §§ 1005(a), -(b) (1982). The federal government routinely takes into account the cost of compliance with state environmental regulatory requirements in determining whether a valuable mineral deposit has been discovered. See, e.g., *United States v. Pittsburgh-Pacific Co.*, 84 Interior Dec. 282, 290-91 (1977); *United States v. Kasanke Sand Corp.*, 80 Interior Dec. 538, 546 (1973).

205. See *Ventura County v. Gulf Oil Corp.*, 601 F.2d 1080, 1082 (9th Cir. 1979).

206. In *Ventura*, the county moved for a preliminary injunction. The Ninth Circuit held that even such temporary relief would create an impermissible conflict. *Id.* at 1084. State enforcement options not based on injunction may still survive, however. See OR. REV. STAT. § 469.992 (1985) (authorizing a fine of \$25,000 a day for operation without a site certificate).

207. See *infra* text accompanying notes 129-62.

208. See *infra* text accompanying notes 163-65.

tests. Only analysis of Congress' expressions of intent, not resort to simplistic formulae, will achieve the proper result.

#### IV. CONCLUSION

To effectively deal with future geothermal energy development, states must understand the limits on their authority. Although the Supreme Court has tipped the scales to the states in its preemption analysis, the Ninth Circuit has not followed those decisions. Hopefully, the Supreme Court's review of the *Granite Rock* decision will provide the Ninth Circuit with the needed guidance. If the Court follows the tests set forth in recent years, the states will retain significant authority to protect important state values.