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ABSTRACT

The Bonneville Power Administration (BPA) marketing area encompasses all of three states and portions of five others with identified geothermal resources. Heightened awareness of geothermal energy as a contributor to the region's energy mix has led to the creation of new geothermal statutes in the BPA area. Each state in the BPA has enacted different geothermal ownership statutes. These statutes are examined in this paper, and potential impacts on geothermal development in the BPA marketing area discussed.

INTRODUCTION

Within the Bonneville Power Administration (BPA) marketing area a substantial amount of geothermal energy is known to exist. Development of geothermal energy in the BPA marketing area will depend heavily upon how state laws treat geothermal resources. Heightened awareness of geothermal energy as a contributor to the region's energy mix has led to the creation of new state geothermal statutes. This paper examines eight states' laws governing geothermal resource ownership within the BPA marketing area. Consistency in legal treatment and potential impacts on geothermal development in the BPA market area are discussed.

BPA MARKETING AREA DEFINED

The Bonneville Power Administration, part of the U.S. Department of Energy, markets federal power in the following areas:

Oregon
Washington
Idaho
Western Montana
Western Wyoming
Northwestern Utah
Northern Nevada
Northeastern California

Figure No. 1 shows the BPA marketing area, composed of the service areas of 17 public owned utilities and nine investor owned utilities.

One recent estimate of the identified energy potential of hydrothermal convective systems within the BPA marketing area indicates a total thermal potential of 16,150 x 10^11 Btu/yr (Lund, 1980).

This estimate includes resources which may not be developed due to economic, institutional, and environmental factors. A more practical estimate of beneficial heat available for direct use is 3,097 x 10^11 Btu/yr (Lund, 1980). The probable electrical potential of the area is estimated to be 3293 MW (Lund, 1980).

STATE GEOTHERMAL OWNERSHIP LAWS

Each of the states within the BPA marketing area has at least one law recognizing geothermal resources. Not all the states explicitly grant ownership to the resources, nor do they concur with federal law. The scope of this paper does not...
include public utility, environmental, and state leasing statutes which affect resource development but not ownership. Table No. 1 lists the appropriate state citations.

<table>
<thead>
<tr>
<th>BPA AREA GEOTHERMAL OWNERSHIP STATUTES</th>
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<td>Oregon - ORS § 522, § 523 (1979)</td>
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<td>Washington - RCWA § 79.76 (1981)</td>
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<td>Montana - RCM § 81-2602 (1977)</td>
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<td>Wyoming - H.B. 283 enacted 2/26/81</td>
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<td>Utah - UCA § 73-1-20 (1980)</td>
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<td>Nevada - NRS § 322, § 361, § 534A (1979)</td>
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<tr>
<td>California - ACFRC § 3700, § 3800, § 6407, § 6903 (1981)</td>
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Oregon - Oregon law grants ownership rights to geothermal resources over 250°F to the owner of the surface overlying the resource (ORS § 522). Resources above 250°F are regulated much the same as oil and gas. Geothermal resources below 250°F (and from wells < 2000 feet deep) are regulated as groundwater, although no specific statute defines them as such. Two bills introduced into the 1981 Oregon Legislature attempted to clarify agency jurisdiction and cooperation according to depth and well temperature. Oregon is the only state in the BPA area to adopt enabling legislation for local geothermal district heating formation (ORS § 523). For purposes of heating district acquisition, geothermal resources can be any temperature.

Washington - Washington defines geothermal resources as only those resources from which it is "technologically practical to produce electricity" (RCWA § 79.76). Washington resources are characterized as "sui generis, being neither a mineral resource or water resource..." (RCWA § 79.76). In addition to the above definitions, a 1979 amendment to the Washington law specifically declares geothermal resources to be the property of the surface owner (RCWA § 79.76). The Department of Natural Resources regulates geothermal resources. The great majority of hydrothermal resources which will be encountered are left in the realm of water resources. As technology improves, however, the low temperature of "geothermal resources" will drop to include what are presently "water resources" in Washington.

Idaho - The state of Idaho declares geothermal resources to be "sui generis" (IC § 42-4002). Ownership rights are not specifically granted to holders of either the surface estate or mineral estate. Instead, the focus is on water rights and use of the geothermal medium: if the resource is to be used as a "mineral source" or as an "energy source", a geothermal permit is required (IC § 42-4003).

*New developments by the Oregon, Nevada, and California Legislatures in session at this writing will be presented at the annual meeting.

All other uses of geothermal resources require a valid water rights permit. There are many exceptions to this law, e.g. greenhouses and hot baths, where only a valid water rights permit is needed (IC § 42-4003).

Montana - Montana, like Washington and Idaho, declares geothermal resources to be "sui generis", i.e. of its own kind, class or nature (RCM § 81-2602). Resources are treated as groundwater for purposes of well permitting, which is administered by the Department of Natural Resources and Conservation.

Wyoming - The state of Wyoming only recently enacted legislation addressing geothermal resources. House Bill 283, signed into law February 26, 1981, amends Wyoming water law defining geothermal resources as groundwater and specifying that the extraction of heat is a beneficial use of water. The State Engineer will regulate geothermal development.

Utah - Until 1981, Utah possessed the briefest geothermal statute of the states examined. The 1973 legislation merely gave regulatory authority for geothermal exploration and development to the Utah Division of Water Rights (UCA § 73-1-20). The Geothermal Conservation Act of 1981, passed by the Utah Legislature, defines geothermal energy as earth temperatures above 250°F. Water below that temperature would be regulated as groundwater. Both resources above and below 250°F would be regulated by the State Engineer and Division of Water Rights. No ownership rights were explicitly granted in the recent legislation.

Nevada - Nevada has a short statute defining geothermal resources but without granting ownership or specifying relationship to groundwater (NRS § 534A). A geothermal bill introduced into the 1981 Nevada Legislature would expand the definition of geothermal resources, define heat extraction as a beneficial use of water and maintain jurisdiction over all geothermal resources with the State Engineer.

California - By far the greatest number of laws pertaining to geothermal resources exist in California. California passed the first state law defining geothermal resources in 1965 (ACFRC § 3700). Title to some low temperature geothermal resources may be obtained through application to the Geothermal Resources Board (ACFRC § 3742). All geothermal resources are regulated by the Division of Oil and Gas, Department of Conservation.

DISCUSSION

Of the eight states in the BPA marketing area, seven treat low temperature geothermal resources as groundwater, either in law or in practice. The exception, California, allows low temperature resource users to perfect title in much the same manner as groundwater. Groundwater appropriation laws are similar throughout the region. Low temperature direct use projects can therefore be developed under eight relatively similar sets of laws in the BPA area. Since direct use projects
may displace electrical load, these projects may then qualify as conservation under the priorities established by the Pacific Northwest Electric Power Planning and Conservation Act. BPA must purchase conservation before other generating resources, even geothermal electrical generation. BPA will in effect purchase the electricity that a given conservation project saves.

High temperature geothermal resources are not consistently defined in the BPA area states, e.g. "250°F" in Oregon and "technologically practical to produce electricity commercially" in Washington. In these same two states, geothermal resources are, by definition, the property of the surface owner. High temperature geothermal resources are part of the surface estate in two states, declared "sui generis" in three states, and regulated by water agencies in four states. In practice, high temperature resource development occurs in the manner of oil and gas development, with associated complex and expensive regulatory requirements. Unlike low temperature geothermal resource development, high temperature resource development will continue to require the acquisition of all available resource rights. Although BPA is directed to purchase energy from renewable resources such as geothermal second in priority to conservation, developers will not be able to move freely throughout the marketing area developing geothermal electrical projects due to the vast differences in law. Significant contributions to the region's electrical supplies by geothermal projects are limited due to the inconsistent legal treatment of the resource.

Unless consistent high temperature resource definitions and regulatory authority are adopted by the BPA area states, developers can be expected to work in piecemeal fashion, active only in areas of both obvious resource potential and clear law. Significant geothermal electrical generation for BPA power resource acquisition appears to be slow in coming, compared to the potential for conservation resource acquisition resulting from low temperature geothermal direct use projects.

REFERENCES


Lund, J.W. et al., 1980, Assessment of Geothermal Potential Within the BPA Marketing Area, Oregon Institute of Technology, USDOE contract No. DE-AC79-79BP15325


Various state statutes, see Table No. 1 supra