

**LAVA LAW**  
**DELIVERING THE GOODS:**  
**—Regulatory and Transmission-Related Issues—**

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Producers of renewable geothermal energy, like other sellers of electricity, must understand and meet the regulatory requirements applicable to the sale of power generated by their resources. In addition, in order to access the electric transmission grid, geothermal energy producers must negotiate and execute interconnection agreements and transmission service agreements, and purchase necessary transmission ancillary services. This chapter presents only a general discussion of these issues. Before embarking upon a particular course of action, the producer should seek the opinion of qualified counsel, especially considering that many of the laws and regulations relating to these topics may be affected by new legislation and ongoing rulemaking proceedings.

## **Regulatory Structure Issues—PUHCA, EWGs, and QFs**

One of the most significant aspects of the Energy Policy Act of 2005 was its repeal of the Public Utility Holding Company Act of 1935 (“PUHCA”). By opening the door to certain types of utility acquisitions and mergers that have been prohibited since 1935, Congress set the stage for a consolidation of the electric utility industry that will present both challenges and opportunities for renewable energy developers and producers.

Under PUHCA, unless exempted, geothermal energy project companies were subject to extensive regulation by the Securities and Exchange Commission (“SEC”). Although the SEC will no longer be regulating non-exempt geothermal energy project companies, the Energy Policy Act of 2005 has (1) granted state regulators and the Federal Energy Regulatory Commission (“FERC”) broad access to books and records of such companies, and (2) provided for FERC review of the allocation of costs for non-power goods or services between regulated and unregulated affiliates of such companies.

Geothermal energy project companies can obtain exemptions from these requirements. The two most common exemptions are for the project owner to obtain status as either an exempt wholesale generator (“EWG”) or a qualifying facility (“QF”). Each of these categories is summarized below.

### **Exempt Wholesale Generator Status**

In an effort to stimulate wholesale electric competition, Congress enacted the Energy Policy Act of 1992, which created an exemption from PUHCA for independent power producers that qualify as EWGs. EWG status is determined by FERC, and the EWG status generally begins once the independent power producer files an application with FERC. EWG status is available to any generator of electricity, regardless of size or fuel source, so long as such entity is exclusively in the business of owning and/or operating electric generation facilities for the sale of energy to wholesale customers. Certain incidental activities may also be permitted. Independent power producers should be aware of several issues associated with EWG status. First, the “exclusively own

and/or operate” requirement mentioned above typically requires the creation of a special purpose entity to own the geothermal generation facility and sell its electric output. Second, EWGs are restricted to wholesale sales and therefore cannot take advantage of retail sale opportunities in jurisdictions that have approved retail direct access. Finally, EWGs are restricted in their ability to enter into certain types of transactions (such as leases) with affiliated regulated utilities.

Rates for power sales by EWGs are subject to FERC regulation under section 205 of the Federal Power Act. As a result, an EWG must apply for and FERC must grant rate approval, i.e., power-marketing rights, before an EWG can enter sales for resale of power at either cost-based or market-based prices. FERC generally will grant market-based rate approval, provided that the applicant and its affiliates (if any) demonstrate that they do not have or have adequately mitigated horizontal and vertical market power in the relevant markets. FERC requires

the seller to show lack of generation and transmission market power. The Commission also imposes certain restrictions governing transactions and conduct between power sales affiliates where one or more of those affiliates have captive customers. Once FERC grants market-based rate approval, the EWG will have ongoing FERC filing requirements.

### **Qualifying Facility Status**

The Energy Policy Act of 2005 has changed the rules for qualified facilities (commonly referred to as “QFs”), introducing both risk and opportunity. Developers of new geothermal projects, as well as sellers under existing QF contracts (especially those sellers with contracts that will be expiring soon), will want to familiarize themselves with these changes.

During the energy crisis in the late 1970s, Congress passed the Public Utility Regulatory Policy Act of 1978 (“PURPA”) to encourage the development of cogeneration and small renewable energy projects (i.e., QFs). Prior to the passage of the Energy Policy Act of 2005, PURPA was important to renewable energy developers for several reasons, one of which was the exemption for QFs up to 30 MW from most of the provisions of the Federal Power Act and from certain types of state utility regulations. The Energy Policy Act of 2005 (and FERC’s interpretation thereof) has limited the applicability of these exemptions, making it more difficult for projects to obtain such exemptions. On the other hand, the Energy Policy Act of 2005’s elimination of PURPA’s ownership requirements is likely to generate new interest in utility ownership of QF facilities—increasing the potential value of both new and existing QF projects and the range of possible geothermal transaction structures with electric utilities.

The Energy Policy Act of 2005 has narrowed the advantages that QFs previously enjoyed compared to EWGs. First, QFs no longer enjoy broad exemptions from the requirements of the Federal Power Act. Second, the Energy Policy Act of 2005 weakened the “must buy” obligation that allows QFs to require retail public utilities to purchase QF output at the utility’s “avoided costs,” i.e., the costs the utility would have incurred but for the QF purchase. Utilities may now petition FERC for an exemption from PURPA’s mandatory purchase requirement if the utility can demonstrate that a QF in its service territory would have nondiscriminatory access to competitive wholesale markets for energy and capacity that meet certain standards. The potential loss of this “must buy” requirement could be significant because state-established avoided cost rates often have exceeded prevailing wholesale market prices and such published rates have been an effective negotiating tool for gaining favorable pricing under non-QF renewable energy sale agreements. One clear advantage of QFs over EWGs is that PURPA does not restrict the ability of QFs to make retail sales to the extent such sales are allowed under state law. Another distinction between QFs and EWGs is that QFs are generally interconnected under state regulators’ interconnection rules, which may or may not be advantageous for a particular project. A QF may have an option to interconnect under FERC rules.

### **Transmission and Interconnection Issues**

In order to obtain project financing and gain access to wholesale power markets, geothermal resource producers must negotiate agreements to interconnect with the transmission system of the applicable transmission provider. In addition, a producer will generally need to obtain any necessary transmission service to deliver output from the project to the purchasers of that output. Most lenders and many investors will require evidence of executed generation interconnection and/or transmission service agreements as a condition of financing or project purchase. Most transmission providers are subject to jurisdiction by FERC, and therefore transmission service agreements and generation interconnection agreements are generally subject to regulation by FERC.

Interconnection to utilities exempt from FERC interconnection rules raises unique questions, which should be considered when selecting project sites.

### **Generation Interconnection Agreements**

A generation interconnection agreement is a contract between the generation owner and the transmission provider governing the interconnection of the project with the transmission system. In two landmark orders (Order Nos. 2003 and 2006), FERC established standardized procedures and agreements for the interconnection of generating facilities with the interstate transmission facilities owned, controlled, or operated by the nation's investor-owned utilities. Developers may discover less favorable contract terms when negotiating interconnection agreements with nonjurisdictional utilities, such as municipal utilities, cooperatives, and public utility districts. In some cases, these entities have adopted FERC's standardized procedures and agreements, but in other cases such utilities are likely to either continue to use either their own forms of agreement or offer revised versions of FERC's standardized procedures and agreements.

Generally, the two main purposes of interconnection agreements are (1) to identify and allocate the costs of any new facilities or facility upgrades that need to be constructed and (2) to set forth the technical and operational parameters governing the physical interconnection.

- In general, before the execution of an interconnection agreement, the transmission provider will commission a series of interconnection studies, at the interconnection customer's expense, to determine what new interconnection and transmission facilities need to be constructed to accommodate the new generation facility, and the cost of such construction. Because geothermal resources are often located in remote locations, substantial new facilities and facility upgrades may be required.
- FERC Order Nos. 2003 and 2006 directly assign the costs of interconnection facilities and distribution upgrades to the interconnection customer. In addition, if the transmission provider is a vertically integrated utility, the interconnection customer initially funds the cost of any required network upgrades (i.e., upgrades to the transmission system at or beyond the point of interconnection). The interconnection customer then generally is reimbursed over time by the transmission provider for this upfront payment. The developer should be aware, however, that in some regional transmission organization ("RTO") areas, the approved RTO tariff will make a portion, or in some cases all, of such network transmission investment by the developer non-reimbursable.
- Determining the point of interconnection for purposes of distinguishing between interconnection facilities and network facilities is an area of potential dispute between the parties. Transmission providers have an incentive to design interconnections in a manner that places the majority of the new facilities on the customer's side of the interconnection, thereby depriving the customer of a transmission credit to offset the costs of such facilities. Consistent with FERC precedent, only such facilities as are necessary to reach the point of interconnection are properly classified as interconnection facilities. Agreements to reclassify interconnection facility costs as network upgrades, or vice versa, have not been found to be "just and reasonable," and have been rejected by FERC.

- Interconnection agreements address such technical and operational issues as reactive power factors, responsibility for electrical disturbances, metering and testing of equipment, exchange of operating data, and curtailment events.

### **Transmission Service Agreements**

Interconnection service or an interconnection by itself does not confer any right to the transmission or delivery of electricity from the generating facility. Therefore, unless the buyer is willing to take delivery at the point of interconnection, project owners will need to obtain transmission service from one or more transmission providers to wheel project output to the purchaser. If the transmission provider is an investor-owned utility, such utility is required by FERC to offer transmission service on an open, nondiscriminatory basis, pursuant to a transmission tariff that will govern the terms by which such service is provided. Upon receiving a request for service, the transmission provider will evaluate available transmission on its system and determine whether additional transmission facilities need to be constructed to accommodate the requested service. In major parts of the United States, the transmission provider is an RTO or Independent System Operator (“ISO”) rather than the actual owner of the applicable transmission facilities.

Under FERC’s general transmission pricing policy, generators pay the greater of the incremental costs or embedded costs associated with requested transmission service. Incremental costs refer to the additional system costs (for example, construction of new facilities and upgrades) resulting from the requested service. Embedded costs reflect an allocation of system costs to the various users, generally based on megawatts of service.

Some geothermal projects, because of their remote locations, may require substantial system upgrades that will result in the transmission customer paying an incremental cost rate that exceeds its pro rata share of the system costs.

These transmission pricing rules may be different if the transmission provider is an RTO. The rules of the existing and proposed RTOs may in fact be much more favorable to geothermal resources than FERC pricing. For example, an RTO may recover the fixed costs of the applicable transmission system from end users, with a generator facing only any transmission congestion charges. The RTO also may eliminate rate “pancaking,” which is the imposition of multiple transmission charges for use of more than one transmission owner’s transmission facilities.

Obviously, rate pancaking is an important consideration for geothermal resources that are located far from energy markets.

## **Ancillary Services**

Project owners will be required under the transmission provider's tariff to either provide or purchase transmission ancillary services, which are products designed to ensure the reliability of the transmission system. These services include, for example, replacement of transmission losses and provision of operating reserves.

## **Greater Access to the Transmission Grid**

On February 16, 2007, FERC issued Order No. 890, which reforms open-access transmission tariff ("OATT") rules, and is designed, in part, as an effort to improve transparency of transmission service and reduce transmission barriers for new projects. Once they go into effect, these amendments may result in increased and improved access to the transmission grid for geothermal energy developers.

A major obstacle to making more transmission capacity available is the fact that under current practice, long-term requests for service from a new generator may be denied based on the unavailability of transmission in only a few hours of a year, even though firm service is nonetheless available for the large majority of hours of the year. To address these concerns, FERC created two new options: conditional firm service and modified redispatch service. Conditional firm service addresses the "all or nothing" problem transmission customers currently face. Conditional firm is a type of transmission service that renewable advocates have promoted as a partial solution to the lack of available firm transmission. Under this service, a conditional firm customer could enter a long-term contract for the capacity that is available on a path. The customer would have firm service except for time periods designated in the contract and would have priority over nonfirm service for the hours in which available transfer capacity ("ATC") is not available.

Modified redispatch service, which adjusts the output of various generators to allow transactions that would otherwise be blocked by congestion on certain transmission paths, is routinely used by integrated utilities (those with transmission and generation) to serve native load and network customers and to make off-system sales. Order No. 890 requires transmission providers to offer and study the use of redispatch service to create additional long-term firm capacity on a transmission system. Under the rule, customers would agree to pay the costs of redispatch service during the periods when firm ATC is not available.

Implementation of Order No. 890 will be an ongoing process. And new developments may have occurred by the time you read this chapter. You should consult knowledgeable attorneys to obtain an updated report on this and other FERC proceedings.

Even though the details of Order No. 890 are too voluminous to be adequately covered in this chapter, one important aspect of Order No. 890 is that it may increase access to existing transmission capacity and/or promote transmission expansion in key areas. Order No. 890 (1) establishes a consistent methodology to determine ATC and make certain elements of ATC more consistent; (2) requires transmission providers to participate in an open and transparent regional transmission planning process; (3) reforms pricing policies related to imbalances, credits for customer-owned transmission facilities, and capacity reassignment; (4) revises rules under which a transmission provider must provide rollover rights and require the provision of hourly firm point-to-point service; and (5) requires transmission providers to post all business rules, practices, and standards on the Open Access Same-Time Information System, and to include credit review procedures in their OATT.

## **Summary**

Recent developments have made access to the transmission grid both easier and more economical. In particular, the implementation of standardized interconnection procedures and agreements for Large Generators and Small Generators subject to Order Nos. 2003 and 2006 will help streamline the interconnection of renewable power sources with the transmission grid. Similarly, FERC's proposals to strengthen the OATT by addressing ATC calculation and transmission planning and requiring greater transparency in business rules and practices are steps in the right direction. Nevertheless, much work remains in order to fully utilize existing transmission infrastructure and promote new transmission in key regions to allow new geothermal generation to reach markets eager to purchase energy from this remarkable resource.