



Energy Projects on Federal Lands: Leasing and Authorization

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September 8, 2009

Congressional Research Service

7-5700

www.crs.gov

R40806

Summary

A variety of statutes and agency regulations govern leasing and permitting for energy projects, including oil and natural gas development as well as alternative energy projects, on federal lands. This report explains the legal framework for energy leasing and development on federal lands. The report reviews laws and regulations affecting leasing of federal lands for exploration and production of oil and natural gas, which have evolved under a complex leasing system over the last century. The report also addresses existing laws and regulations that affect the use of federal lands for renewable energy projects, including geothermal, wind, and solar energy.

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Introduction

A variety of interrelated statutes and agency regulations govern leasing and permitting for energy exploration and production on federal lands.¹ Generally, these projects can be divided into two categories, each of which is governed by its own set of statutes and regulations. The first category is the exploration for and production of fossil fuels, including oil and natural gas. Oil and natural gas exploration and production on federal lands are generally governed by the Mineral Lands Leasing Act of 1920 and subsequent amendments to that act, as administered by the Bureau of Land Management, an agency that is part of the U.S. Department of the Interior. Generally, the lessee is authorized to explore for and ultimately produce oil or natural gas on federal lands in exchange for lease payments and royalties paid to the U.S. Government on the production. Exploration and production activities under a lease must be authorized independently by the Bureau of Land Management.

The second category pertains to renewable energy projects that are permitted under rights-of-way or similar property interests granted to applicants in accordance with the Federal Land Policy and Management Act of 1976. Under that Act, these projects are often undertaken pursuant to a right-of-way or similar property interest. However, geothermal energy projects are considered mineral projects and thus are leased under a separate set of laws and regulations in a manner similar to oil and natural gas project leasing.

Oil and Natural Gas Exploration and Production on Federal Lands

History and Background

At the start of the 20th century, private entities could explore, develop, and purchase federal lands containing oil with relative ease. Oil and natural gas resources on these federal lands were transferred to full private ownership pursuant to the terms of the Mining Law of 1872. This process was known as “patenting.” Under the patenting process, full ownership of oil lands “could be obtained for a nominal amount.”²

However, Congress eventually decided that oil and natural gas resources on onshore federal lands should remain under federal ownership. The enactment of the Mineral Lands Leasing Act of 1920 (MLA) ended the private acquisition of title to onshore federal oil lands by authorizing the Secretary of the Interior to issue permits for exploration and to lease lands containing oil and natural gas and other defense-related minerals.³ The MLA thus allowed the federal government to maintain ultimate control over these federal lands while leasing them to oil and natural gas

¹ This report provides a discussion of energy projects on onshore federal lands (i.e., “public lands,” as that term is defined in the Federal Land Policy and Management Act of 1976). For discussion of offshore energy projects, see CRS Report RL33404, *Offshore Oil and Gas Development: Legal Framework*, by Adam Vann; CRS Report R40175, *Wind Energy: Offshore Permitting*, by Adam Vann; and CRS Report RL34741, *Drilling in the Great Lakes: Background and Issues*, coordinated by Pervaze A. Sheikh.

² See *Pan Am. Petroleum & Transp. Co. v. United States*, 273 U.S. 456, 486 (1927) (internal citation omitted).

³ Mineral Lands Leasing Act of 1920 41 Stat. 4373 (1920), codified at 30 U.S.C. §181 *et seq.*

companies. The first half of this report details the legal framework for this oil and natural gas leasing process.

Public Lands Subject to Oil and Natural Gas Leasing

The MLA authorizes the Secretary of the Interior to lease oil and gas deposits and onshore public lands containing oil and gas deposits, with the federal government retaining title to the lands.⁴ This leasing authority applies to National Forest System lands that are reserved from the public domain, and to most reserved subsurface mineral estates.⁵ However, it excludes numerous categories of lands such as national parks and monuments, as well as lands in incorporated cities, towns, and villages.⁶ Also, the Secretary of the Interior cannot issue any lease for National Forest System lands reserved from the public domain if the Secretary of Agriculture objects.⁷ Areas within the National Wilderness Preservation System cannot be leased, but valid property rights that were already in existence by 1984 are preserved.⁸

The Secretary of the Interior is also authorized to withdraw public lands so that some or all potential land uses, including use for oil and natural gas exploration and production, are not permitted on those lands.⁹ A withdrawal involves “withholding an area of Federal land from settlement, sale, location, or entry, under some or all of the general land laws, for the purpose of limiting activities under those laws in order to maintain other public values in the area or reserving the area for a particular public purpose or program.”¹⁰ However, limitations on the Secretary’s withdrawal authority exist. For example, Congress can make withdrawals through legislation, and the Secretary may not modify or revoke a congressional withdrawal.¹¹

Development of Resource Management Plans

Bureau of Land Management

The Bureau of Land Management (BLM), an agency that is part of the Department of the Interior, administers approximately 253.4 million acres of public lands under the Federal Land Policy and Management Act of 1976 (FLPMA).¹² The Secretary of the Interior must develop and revise

⁴ 30 U.S.C. §181 For purposes of this report, the phrase “public lands” is used to signify “any land and interest in land owned by the United States ... administered by the Secretary of the Interior through the Bureau of Land Management, without regard to how the United States acquired ownership, except (1) lands located on the Outer Continental Shelf; and (2) lands held for the benefit of Indians, Aleuts and Eskimos.” Federal Land Policy and Management Act of 1976, 43 U.S.C. §1702 (e).

⁵ *Id.*

⁶ *Id.*

⁷ *Id.* at §226(h). In addition, the U.S. Forest Service has issued separate regulations governing certain aspects of leasing and permitting for oil and gas development on lands within its jurisdiction.

⁸ 16 U.S.C. §1133(d)(3) (“Subject to valid rights then existing, effective January 1, 1984, the minerals in lands designated ... as wilderness areas are withdrawn from all forms of appropriation under the mining laws and from disposition under all laws pertaining to mineral leasing and all amendments thereto.”).

⁹ 43 U.S.C. §1714 (2000).

¹⁰ *Id.* at §1702(j).

¹¹ 43 U.S.C. §§1701(a)(4), 1714(j); 43 C.F.R. §2300.0-3(a).

¹² P.L. 94-579, codified at 43 U.S.C. §§1701-1782.

Resource Management Plans (RMPs) for these public lands that consider the present and potential future uses for lands managed by BLM.¹³ These RMPs serve as the initial determinant of which lands may be subject to leasing, as all activities performed on BLM lands must be consistent with the RMPs.¹⁴

The Secretary generally must apply “multiple use” and “sustained yield” principles when developing RMPs.¹⁵ “Multiple use” principles require:

management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; the use of some land for less than all of the resources; a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and non-renewable resources.”¹⁶

“Sustained yield” requires the maintenance of “high-level annual or regular periodic output of the various renewable resources of the public lands.”¹⁷ In addition, the Secretary is required to provide opportunities for the public and various levels of government to participate in the development of RMPs.¹⁸ This can include procedures such as holding public hearings, when appropriate.¹⁹ Regulations require the preparation of an Environmental Impact Statement (EIS) or an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA)²⁰ when producing an RMP.²¹

U.S. Forest Service

The Forest Service manages approximately 193 million acres under the “multiple use” and “sustained yield” policies.²² The Forest Service develops land management plans for Forest

¹³ 43 U.S.C. §1712; 43 C.F.R. Parts 1600, 1610.

¹⁴ 43 C.F.R. §1610.5-3.

¹⁵ 43 U.S.C. §§1701(a)(7), 1732(a). An exception applies in circumstances “where a tract of such public land has been dedicated to specific uses according to any other provisions of law [in which case] it shall be managed in accordance with such law.” 43 U.S.C. §1732(a).

¹⁶ *Id.* at §1702(c).

¹⁷ *Id.* at §1702(h).

¹⁸ *Id.* at §1712(f).

¹⁹ *Id.*

²⁰ 42 U.S.C. §§4321 et seq.

²¹ See 43 C.F.R. §1601.0-6. The regulations stipulate that approval of an RMP constitutes a “major Federal action significantly affecting the quality of the human environment”; thus, the preparation of an Environmental Impact Statement (EIS) is required pursuant to NEPA. *Id.*; see 42 U.S.C. §4332(2)(C). NEPA also requires BLM to take a “hard look” at the environmental impacts of significant proposed actions. 42 U.S.C. §4332(2)(C). If it is unclear whether a proposed action will have significant environmental effects, the agency may prepare an Environmental Assessment (EA). 40 C.F.R. §1501.3. Based on the EA, an agency may issue a finding of no significant impact (FONSI), thereby concluding the NEPA process, or it may determine that preparation of an EIS is necessary. *Id.* §1508.13. An EIS must address numerous issues, including the environmental impact of the proposed action, alternatives to the proposed action, and any irreversible commitments of resources which would be involved if the proposed action takes place. 42 U.S.C. §4332(2)(C). For further discussion of NEPA, see CRS Report RS20621, *Overview of National Environmental Policy Act (NEPA) Requirements*, by Kristina Alexander.

²² Multiple-Use Sustained-Yield Act, P.L. 86-517, codified at 16 U.S.C. §§528-532.

Service lands by considering the desired conditions, objectives, suitability of areas for various uses, and other criteria.²³ As with the BLM planning process, the laws governing Forest Service land management and implementation require public notification and opportunities for public participation.²⁴ When analyzing Forest Service lands for potential leasing, the Forest Service classifies lands into three categories:

1. lands that will be “[o]pen to development subject to the terms and conditions of the standard oil and gas lease form”;
2. lands that will be “[o]pen to development but subject to constraints that will require the use of lease stipulations”; and
3. lands that will be “[c]losed to leasing, distinguishing between those areas that are being closed through exercise of management direction, and those closed by law, regulation, etc.”²⁵

The Forest Service must also comply with NEPA when analyzing NFS lands for potential leasing.²⁶ Once the Forest Service has completed its analysis of which NFS lands will be available for leasing, it notifies BLM of its decisions, and subsequently may authorize BLM to lease the lands in question.²⁷

The Competitive Leasing Process

The MLA authorizes both competitive and noncompetitive leasing processes. Generally, public lands go through the competitive leasing process first, and if no bids are received, the land will be offered for noncompetitive leasing.

The process begins when BLM generates a list of lands available for competitive oil and natural gas leasing. Private entities may respond by submitting nominations for parcels to be auctioned.²⁸ No unit being auctioned may exceed 2,560 acres, except in Alaska, where the maximum unit acreage is 5,760 acres.²⁹ In addition, each unit must be “as nearly compact as possible.”³⁰

The Secretary must provide 45 days notice before offering public lands for leasing, including a 30-day period for receiving public comments after notice is published in the Federal Register.³¹ Competitive bidding must be held on a quarterly basis in each state where public lands are available for leasing.³² The Secretary may also authorize additional opportunities for bidding if he considers them to be necessary.³³

²³ 16 U.S.C. §1604; 36 C.F.R. §§219.5, 219.7

²⁴ 16 U.S.C. §§1604(d), 1612; 36 C.F.R. §219.9.

²⁵ 36 C.F.R. §228.102(c).

²⁶ 16 U.S.C. §1604(g); 36 C.F.R. §228.102(a).

²⁷ 36 C.F.R. §228.102(d), §228.102(e).

²⁸ See 43 C.F.R. §3120.3-1.

²⁹ 30 U.S.C. §226(b)(1).

³⁰ *Id.*

³¹ 30 U.S.C. §226(f).

³² 30 U.S.C. §226(b)(1).

³³ *Id.*

Once the public notice requirements have been satisfied, the public lands are offered for competitive leasing through an oral auction.³⁴ A national minimum acceptable bid of \$2 per acre applies to the auction.³⁵ Any bids for less than the national minimum bid must be rejected.³⁶ A competitive bid constitutes a legally binding commitment and cannot be withdrawn.³⁷ The MLA requires the Secretary to accept the highest bid from a responsible qualified bidder whose bid meets or exceeds the national minimum acceptable bid.³⁸

The winning bidder at a competitive auction must submit the following payments on the day of sale, unless otherwise specified: (1) the minimum bonus bid of \$2 per acre; (2) the first year's rental payment; and (3) a processing fee as set forth in the BLM's regulations.³⁹ Then, the balance of the bonus bid, if applicable, is due within 10 working days.⁴⁰ The lease is issued within 60 days of payment of the remainder of the bonus bid.⁴¹ The lease is also conditioned upon a royalty payment of at least 12.5% in amount or value of the production that is removed or sold from the leased land,⁴² unless the Secretary suspends, waives, or reduces the royalty.⁴³

The Noncompetitive Leasing Process

If no bids are received at a competitive bidding auction—or if all bids submitted are for less than the national minimum acceptable bid—the land will be offered for noncompetitive leasing within 30 days.⁴⁴ This noncompetitive leasing remains available for two years after the competitive bidding auction.⁴⁵

The first qualified person who applies for a noncompetitive lease and pays the \$75 application fee is entitled to receive the lease without having to competitively bid.⁴⁶ All noncompetitive offers received during the first business day after the last day of the competitive auction are considered to have been submitted simultaneously; in such cases, a lottery determines the lease winner.⁴⁷ Unlike competitive bids, noncompetitive offers may be withdrawn by those who submitted them within 60 days of filing the offer if no lease has yet been signed on the government's behalf.⁴⁸ As with competitive leases, a noncompetitive lease is conditioned upon payment of a 12.5% royalty in amount or value of the oil or gas removed or sold from the leased land.⁴⁹ Additionally, there are

³⁴ *Id.*

³⁵ 30 U.S.C. §226(b)(1)(B); 43 C.F.R. §3120.1-2.

³⁶ 30 U.S.C. §226(b)(1).

³⁷ 43 C.F.R. §3120.5-3(a).

³⁸ 30 U.S.C. §226(b)(1).

³⁹ 43 C.F.R. §3120.5-2.

⁴⁰ *Id.*

⁴¹ 30 U.S.C. §226(b)(1).

⁴² *Id.*

⁴³ 30 U.S.C. §209.

⁴⁴ 30 U.S.C. §226(b)(1), (c).

⁴⁵ *Id.*

⁴⁶ 30 U.S.C. §226(c)(1).

⁴⁷ 43 C.F.R. §3110.2(a).

⁴⁸ *Id.* at §3110.6.

⁴⁹ 30 U.S.C. § 226(c)(1). As mentioned above, the Secretary may suspend, waive, or reduce rentals or royalties under certain conditions. *See, e.g.*, 30 U.S.C. §209.

minimum and maximum acreage limitations for noncompetitive leases.⁵⁰ If these criteria are met, BLM will issue the lease within 60 days of the Secretary identifying a qualified applicant.⁵¹

If no application for a noncompetitive lease is submitted during the two years that the land is available for noncompetitive leasing, the process for leasing the land will again be a competitive oral auction.⁵²

Lease Terms and Conditions

General Statutory Restrictions

In addition to the processes affecting *where* leasing can take place, general restrictions on leasing address *who* can lease, as well as *how much* land they can lease. First, public lands containing oil and gas deposits may only be leased to U.S. citizens, associations of U.S. citizens, corporations organized under U.S. laws or the laws of any state, and municipalities.⁵³ In addition, citizens of a country that denies similar privileges to U.S. citizens and corporations may not control any interest in federal leases.⁵⁴ Also, no entity is permitted to own or control oil or gas leases (including options for such leases) under the MLA in excess of 246,080 acres in any one state other than Alaska.⁵⁵ Other aggregate acreage limitations include limitations pertaining to options⁵⁶ and to combined direct and associational/corporate stockholder interests.⁵⁷

Payment Terms: Rental Fees and Royalties

Leases are conditioned upon payment to the Government of a royalty of at least 12.5% in amount or value of oil or gas production that is removed or sold from the leased land.⁵⁸ The Secretary has the power to reduce the royalty rate on a noncompetitive lease if he deems it equitable to do so or if circumstances could “cause undue hardship or premature termination of production” absent such a reduction.⁵⁹ For oil and gas leases, the royalty must be paid in value unless the Department of the Interior specifies that a royalty payment-in-kind is required.⁶⁰ Once the royalty has been paid, the Secretary is required to sell any royalty oil or gas “except whenever in his judgment it is desirable to retain the same for the use of the United States.”⁶¹

⁵⁰ See 43 C.F.R. §3110.3.

⁵¹ 30 U.S.C. §226(c)(1).

⁵² 30 U.S.C. §226(c)(2)(A).

⁵³ 30 U.S.C. §181.

⁵⁴ *Id.*

⁵⁵ *Id.* at §184(d)(1); 43 C.F.R. § 3101.2-1. For Alaska, the limit is 300,000 acres in the northern leasing district and 300,000 acres in the southern leasing district, of which no more than 200,000 acres may be held under options in each of the two leasing districts. 30 U.S.C. § 184(d); 43 C.F.R. § 3101.2-1.

⁵⁶ 30 U.S.C. §184(d)(2).

⁵⁷ *Id.* at §184(e)(1).

⁵⁸ *Id.* at §226(b)(1).

⁵⁹ 30 U.S.C. §188(i)(1).

⁶⁰ 30 C.F.R. §§202.100, 202.150.

⁶¹ 30 U.S.C. §192.

In addition to royalties, leases are conditioned upon payment of annual rental fees.⁶² Generally, the rate for the first five years of a lease is \$1.50 per acre per year, with the rate increasing to \$2 per acre for each additional year of the lease.⁶³ However, there is some variation in rental fee amounts for certain specific categories of lands.⁶⁴ For leases issued after December 22, 1987, a minimum royalty in lieu of the rental fee is due once oil or gas has been discovered on the leased land.⁶⁵ The amount of this minimum royalty is equal to the annual rental fee that would otherwise have been due.⁶⁶ Rental payments are not due on acreage for which royalties or minimum royalties are being paid, “except on nonproducing leases when compensatory royalty has been assessed in which case annual rental as established in the lease shall be due in addition to compensatory royalty.”⁶⁷

Money received from royalties and rental fees is initially paid into the U.S. Treasury.⁶⁸ Fifty percent of the funds then go to the state where the land or mineral deposit is located.⁶⁹ Forty percent of the funds are allocated into the Reclamation Fund under the Reclamation Act of 1902 for projects that provide water to arid Western states.⁷⁰ The remaining moneys are credited to the “miscellaneous receipts.”⁷¹ Because Alaska is not served by the Reclamation Fund, 90% of the funds collected from federal leases in Alaska are allocated to the State of Alaska.⁷² The Secretary is authorized to waive, suspend, or reduce rental fees and royalties under certain conditions.⁷³

Lease Terms, Extensions, and Cancellations

The primary term for competitive and noncompetitive leases is 10 years.⁷⁴ Leases can be extended to allow for the continuation of exploration operations or oil or gas production. The existence of an approved cooperative plan can also affect extensions.

First, a lease will be extended for two years because of *drilling* if three criteria are satisfied:

1. actual drilling operations began before the end of the primary lease term;
2. actual drilling operations are being “diligently prosecuted” at the end of the primary lease term; and
3. rental fees were paid in a timely manner.⁷⁵

⁶² *Id.* at §226(d).

⁶³ *Id.*; 43 C.F.R. §3103.2-2(a). The rental payment for the first year of the lease must be included with each competitive bid or noncompetitive lease offer. 43 C.F.R. §3103.2-1.

⁶⁴ *See* 43 C.F.R. § 3103.2-2.

⁶⁵ *Id.* at § 3103.3-2(a).

⁶⁶ *Id.* at §3103.3-2(a).

⁶⁷ *Id.* at §3103.2-2(c).

⁶⁸ *Id.* at §191(a).

⁶⁹ *Id.*

⁷⁰ *Id.*

⁷¹ *Id.*

⁷² *Id.*

⁷³ *See, e.g.*, 30 U.S.C. §209.

⁷⁴ 30 U.S.C. §226(e).

⁷⁵ *Id.*; 43 C.F.R. §3107.1. Other regulations regarding the continuation, extension, and renewal of leases are set forth in (continued...)

Second, a lease that meets these criteria will be extended “so long as oil or gas is being *produced* in paying quantities.”⁷⁶ A lease that has been extended because of production does not terminate when production stops, as long as the lessee starts reworking or drilling operations within 60 days after production ceases and conducts them with reasonable diligence during the non-productive period.⁷⁷ Furthermore, if a lease initially extended because of drilling begins yielding oil or gas in paying quantities during the two-year drilling extension, the lease can be extended again.⁷⁸

Finally, lessees may collectively adopt and operate under a cooperative plan for exploration and production in a particular area if the Secretary considers such a plan to be in the public interest.⁷⁹ All leases subject to such a plan will be extended if any of the leases covered by the plan qualify for a drilling or production extension.⁸⁰

Any MLA lease can be cancelled or forfeited if the lessee fails to comply with the statute, the lease’s provisions, or regulations promulgated pursuant to MLA.⁸¹ In some situations the Secretary has the authority to cancel the lease unilaterally, but some circumstances require a judicial proceeding to cancel the lease.⁸² In addition, MLA provides for *automatic* termination “upon failure of a lessee to pay rental on or before the anniversary date of the lease, for any lease on which there is no well capable of producing oil or gas in paying quantities.”⁸³ However, the Secretary may in some circumstances reinstate automatically terminated leases.⁸⁴

Applications for Permits to Drill

Bureau of Land Management

Operators⁸⁵ must submit an Application for a Permit to Drill (APD) for each oil or gas well.⁸⁶ Without an approved APD, operators cannot begin drilling operations or cause surface disturbances that are preliminary to drilling.⁸⁷ In fact, the APD process must begin at least 30 days prior to the commencement of operations.⁸⁸

(...continued)

43 C.F.R. §§3107.1 *et seq.*

⁷⁶ 30 U.S.C. §226(e) (emphasis added).

⁷⁷ 30 U.S.C. §226(i); 43 C.F.R. §3107.2-2.

⁷⁸ *See* 30 U.S.C. §226(e).

⁷⁹ *Id.* at §226(m).

⁸⁰ *Id.*; 43 C.F.R. §3107.3-1.

⁸¹ 30 U.S.C. §188(a); 43 C.F.R. §3108.3(a), (b).

⁸² *See* 43 C.F.R. §3108.3(a), (b).

⁸³ 30 U.S.C. §188(b).

⁸⁴ *See id.* at §188(c)-(e), (g), (j).

⁸⁵ BLM Regulations define an *Operator* as “any person or entity including but not limited to the lessee or operating rights owner, who has stated in writing to the authorized officer that it is responsible under the terms and conditions of the lease for the operations conducted on the leased lands or a portion thereof.” 43 C.F.R. §3160.0-5.

⁸⁶ *Id.* at §3162.3-1(c); *see* 43 U.S.C. §1732(b).

⁸⁷ 43 C.F.R. §3162.3-1(c).

⁸⁸ *Id.* at §3162.3-1(d).

A complete APD must include the following:

- a drilling plan;
- a surface use plan of operations, including drillpad locations and plans for reclaiming the surface;
- evidence of bond coverage;
- a BLM form; and
- any other information that may be required.⁸⁹

Once BLM receives an APD, it must make available information for public inspection for at least 30 days before it may act on the APD.⁹⁰ Another pre-approval requirement is that BLM must prepare an environmental record of review or an environmental assessment.⁹¹ Based on these documents, BLM decides whether an EIS is required.⁹² Additionally, an adequate bond or other financial arrangement is required before the operator begins any surface-disturbing activities.⁹³

Within five working days of the end of the public notice period, BLM must choose one of four options:

1. approve the application as submitted;
2. approve the application with modifications and/or conditions;
3. disapprove the application; or
4. delay final action.⁹⁴

BLM must also approve a surface use plan of operations addressing proposed surface-disturbing activities before a permit to drill on lands BLM manages may be granted.⁹⁵

U.S. Forest Service

An approved surface use plan of operations addressing proposed surface-disturbing activities is also required before a permit to drill on Forest Service lands may be granted and before any surface-disturbing operations may begin.⁹⁶ The operator must submit its proposed surface use plan of operations to BLM as part of its APD.⁹⁷ When the proposal pertains to NFS lands, BLM forwards the proposed surface use plan of operations to the Forest Service.⁹⁸

⁸⁹ *Id.* at §3162.3-1(d), (f).

⁹⁰ 30 U.S.C. §226(f); 43 C.F.R. §3162.3-1(g).

⁹¹ 43 C.F.R. §3162.5-1(a).

⁹² *Id.*

⁹³ 30 U.S.C. §226(g).

⁹⁴ 43 C.F.R. §3162.3-1(h).

⁹⁵ 30 U.S.C. §226(g).

⁹⁶ 30 U.S.C. §226(g); 36 C.F.R. §228.106(a).

⁹⁷ *Id.*

⁹⁸ *Id.*

The level of detail required in a proposed plan varies depending upon the “type, size, and intensity of the proposed operations and the sensitivity of the surface resources that will be affected by the proposed operations.”⁹⁹ When evaluating a proposed surface use plan of operations, the Forest Service must ensure that the proposal is consistent with the approved forest land and resource management plan for that area of land.¹⁰⁰ During the evaluation process, the Forest Service must also comply with NEPA, as well as appropriate Forest Service regulations and policies.¹⁰¹ In addition, the Forest Service can require that the operator increase the amount of its bond if it “determines [that] the financial instrument held by [BLM] is not adequate to ensure complete and timely reclamation and restoration” of the NFS lands.¹⁰²

Ultimately, the Forest Service must decide among four options:

1. approve the plan;
2. approve the plan “subject to specified conditions”;
3. disapprove the plan; or
4. delay the plan because additional time is needed to reach a decision.¹⁰³

Once it has made its decision regarding the proposed surface use plan of operations, the Forest Service forwards the decision to BLM, which conducts the leasing of the relevant land in accordance with its regulations.¹⁰⁴

Renewable Energy Projects on Federal Lands

Background

In recent years, concern over the impact of emissions from fossil fuel-fired power plants has resulted in increased interest in renewable energy sources. Because the federal government controls land in areas with topography that is considered suitable for renewable energy projects, BLM has issued leases or rights-of-way for a number of renewable energy projects. This section discusses the relevant statutes and regulations applicable to such projects.

The generally applicable requirements and restrictions for public lands managed by BLM discussed previously in this report also apply to this discussion of renewable energy projects on public lands. Renewable energy uses can be considered during the formulation of Resource Management Plans (RMPs) for public lands. Because the energy source does not expire and because the requisite gathering facilities often leave a relatively small footprint, renewable energy can often be an attractive option when applying the “multiple use” and “sustained yield” principles during the RMP process as described *supra* in the section of this report titled “Development of Resource Management Plans.”

⁹⁹ 30 U.S.C. §228.106(c).

¹⁰⁰ 16 U.S.C. §1604(i); 36 C.F.R. §228.107(a)(2).

¹⁰¹ 36 C.F.R. §228.107(a).

¹⁰² 36 C.F.R. §228.109(a).

¹⁰³ *Id.* at §228.107(b).

¹⁰⁴ *Id.* at §228.107(d).

Geothermal Project Leasing

Background

Geothermal energy is energy that is produced from heat stored under the surface of the earth. Geothermal energy is produced by releasing cold water under the surface into a “hot” area in order to generate steam to fuel the generation of power. BLM has the delegated authority to lease 247 million acres of lands in the Western United States and Alaska (including 104 million acres of lands managed by the Forest Service)¹⁰⁵ with geothermal potential.¹⁰⁶ BLM currently manages 530 geothermal energy leases, with 58 leases producing 1,275 megawatts of electricity, about half of the total amount of U.S. geothermal energy capacity.¹⁰⁷

Geothermal energy projects administered by BLM differ from most other renewable energy projects on public lands in that they are operated pursuant to a lease, rather than a more limited authorization like a right-of-way. The governing law for steam leasing is the Geothermal Steam Act of 1970.¹⁰⁸ The act sets forth detailed provisions governing the issuance and administration of geothermal steam leases. The processes for both are similar to the principles and process for oil and natural gas leasing on federal lands described in detail earlier in this report.

The Leasing Process

The Geothermal Steam Act, like the MLA, authorizes both competitive and noncompetitive leasing processes. The competitive process begins when BLM receives nominations for parcels to be auctioned from a qualified company or individual.¹⁰⁹ Nominated areas may not exceed 5,120 acres unless the lease area includes an irregular subdivision.¹¹⁰ Qualified companies or individuals may request that nominated parcels be offered as a block for competitive leasing.¹¹¹

The Secretary must provide 45 days notice by posting in the applicable BLM office before offering public lands for geothermal leasing.¹¹² BLM must hold competitive bidding for geothermal leases at least once every two years.¹¹³ Once the public notice requirements have been

¹⁰⁵ According to the Geothermal Steam Act, the Secretary of the Interior may issue leases for developments and utilization of geothermal resources in any federal lands administered by BLM, or in national forests administered by the Forest Service, or in lands conveyed by the United States if the conveyance reserved the rights of the United States to the geothermal resources therein. 30 U.S.C. §1002. The act also establishes a number of exceptions to this general leasing authority for certain protected lands. 30 U.S.C. §1014.

¹⁰⁶ Renewable Energy and the BLM: Geothermal, fact sheet, available at http://www.blm.gov/pgdata/etc/medialib/blm/wo/MINERALS__REALTY__AND_RESOURCE_PROTECTION_/energy.Par.74240.File.dat/09factsheet_Geothermal.pdf.

¹⁰⁷ *Id.*

¹⁰⁸ P.L. 91-581, codified at 30 U.S.C. §§1001 *et seq.*

¹⁰⁹ 43 C.F.R. §3203.10(a). The qualifications for nomination and bidding are set forth at 32 C.F.R. §3202.10.

¹¹⁰ *Id.* at §3203.10(b).

¹¹¹ *Id.* at §3203.11.

¹¹² *Id.* at §3203.15(b).

¹¹³ *Id.* at §3203.13.

satisfied, the public lands are offered for competitive leasing through an auction at the time, date, and place specified in the public notice.¹¹⁴

Bidders must make a minimum acceptable bid of \$2 per acre for the first year, \$3 per acre for years 2-10, and \$5 per acre for every year after year 10 of the lease.¹¹⁵ A competitive bid constitutes a legally binding commitment and cannot be withdrawn.¹¹⁶ BLM will accept the highest bid from a qualified bidder.¹¹⁷ The winning bidder must pay 20% of the bid amount, the total amount of the first year's rental, and a processing fee to BLM by the close of business on the day following the day of the lease sale.¹¹⁸ The remainder of the bid amount must be submitted to BLM within 15 calendar days of the day of the sale.¹¹⁹

Lands offered at a competitive lease sale that receive no bids are made available for noncompetitive leasing for a two-year period beginning the first business day following the date of the lease sale.¹²⁰ For the first 30 days following the lease sale, leases are available only for parcels as configured for the lease sale; after 30 days, BLM accepts applications for any available lands covered by the lease sale.¹²¹ Holders of mining claims on federal lands may apply for noncompetitive geothermal leases within the lands on which they hold claims.¹²²

Geothermal steam project leases can also be obtained through "direct use" leasing. Direct use of geothermal energy involves the use of geothermal hot water directly for its intended end use, rather than for transfer into electricity that is then transmitted to the end user. Applicants can obtain direct use leases if: (1) the lands in question are open for geothermal leasing; (2) BLM determines that the lands are appropriate for direct use operations without sale for purposes other than commercial generation of electricity; (3) BLM has published notice of the proposal to use the land for direct use leasing; (4) during the 90-day period following the publication of such notice, BLM does not receive any nomination to include the land in question in the next competitive lease sale; and (5) BLM determines there is not competitive interest in the resource.¹²³

Geothermal leases generally have an initial primary term of 10 years, with a number of extensions that can extend the term at the discretion of BLM.¹²⁴ The first five-year extension is granted if the lessee has expended a minimum of \$40 per acre in development activities that provide additional geologic or reservoir information.¹²⁵ Subsequent extensions may be granted upon showings of continued annual expenditures and progress in the development of geothermal resources.¹²⁶

¹¹⁴ *Id.* at §3203.14 (a)(2).

¹¹⁵ 30 U.S.C. §1004(a)(3).

¹¹⁶ 43 C.F.R. §3203.15(c).

¹¹⁷ *Id.* at §3203.15(b).

¹¹⁸ *Id.* at §3203.17(b).

¹¹⁹ *Id.* at §3203.17(c).

¹²⁰ *Id.* at §3204.5(a).

¹²¹ *Id.* at §3204.11(a).

¹²² *Id.* at §3204.12.

¹²³ *Id.* at §3205.6(a).

¹²⁴ *Id.* at §3207.5.

¹²⁵ *Id.* at §3207.11(a).

¹²⁶ *Id.* at §3207.12.

Lessees are required to make annual rental payments to BLM. For leases acquired in a competitive lease sale and issued on or after August 8, 2005, the annual rent is \$2 per acre for the first year and \$3 per acre for the second through the tenth year.¹²⁷ For leases acquired non-competitively, the annual rent is \$1 per acre for the first 10 years of the lease.¹²⁸ For both types of leases, the annual rent is \$5 per acre each year after the tenth year.

Lessees must also make royalty payments on electricity produced from geothermal steam on federal lands. For leases issued on or after August 8, 2005, the royalty rate is 1.75% of gross sales for the first 10 years of production, and 3.5% thereafter.¹²⁹ If the lessee sells the geothermal resources to a third party who then uses those resources to produce electricity, the royalty rate on the sale is 10%.¹³⁰ Direct use lessees do not have to pay royalties unless they sell the geothermal steam resources to a third party; instead, they must pay a direct use fee in accordance with a fee schedule published by the Minerals Management Service, an agency within the Department of the Interior.¹³¹

Geothermal leases can be suspended or cancelled at the discretion of the Secretary of the Interior. The Secretary may suspend leases in the interest of conservation of resources, and may terminate leases for any violation of the BLM regulations or the lease terms.¹³² The Secretary is also authorized to waive, suspend, or reduce the rental or royalty rates for any lease in the interest of conservation.¹³³ The lessee may also suspend the lease on their own motion in the interest of conservation.¹³⁴

Exploration and Production Under Geothermal Leases

As with oil and natural gas leasing, a geothermal lease alone does not entitle the lessee to commence drilling and production. In order to conduct exploration for geothermal resources, the lessee must submit to BLM a Notice of Intent to Conduct Geothermal Resource Exploration Operations.¹³⁵ Exploration operations must be conducted in a manner that (1) protects the quality of surface and subsurface waters, air, and other natural resources; (2) protects the quality of cultural, scenic, and recreational resources; (3) accommodates other land uses; and (4) minimizes noise.¹³⁶ Data collected during exploration operations must be shared with BLM.¹³⁷

Lessees must also submit a geothermal drilling program and obtain a drilling permit before commencing drilling operations for geothermal resources on leased land.¹³⁸ The drilling program

¹²⁷ *Id.* at §3211.11(b)(1)-(2). For both competitive and non-competitive leases issued before August 8, 2005, the royalty rate is the rate prescribed by regulation as of the date of the issuance of the lease.

¹²⁸ *Id.* at §3211.11(b)(3).

¹²⁹ *Id.* at §3211.17(a). For earlier leases, the royalty rate varies on a case-by-case basis.

¹³⁰ *Id.* at §3211.17(iii).

¹³¹ *Id.* at §3211.18.

¹³² 30 U.S.C. §§1010-1011.

¹³³ *Id.* at §1012.

¹³⁴ *Id.* at §1010.

¹³⁵ 43 C.F.R. §3251.10. Content requirements for the Notice of Intent are set forth at 43 C.F.R. §3251.11.

¹³⁶ *Id.* at §3252.11.

¹³⁷ *Id.* at §3253.10.

¹³⁸ 43 C.F.R. Subpart 60.

must set forth a detailed drilling program submitted to BLM.¹³⁹ Similar to exploration operations, drilling operations must be conducted in a manner that (1) protects the quality of surface and subsurface waters, air, and other natural resources; (2) protects the quality of cultural, scenic, and recreational resources; (3) accommodates other land uses; (4) minimizes noise; and (5) prevents property damage and unnecessary or undue degradation of the lands.¹⁴⁰ Lessees must also meet BLM's geothermal well abandonment requirements upon completion of operations.¹⁴¹

Authorizations for Wind and Solar Energy Projects

While oil, gas, and geothermal projects are permitted by BLM under leasing processes, those interested in producing wind or solar energy on public lands do not seek leases. Instead, they seek more limited authorizations for development of their energy projects pursuant to Title V of the Federal Land Policy and Management Act (FLPMA).¹⁴²

Background

As with oil, gas and geothermal leasing, not all public lands are available for wind and solar renewable energy project rights-of-way. Lands designated as Wilderness Areas and Wilderness Study Areas, National Monuments, National Conservation Areas (with the notable exception of the California Desert Conservation Area), National Wild and Scenic Rivers, and National Historic and Scenic Trails, are categories of land not open to solar and wind energy development.¹⁴³ In addition, some special management areas, such as Areas of Critical Environmental Concern, may not be suitable for development.¹⁴⁴

Public lands also have significant capacity for wind energy production. BLM manages 20.6 million acres of public lands with wind potential in 11 Western states.¹⁴⁵ BLM completed a PEIS for wind energy permitting in June 2005, and in 2006 issued a policy to provide guidance on best management practices to mitigate potential negative environmental impacts, including impacts on birds and wildlife habitat.¹⁴⁶ As of July 2009, BLM had authorized a total of 206 rights-of-way for use of public lands in wind energy production.¹⁴⁷

The Southwestern United States has some of the highest solar radiation levels in the world, a characteristic that makes it a possible candidate for solar energy development.¹⁴⁸ Although BLM

¹³⁹ The requirements of the drilling operations plan to be submitted to BLM can be found at 43 C.F.R. §32261.13.

¹⁴⁰ 43 C.F.R. §3262.11.

¹⁴¹ 43 C.F.R. Subpart 3263.

¹⁴² P.L. 94-579, 43 U.S.C. §§1767 *et seq.*

¹⁴³ *Renewable Energy and the BLM: Solar*, July 2009, available at http://www.blm.gov/pgdata/etc/medialib/blm/wo/MINERALS__REALTY__AND_RESOURCE_PROTECTION_/energy.Par.28512.File.dat/09factsheet_Solar.pdf.

¹⁴⁴ *Id.* Areas of Critical Environmental Concern are defined as “those areas within the public lands where special management attention is required ... to protect and prevent irreparable damage to important historical, cultural or scenic values, fish and wildlife resources or other natural systems or processes, or to protect life and safety from natural hazards.” 43 U.S.C. §1702(a).

¹⁴⁵ *Renewable Energy and the BLM: Wind*, July 2009, available at http://www.blm.gov/pgdata/etc/medialib/blm/wo/MINERALS__REALTY__AND_RESOURCE_PROTECTION_/energy.Par.82982.File.dat/09factsheet_Wind.pdf.

¹⁴⁶ *Id.*

¹⁴⁷ *Id.*

¹⁴⁸ *Id.*

has not yet approved any rights-of-way on public lands for solar projects, it has received more than 225 applications for utility-scale solar projects, covering more than 1.8 million acres of public land.¹⁴⁹ BLM continues to develop its Programmatic Environmental Impact Statement (PEIS) for solar energy project licensing, and the publication of the PEIS for the program is the next significant step towards development of solar resources on public lands.

Title V of the Federal Land Policy and Management Act

Title V of FLPMA authorizes BLM and the Secretary of Agriculture (managing Forest Service lands) to “grant, issue or renew rights-of-way over, upon, under or through” their administered lands for “systems for generation, transmission and distribution of electric energy.”¹⁵⁰ Neither Title V of FLPMA nor the accompanying regulations address wind or solar energy projects specifically. However, because wind and solar projects on federal lands are conducted via rights-of-way, many of the provisions of FLPMA and the accompanying regulations are relevant.

The agencies may exercise their discretion to grant rights-of-way on any lands under their jurisdiction, unless: (1) prohibited by a statute, regulation or public land order that specifically excludes rights-of-way; (2) the lands are specifically segregated or withdrawn from the use contemplated by the right-of-way; or (3) the agency has identified the area in land use plans as inappropriate for right-of-way uses.¹⁵¹

BLM Rights-of-Way

Parties applying for BLM rights-of-way for development of wind or solar energy projects must satisfy a number of requirements in their application, as set forth by the Secretary of the Interior.¹⁵² These include disclosures regarding information related to the use of the right-of-way, information regarding the identification of business partners and other affiliated entities, and information regarding plans for use of the right-of-way.¹⁵³ Applications for rights-of-way on BLM lands must be accompanied by a processing fee as set forth in BLM regulations.¹⁵⁴ All filed information is kept confidential to the extent allowed by law.¹⁵⁵

Rights-of-way granted by the BLM function differently from leases in several respects. Perhaps the most significant difference between leases and rights-of-way are the substantial rights to use of the land in question retained by the lessor, the United States. BLM retains the right to:

1. access the lands covered by the right-of-way, including any facilities constructed on the right-of-way;
2. require common use of the land (including subsurface and air space) and to authorize others to use the right-of-way for compatible uses;

¹⁴⁹ *Id.*

¹⁵⁰ 43 U.S.C. §1761(a)(5).

¹⁵¹ 43 C.F.R. §2802.10(a).

¹⁵² 43 U.S.C. §1761(b).

¹⁵³ *Id.* A detailed review of the information that must be included in an application for a FLPMA right-of-way grant can be found at 43 C.F.R. Subpart 2804.

¹⁵⁴ 43 C.F.R. §2804.14.

¹⁵⁵ *Id.* at §2804.13.

3. retain ownership of the resources of the land;
4. determine whether or not the grant is renewable; and
5. change the terms and conditions of the right-of-way as a result of changes in legislation or regulation or as otherwise necessary to protect public health or safety or the environment.¹⁵⁶

BLM may also include in a right-of-way grant any terms, conditions, or stipulations that it determines to be in the public interest, including modifications of proposed routes or changes to the location of certain facilities.¹⁵⁷ Rights-of-way may also completely prohibit use of the land until BLM has approved a Plan of Development for the land and issued a Notice to Proceed to the right-of-way holder.¹⁵⁸ The terms of rights-of-way vary, but those with terms longer than 20 years must include periodic reviews at the end of the 20th year and at 10-year intervals thereafter.¹⁵⁹

Holders of BLM rights-of-way are also required to make rent payments as set forth by BLM. Rent is payable on a monthly basis,¹⁶⁰ and waivers or reductions can be obtained.¹⁶¹ BLM regulations provide that rent for non-linear rights-of-way for purposes other than communications uses will be determined through a process based on comparable commercial practices, appraisals, competitive bidding, or other reasonable methods.¹⁶²

Forest Service Special Use Authorizations

The Forest Service also does not have regulations that specifically address wind and solar energy rights-of-way, so the agency would look to generally applicable laws and regulations as guidance for the authorization of wind or solar projects. The Forest Service does not currently authorize any such projects on its lands. Applicants seeking to make use of Forest Service lands for such a project would apply for “special use authorization” under the generally applicable regulations for such authorizations.

All uses of National Forest System lands other than road usage, grazing and livestock use, sale and disposal of timber and other forest products, and mineral usage are designated as “special uses.”¹⁶³ Before conducting a special use on these lands, individuals or entities must submit a proposal to a Forest Service-authorized officer¹⁶⁴ and must obtain “special use authorization” from that authorized officer, unless that requirement is waived under regulations that are likely not applicable to energy projects.¹⁶⁵ Among the permitted authorizations are “permits, leases and

¹⁵⁶ *Id.* at §2805.15(e).

¹⁵⁷ *Id.* at §2805.10(a)(1).

¹⁵⁸ *Id.* at §2805.10(a)(2).

¹⁵⁹ *Id.* at §2805.10(a)(3).

¹⁶⁰ *Id.* at §2806.12.

¹⁶¹ *Id.* at §2806.15.

¹⁶² *Id.* at §2806.50.

¹⁶³ 36 C.F.R. §251.50(a).

¹⁶⁴ The Forest Service Chief is considered the “authorized officer,” and the Regional Foresters, Forest Supervisors, District Ranger, or other officer can all serve as “authorized officers” through delegation. 36 C.F.R. §251.52.

¹⁶⁵ 36 C.F.R. §251.52.

easements ... for rights-of-way for ... systems and related facilities for generation, transmission and distribution of electric energy,”¹⁶⁶ which would authorize wind or solar generation facilities.

Applicants for special use authorizations must contact the Forest Service office(s) responsible for management of the affected land as early as possible in advance of the proposed use.¹⁶⁷ Upon receipt, the authorized officer screens the application in two phases to ensure that the proposed use is consistent with the laws, regulations, orders, and policies establishing or governing National Forest System lands,¹⁶⁸ that the proposed use is consistent with the standards and guidelines in the applicable forest land and RMP,¹⁶⁹ that the proposed use will not create an exclusive or perpetual right of use or occupancy,¹⁷⁰ and that other Forest Service initial screening concerns are satisfied.¹⁷¹ After this second-level screening, a formal application is submitted and processed,¹⁷² and federal, state, and local agencies and the public are afforded the opportunity to comment on the application.¹⁷³ After review and a decision to approve, the authorized officer may issue a special use authorization.¹⁷⁴

Special use authorizations are subject to a number of limitations. All rights not expressly granted are reserved to the United States, including:

1. continuing rights of access to all Forest System lands;
2. a continuing right of physical entry to any part of the authorized facilities; and
3. the right to require common use of the land or to authorize the use by others in any way not inconsistent with a holder’s existing rights and privileges after consultation.¹⁷⁵

A number of other mandatory terms and conditions apply to the Forest Service-issued special use authorizations, as set forth in the regulations.¹⁷⁶ Special use authorization holders also must pay an annual rental fee for the authorization, as determined by the authorized officer based on the fair market value of the rights and privileges authorized, as determined by appraisal or other sound business management principles.¹⁷⁷ The Forest Service also may collect processing fees from applicants and holders to recover its costs.¹⁷⁸

The Forest Service may suspend, revoke, or terminate a special use authorization under any of the grounds articulated in its regulations.¹⁷⁹ The regulations do not provide specific guidance on

¹⁶⁶ *Id.* at §251.53(l)(4).

¹⁶⁷ *Id.* at §251.54(a).

¹⁶⁸ *Id.* at §251.54(e)(1)(i).

¹⁶⁹ *Id.* at §251.54(e)(1)(ii).

¹⁷⁰ *Id.* at §251.54(e)(1)(iv).

¹⁷¹ *Id.* at §§251.54(e)(1)(iii), (v)-(ix), and (e)(5).

¹⁷² *Id.* at §251.54(g).

¹⁷³ *Id.* at §251.54(g)(2)(ii).

¹⁷⁴ *Id.* at §251.54(g)(5).

¹⁷⁵ *Id.* at §251.55(b).

¹⁷⁶ *Id.* at §2151.56.

¹⁷⁷ *Id.* at §251.57(a).

¹⁷⁸ *Id.* at §251.58.

¹⁷⁹ *Id.* at §251.59(a).

duration and renewability of special use authorizations, providing simply that “[i]f appropriate, each special use authorization will specify its duration and renewability. The duration shall be no longer than the authorized officer determines is necessary to accomplish the purpose of the authorization and to be reasonable in light of all circumstances concerning the use.”¹⁸⁰ Where renewal is provided for, the authorized officer will renew the authorization if the project or facility is still being used for the purpose(s) previously authorized and is being operated and maintained in accordance with all the provisions of the authorization.¹⁸¹ Where no such renewal provision is in place, the authorization can be renewed at the authorized officer’s discretion upon request of the holder.¹⁸²

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¹⁸⁰ *Id.* at §251.56(b).

¹⁸¹ *Id.* at §251.64(a).

¹⁸² *Id.* at §251.64(b).