

DEPARTMENT OF THE INTERIOR**Bureau of Land Management****43 CFR Parts 3900, 3910, 3920, and 3930****[LLWO-3200000 L13100000.PP0000 L.X.EM OSHL000.241A]****RIN 1004-AD90****Oil Shale Management—General****AGENCY:** Bureau of Land Management, Interior.**ACTION:** Final rule.

SUMMARY: The Bureau of Land Management (BLM) is finalizing regulations to set out the policies and procedures for the implementation of a commercial leasing program for the management of federally-owned oil shale and any associated minerals located on Federal lands. The Energy Policy Act of 2005 (EP Act) directs the Secretary of the Interior (Secretary) to: Make public lands available for conducting oil shale research and development activities; Complete a Programmatic Environmental Impact Statement (PEIS) for a commercial leasing program for both oil shale and tar sands resources on the BLM-administered lands in Colorado, Utah, and Wyoming; and Issue regulations establishing a commercial oil shale leasing program.

These final regulations incorporate specific provisions of the Mineral Leasing Act of 1920 (MLA) and the EP Act relating to: Oil shale lease size; Acreage limitations; Rental; and Lease diligence.

These regulations also address the diligent development requirements of the EP Act by establishing work requirements and milestones to ensure diligent development of leases. The rule also provides for other standard components of a BLM mineral leasing program, including lease administration and operations.

DATES: This rule is effective on January 17, 2009.

ADDRESSES: You may send inquiries or suggestions to Director (320), Bureau of Land Management, 1620 L Street, NW., Room 501, Washington, DC 20036, Attention: RIN-AD90.

FOR FURTHER INFORMATION CONTACT: Mitchell Leverette, Chief, Division of Solid Minerals at (202) 452-5088 for issues related to the BLM's commercial oil shale leasing program or Kelly Odom at (202) 452-5028 for regulatory process issues. Persons who use a telecommunications device for the deaf (TDD) may call the Federal Information

Relay Service (FIRS) at 1-800-877-8339, 24 hours a day, 7 days a week, to leave a message or question with the above individuals. You will receive a reply during normal business hours.

SUPPLEMENTARY INFORMATION:

- I. Background
- II. Final Rule as Adopted and Response to Comments
- III. Procedural Matters

I. Background

These regulations implement the EP Act (42 U.S.C. 15927), which became law on August 8, 2005. Section 369 of the EP Act addresses oil shale development and authorizes the Secretary to establish regulations for a commercial leasing program. The MLA of 1920 (30 U.S.C. 241(a)) provides the authority for the BLM to allow for the exploration, development, and utilization of oil shale resources on the BLM-managed public lands. Additional statutory authorities for these regulations are:

(1) The Mineral Leasing Act for Acquired Lands of 1947 (30 U.S.C. 351-359); and

(2) The Federal Land Policy and Management Act (FLPMA) of 1976 (43 U.S.C. 1701 *et seq.*, including 43 U.S.C. 1732).

Oil shale is a fine-grained sedimentary rock containing organic matter from which shale oil may be produced. Oil shale is a marlstone and contains no oil; rather, it contains undecayed algae called kerogen (not oil). In fact, the word kerogen is a Greek word interpreted to mean "to produce wax"—"kero" (wax), "gen" to produce. The waxy substance produced from oil shale rock is not the same as conventional crude oil. The kerogen only has a market value as an energy source after it has been refined and converted to synthetic crude oil.

Oil shale is a solid rock and must be mined or treated in place to release the kerogen from the rock. Energy companies and petroleum researchers have, over the past 60 years, developed and tested a variety of technologies on a small scale for recovering shale oil from oil shale and processing it to produce fuels and by-products. Both surface processing and in-situ technologies have been examined. Generally, surface processing consists of three major steps: (1) Oil shale mining and ore preparation; (2) processing of oil shale to produce kerogen oil; and (3) processing kerogen oil to produce refinery feedstock and high-value chemicals. This sequence is illustrated below.

Conversion of Oil Shale to Products (Surface Process)

Resource → Ore Mining → Retorting → Oil Upgrading → Fuel and Chemical Markets

For deeper, thicker deposits, not as amenable to surface- or deep-mining methods, the shale oil can be produced by in-situ technology. In-situ processes minimize or, in the case of true in-situ, eliminate the need for mining and surface processes by heating the resource in its natural depositional setting. This sequence is illustrated below.

Conversion of Oil Shale to Products (True In-Situ Process)

Resource → In-Situ Processing → Oil Upgrading → Fuel and Chemical Markets

The American Association of Petroleum Geologists estimates that the total world oil shale resources contain the equivalent of 2.6 trillion barrels of oil. According to estimates by the U.S. Geological Survey, the United States holds more than 50 percent of the world's oil shale resources.

The largest known deposits of oil shale in the world are located in a 16,000 square mile area in the Green River formation in Colorado, Utah, and Wyoming (underlying the Piceance, Uinta, Green River, and Washakie Basins), which is estimated to contain the equivalent of between 1.5 and 1.8 trillion barrels of oil. Federal lands comprise 72 percent of the total surface of oil shale acreage and 82 percent of the oil shale resources in the Green River formation.

BLM Oil Shale Initiatives Since 1973

In 1973, four leases were issued in the oil shale prototype leasing program. During the 1973-74 oil shale prototype program there were expectations of an economic boom in western Colorado which never materialized. The oil shale industry collapsed on May 2, 1982, commonly referred to as Black Sunday.

In 1983, the BLM established an Oil Shale Task Force to address:

(1) Access to unconventional energy resources (such as oil shale) on public lands;

(2) Impediments to oil shale development on public lands;

(3) Industry interest in research and development and commercial opportunities on public lands; and

(4) Secretarial options to capitalize on these opportunities.

On February 11, 1983, the BLM published a proposed rule for an oil shale leasing program (48 FR 6510). Due to apparent lack of interest in the

development of oil shale, the BLM withdrew the proposed rule, effective September 25, 1985 (50 FR 38867).

In order to be better able to expand and diversify domestic energy production, on November 22, 2004, the BLM published a notice in the **Federal Register** (69 FR 67935) requesting public comments on the potential for oil shale development within the Piceance Creek Basin in Colorado, the Uinta Basin in Utah, and the Green River and Washakie Basins in Wyoming. The **Federal Register** notice also requested comments on a proposed draft oil shale Research, Development, and Demonstration (R, D and D) lease form. Comments received were incorporated, as appropriate, into the final R, D and D lease form.

On June 9, 2005, the BLM published a notice in the **Federal Register** (70 FR 33753), which initiated a R, D and D leasing program by soliciting nominations of 160-acre parcels of public land to be leased in Colorado, Utah, and Wyoming for conducting oil shale recovery technologies. In response to the 19 nominations of parcels received, the BLM issued 6 R, D and D leases—5 in Colorado that were effective January 1, 2007, and an additional R, D and D lease in Utah that was effective on July 1, 2007. Each of the R, D and D leases contain a preference right for conversion to a commercial lease of additional acreage upon demonstration of a successful method of producing oil from shale rock.

One of the purposes of the R, D and D leases, as stated in the notice, was to provide the BLM, state and local governments, and the public with important information that could be utilized as the BLM works with communities, states, and other Federal agencies to develop strategies for managing the environmental effects of production. The R, D and D lease form was published as an attachment (Appendix A) to the June 9, 2005, **Federal Register** notice.

The PEIS and National Environmental Policy Act (NEPA) Compliance

On December 13, 2005, the BLM published in the **Federal Register** a notice of intent (NOI) to prepare a PEIS (70 FR 73791) for oil shale and tar sands resources leasing on lands administered by the BLM in Colorado, Utah, and Wyoming. The NOI alerted the public that the BLM was intending to amend several resource management plans (RMPs) to make lands available for oil shale and tar sands resources leasing in Colorado, Utah, and Wyoming. The NOI also informed the public of the development of the oil shale regulations

required by Section 369(d)(2) of the EP Act. The RMPs are BLM planning documents prepared under Section 202 of FLPMA that present guidelines for making resource management decisions.

The draft PEIS evaluated the following RMPs for possible amendment:

(1) Wyoming: Green River, Great Divide, and Kemmerer;

(2) Utah: Price River, San Juan, San Rafael, Henry Mountain, Book Cliffs, and Diamond Mountain; and

(3) Colorado: Grand Junction, White River, and Glenwood Springs.

Although the PEIS covers planning for tar sands, these regulations do not address tar sands leasing since the BLM has regulations in place that address tar sands leasing (see 43 CFR part 3140).

On December 21, 2007, the BLM published the notice of availability (NOA) for the draft PEIS and made the draft PEIS available for public comment (72 FR 72751). On September 5, 2008, the BLM published a NOA announcing the availability of the final PEIS (73 FR 51838). The PEIS is primarily intended to analyze the impacts of land use allocation and not site-specific oil shale leasing. The Record of Decision (ROD) has not yet been signed. The ROD will describe and approve the BLM's proposal to amend 12 RMPs to identify the most geologically prospective public lands in Colorado, Utah, and Wyoming for oil shale and tar sands resources, and to designate certain of these lands as available for application for commercial leasing and future exploration and development of these resources.

Advance Notice of Proposed Rulemaking

The BLM recognized that the creation of the rules governing the development of oil shale would need to address different possible technologies that have different associated impacts and costs. Therefore, to increase public participation and to aid in the development of oil shale regulations, the BLM published in the **Federal Register** an advance notice of proposed rulemaking (ANPR) (71 FR 50378) on August 25, 2006. The ANPR requested public comments on the following five key components of the proposed regulations:

(1) What should be the royalty rate and point of royalty determination?

(2) Should the regulations establish a process for bid adequacy evaluation, i.e., Fair Market Value (FMV) determination, or should the regulations establish a minimum acceptable lease bonus bid?

(3) How should diligent development be determined?

(4) What should be the minimum production requirement?

(5) Should there be provisions for small tract leasing?

On September 26, 2006, the BLM published a **Federal Register** notice reopening the comment period for the ANPR and extending the comment period until October 25, 2006 (71 FR 56085). In response to the ANPR, the BLM received 48 comments.

Comments were received from individuals, public interest groups, and industry representatives. Although the ANPR focused on the 5 areas previously identified, commenters addressed a variety of topics, including whether or not they were supportive of a commercial oil shale leasing program. The BLM considered the ANPR comments in drafting the proposed and final rules.

Listening Sessions With Governor's Representatives From Colorado, Utah, and Wyoming

The BLM, in coordination with the Minerals Management Service (MMS), held three "listening sessions" with representatives of the governors of the States of Colorado, Utah, and Wyoming. The BLM and the MMS met with these representatives in Denver, Colorado (December 14, 2006), Salt Lake City, Utah (April 26, 2007), and Cheyenne, Wyoming (August 8, 2007). The purpose of the listening sessions was to provide the governors' representatives the opportunity to share their ideas, issues, and concerns relating to the proposed commercial oil shale leasing regulations.

Section 369(e) of the EP Act requires the Department of the Interior (Department) to consult with the governors of Colorado, Utah, and Wyoming, representatives of local governments, interested Indian tribes, and the public to determine the level of support for conducting oil shale lease sales. The BLM plans to consult with the affected states prior to conducting the first oil shale lease sale, and following publication of this rule.

On July 23, 2008, the BLM published in the **Federal Register** a proposed rule entitled Oil Shale Management—General (73 FR 42926). The comment period on the rule closed on September 22, 2008. The BLM received over 75,000 comment letters on the proposed rule from individuals, Federal and state governments and agencies, interest groups, and industry representatives. Substantive comments on the proposed rule are discussed in this preamble in the section discussions of this rule. If

we received no substantive comment on a particular section of the rule, that section remains as proposed.

II. Final Rule as Adopted and Response to Comments

Part 3900—Oil Shale Management—General

This part contains regulations on the general management of the oil shale program, including discussions of the descriptions and acreage in oil shale leases, qualifications requirements, fees, rentals, royalties, bonds and trust funds, and lease exchanges.

Subpart 3900—Oil Shale Management—Introduction

This subpart establishes competitive oil shale leasing administrative procedures for implementing a commercial oil shale leasing program.

The rule contains specific provisions required by Section 369 of the EP Act. Many of the sections of the rule contain regulatory requirements similar to the regulations in the BLM's existing mineral programs namely, coal, non-energy leasable minerals, and oil and gas. In creating a regulatory framework for the oil shale commercial leasing program, the BLM is adopting certain basic components and processes common to the BLM's leasing programs. Most of the BLM's leasing programs are governed by the MLA. The regulations governing those programs and this program include the following types of provisions: Pre-lease exploration; leasing processes; bonding; operations (including plan of development (POD)); reclamation; and inspection and enforcement.

Section 3900.2 contains the definitions and terms used in these regulations. Many of the terms and definitions found in this section are similar to terms and definitions in the regulations of other BLM mineral leasing programs. Because most of the terms and concepts in this section are well-established, this section of the preamble does not address each of the definitions, but focuses only on definitions for certain terms that directly affect the reader's understanding of the regulatory framework of the oil shale leasing program or that are unique to these regulations.

The BLM removed the definition for "Director" in the final rule because the term is not used in the regulatory text.

The term "commercial quantities" was discussed in the proposed rule as production of shale oil quantities in accordance with the approved Plan of Development for the proposed project

through the research, development, and demonstration activities conducted on the R, D and D lease, based on and at the conclusion of which a reasonable expectation exists that the expanded operation would provide a positive return after all costs of production have been met, including the amortized costs of the capital investment. One commenter stated that the report, *Oil Shale Development in the United States*, (James Bartis, 2005) estimates that the minimum size of a commercial scale operation will likely be over 100,000 barrels per day. The BLM interprets this as a recommendation to define commercial quantities as production of at least 100,000 barrels per day. Another commenter stated that an alternative method of defining commercial quantities would be to set it at no less than 1/2 of 1% of the recoverable resource on the lease. The BLM did not adopt these recommendations because "commercial quantities" does not apply to commercial lease production, but is a condition in an R, D and D lease that must be met before an R, D and D lessee can convert the R, D and D acreage and preference acreage to a commercial lease. One commenter expressed the view that the definition in the proposed rule for "commercial quantities" was subjective and that the definition should be revised to confirm that an oil shale lessee will only be required to pay royalties once operations convert from the test phase to a commercial operations phase. The definition of "commercial quantities," applies only to the R, D and D leases and mirrors the definition for "commercial quantities" that is in the existing R, D and D leases. Provisions in the R, D and D leases also address the payment of royalties, therefore, we have revised the definition for "commercial quantities" in the final rule to make it clear that the definition only applies to R, D and D leases. Another commenter stated that there is an inconsistency between the "commercial quantities" definition and the "diligent development" definition in that section 3927.50 provides that market conditions are not considered a valid reason to waive or suspend the requirements for annual minimum production. As stated previously, the definition for "commercial quantities" only applies to R, D and D leases; therefore, there is no connection, or inconsistency, between the definition for "commercial quantities" and the diligent development requirements in section 3927.50.

Finally, commenters said that the commercial quantities definition needs to take into account all of the related

costs. The term "commercial quantities" pertains only to the R, D and D leases. As stated in the commercial quantities definition of this rule, the BLM will evaluate all costs of production, including the amortized costs of the capital investment when determining whether an R, D and D lease should be converted to a commercial lease. We did not revise the definition of commercial quantities as a result of public comment.

One commenter requested that the BLM clarify the definition for "exploration license" to indicate that the holder of an exploration license does not have an automatic right to a lease to develop oil shale. We made a change in the final rule to address this concern by making it clear that an exploration license confers no right to a lease to develop oil shale.

One commenter noted the absence of a definition for "royalty" and suggested that the BLM describe whether royalty is based on net or gross revenue and the components thereof. Please see the discussion of royalty valuation in subpart 3903 for a response to this comment.

The term "infrastructure" means all support structures necessary for the production or development of shale oil. The definition lists examples of the different types of support structures that the BLM considers to be infrastructure. This term is defined in these regulations because it is critical to the BLM's review of lease applications. Infrastructure impacts are a key component of the plan of operations that the BLM will review when undertaking various analyses such as those required by NEPA. Furthermore, the BLM believes that a detailed itemization of examples is necessary since installation of infrastructure is one of the diligent development milestones.

We received several comments discussing the need to modify the definition of the term maximum economic recovery (MER). The commenters pointed out that the oil shale industry is not yet established and therefore there currently are no standard industry operating procedures.

The BLM agrees with the commenter in that, at this time, there is no established oil shale industry. However, the concept of MER is incorporated into many of the BLM's other mineral leasing regulations either as MER or as ultimate maximum recovery. The term specifically means that there is a need to prevent wasting of resources and that there should be requirements to recover the maximum amount of the resource that is technologically and economically possible, without jeopardizing safety considerations.

The commenter also said that the term is used in various sections of the regulations and the phrase "standard operating procedures" needs to be clarified. In response to the comment, the BLM believes that even though there is no established oil shale industry and that technology in most cases is still untested, once an industry is established, there will be standard industry procedures that will be evaluated in determining MER taking into account such factors as the differences in technologies, resource characteristics, and geologic conditions. The BLM will also evaluate economics associated with the individual operation, market conditions, and standard operating procedures that are appropriate for the technologies of the established industry. In the future, the BLM will determine additional standard operating procedures that might be adopted for a future oil shale industry.

As a result of the comments submitted on MER, the BLM revised and simplified the definition of maximum economic recovery in the final rule. The revised definition of maximum economic recovery reads as follows: Maximum Economic Recovery (MER) means the prevention of wasting of the resource by recovering the maximum amount of the resource that is technologically and economically possible, without jeopardizing safety considerations.

We received several comments requesting that the BLM add additional definitions in the regulations. Some suggestions included adding to the definition section: Raw oil shale, charred spent oil shale, de-charred oil shale, char, raw shale oil, raw shale gas, hydrotreated shale oil, processed/separated gas, process energy efficiency, energy self sufficient effective resource recovery, minimum environmental impact, and Fischer Assay (FA)/TOSCO Assay. The suggested terms are used to describe various parts and components of shale oil extraction and processing. However, the BLM did not include the terms in the final rule because they are terms that describe processes, components, or items that were not being regulated or were terms that did not need an explanation or definition in the final rules. Some of the terms we consider subsets of other defined terms.

The BLM believes that the comment on including a definition for the term "spent shale" is too restrictive, but decided to address the "waste" resulting from the mining, in-situ, and retorting operations. Therefore, the BLM added a definition of the term "mining waste" because it is more inclusive and could be defined as pertaining to the waste

from surface, underground, and in-situ operations and oil shale retorting operations. In the final rule, mining waste is defined as "All tailings, dumps, deleterious materials or substances produced by mining, retorting, or in-situ operations." The term "mining waste" is incorporated into both the definitions section 3900.2 and the contents of an operating plan in section 3931.11 of the regulations.

The term "oil shale" means a fine-grained sedimentary rock containing:

(1) Organic matter which was derived chiefly from aquatic organisms or waxy spores or pollen grains, which is only slightly soluble in ordinary petroleum solvents, and of which a large proportion is distillable into synthetic petroleum; and

(2) Inorganic matter, which may contain other minerals. This term is applicable to any argillaceous, carbonate, or siliceous sedimentary rock which, through destructive distillation, will yield synthetic petroleum.

The BLM defined the term "production" to acknowledge the various technologies associated with operations for extraction of shale oil, shale gas, or shale oil by-products

Section 3900.5 explains the information collection requirements for the rule. The OMB has reviewed and approved the information collection requirements in parts 3900 through 3930 under 44 U.S.C. 3501 *et seq.* and assigned clearance number 1004-0201. The table in paragraph (d) of this section lists the subparts in the rule requiring the information and its title and summarizes the reasons for collecting the information and how the BLM will use the information.

Section 3900.10 identifies which lands are subject to leasing under parts 3900 through 3930. Section 21 of the MLA authorizes the issuance of oil shale leases (30 U.S.C. 241(a)). The final rule expands this section to make it clear that certain National Park Service lands are not available for oil shale leasing. We also added a new paragraph (c) to this section to make it clear that the BLM may not issue oil shale leases on lands within incorporated cities and towns and to be consistent with the MLA (30 U.S.C. 181).

Section 3900.20 addresses the right to appeal BLM decisions issued under these regulations to the Interior Board of Land Appeals (IBLA) under 43 CFR part 4. This section adopts standard appeals language found in the regulations of other BLM mineral programs.

Section 3900.30 contains standard language providing that documents (i.e., applications, statements of qualification, PODs and supporting information, etc.)

required by these regulations be filed in the proper BLM office with the required fees. The term "proper BLM office" is defined in the definitions section of this rule. Several commenters expressed concern about the release of confidential data or information and requested greater specificity regarding the information that is entitled to confidentiality when it is submitted to the BLM. Section 3900.30(b) of the proposed and final rule references the Freedom of Information Act (FOIA) (5 U.S.C. 552), which includes an exemption for confidential data and for certain geological information. This exemption under the FOIA is the most common standard that the BLM is required to follow concerning proprietary information; other statutory grounds for withholding information might apply in particular circumstances.

Section 3900.40 addresses the multiple use mandate of FLPMA by providing that the BLM's issuance of an exploration license or lease for the development or production of oil shale would not preclude the issuance of other exploration licenses or leases on the same lands for deposits of other minerals or other resource uses. This provision is similar to regulatory provisions in the BLM's other leasing programs, which also promote multiple use of the public lands. One comment suggested that the oil shale lessee should be able to obtain the predominant right to develop the oil shale without competing uses. Another comment suggested that the BLM should reconsider the extent to which it is issuing oil and gas leases in oil shale areas. The BLM must manage the public lands under the principles of multiple use as mandated by FLPMA (43 U.S.C. 1732) (see also 43 CFR 3000.7), therefore, a predominant right should not be considered to have been granted to an oil shale lessee. In the event of unavoidable conflict, the Federal mineral lease for the same lands with the earlier effective date has priority for operations because later lessees have constructive notice of the prior lease, unless the prior lease is specifically subordinated to later-approved uses. Prior to issuing any mineral lease, the BLM considers potential conflicts and the impact on other resources, including mineral resources, and takes measures, including adding lease stipulations, to ensure that resources are not unnecessarily lost or damaged.

Section 3900.50 clarifies the relationship of land use plans and NEPA to the BLM's commercial oil shale leasing program. This section provides that any lease or exploration license issued under these regulations

must be issued under the decisions, terms, and conditions of a comprehensive land use plan. The land use planning process is the key tool used by the BLM to protect resources and designate uses for BLM-administered lands. Compliance with NEPA and land use planning is required before BLM can issue a lease or exploration license.

Section 3900.61 addresses the procedures the BLM will follow concerning consent and consultation where the surface of public land is administered by other Federal agencies outside of the Department and procedures for particular situations where the United States has conveyed title to or transferred control of the surface. Paragraphs (a) and (b) address those procedures that the BLM will follow concerning consent and consultation where the surface of public lands is administered by other agencies outside of the Department. One commenter expressed confusion regarding consent and consultation as they apply to section 3900.61(a), Public lands, and section 3900.61(b), Acquired lands. Under this final rule, in most cases leasing public lands does not require consent from the surface management agency. However, the BLM will consult with the surface management agency prior to leasing. Where acquired lands or National Forest System (NFS) lands are involved, the BLM will obtain consent from the surface management agency prior to leasing.

Paragraph (c) provides procedures an applicant may pursue in challenging a decision issued by a particular agency outside of the Department relating to special stipulations or refusal of consent. A comment requested clarification of the timeframe for filing an appeal with the BLM when a counterpart appeal has been filed with the surface management agency. An appeal to the BLM must be timely filed, as presumably would an appeal to the surface management agency. When appropriate, though, the BLM will issue its decision after the surface management agency renders its decision. Paragraph (d) does not allow the BLM to issue a lease or license on NFS lands without the consent of the Forest Service. Under paragraph (d), the BLM's decision whether to issue the lease or license is based on a determination as to whether the interests of the United States would best be served by issuing the lease or license. The provisions of this section closely mirror BLM regulations for oil and gas, coal, and non-energy leasable minerals. Paragraph (e) provides that the BLM

make the final decision as to whether to issue a lease or license in those cases not involving a Federal agency, where the United States has conveyed title to the surface to any state or political subdivision or agency, including a college or any other educational corporation or association, to a charitable or religious corporation or association, or to a private entity. Paragraph (e) has been edited for clarity.

Section 3900.62 addresses situations where the BLM may require lease or exploration license stipulations to protect lands and resources. Stipulations are site specific provisions that the BLM may add to standard lease or license terms prior to issuance for the purpose of protecting Federal resource values and mitigating impacts to other values identified in a NEPA document. Stipulations frequently restrict operations on the lease or permit by limiting surface disturbance for the purpose of mitigating potential impacts to a specific non-mineral resource value. This includes the protection of wildlife, plants, and cultural or other resources. This provision is similar to those found in the BLM's other mineral leasing programs.

Subpart 3901—Land Descriptions and Acreage

Section 3901.10 contains the requirements for land descriptions in applications or documents submitted to the BLM. This section is similar to the regulatory provisions addressing land descriptions found in other BLM leasing programs and establishes consistent standards for land descriptions in applications submitted to the BLM.

Sections 3901.20 and 3901.30 incorporate the provisions of Section 21(a)(4) of the MLA, as amended by Section 369(j)(2) of the EP Act, 30 U.S.C. 241(a)(4), that establish 50,000 acres as the maximum acreage of oil shale leases on public lands that any entity may hold in any one state and that the oil shale lease acreage does not count toward acreage limitations associated with other mineral leases such as oil and gas leases. Another 50,000 acres may be held on acquired lands. Since the provisions in this section relating to maximum acreage holdings are statutory, the BLM does not have the authority to revise the requirements in this section. We received a comment stating that section 3901.20 appears to be in conflict with section 3927.20. We disagree. Section 3901.20 concerns the amount of acreage an entity is allowed to hold, and section 3927.20 concerns how many acres can be in each lease. One comment expressed concern that conceivably one entity could hold as

much as 300,000 acres in the three states of Colorado, Utah, and Wyoming, combined, which could result in speculation. It is true that one lessee could potentially hold as much as 300,000 acres, however, we believe that the competitive leasing process requiring FMV bonus payments up front and the diligent development milestones at section 3930.30 will deter speculation. We made no changes to subpart 3901 as a result of this comment.

Subpart 3902—Qualification Requirements

Sections under this subpart detail the various statutory requirements under Section 27 of the MLA relating to who can hold Federal oil shale leases and interests. These regulations mirror many of the qualification provisions of the BLM's other mineral leasing regulations, namely oil and gas (43 CFR subpart 3102), geothermal (43 CFR subpart 3202), coal (43 CFR subpart 3472), and non-energy leasable minerals (43 CFR subpart 3502).

Section 3902.10 enumerates the requirements of the MLA relating to who is authorized to hold leases or interests in leases (30 U.S.C. 181, 352). These requirements have a longstanding statutory and regulatory history and are found in the regulations for the BLM's mineral leasing programs. A commenter requested that BLM clarify section 3902.10(b) that a foreign citizen could hold a majority or controlling share in a domestic corporation. Proposed section 3902.10(b) does not place any limits regarding shareholdings; therefore, we have not revised the final rule as a result of this comment.

Sections 3902.21 and 3902.22 explain the filing procedures for qualification documents, including when and where to file documents. Section 3902.21 also requires that all documentation submitted to the BLM as evidence of qualifications be current, accurate, and complete.

Sections 3902.23 through 3902.29 detail the type of qualifications documentation that the BLM will require from:

- (1) Individuals (section 3902.23);
- (2) Associations, including partnerships (section 3902.24);
- (3) Corporations (section 3902.25);
- (4) Guardians or trustees (section 3902.26);
- (5) Heirs and devisees (section 3902.27);
- (6) Attorneys-in-fact (section 3902.28); and
- (7) Other parties in interest (section 3902.29).

The requirements in these sections are similar to the standard requirements of other BLM regulations to show evidence of qualifications to hold a lease under the MLA. We received one comment regarding section 3902.23(b), which stated that acreage holdings are attributed to an individual if that individual holds more than 10 percent of the stock in a corporation, association, or partnership. The commenter thought that this was a low threshold. The 10 percent threshold is set in the Act for all leasable minerals (30 U.S.C. 184(e)(1)). Therefore we made no change to final section 3902.23(b) as a result of this comment.

Subpart 3903—Fees, Rentals, and Royalties

For payments of required rental and royalties, sections 3903.20 and 3903.30 address the acceptable forms of payment (section 3903.20) and where to submit payment for processing or filing fees, rentals, bonus payments, and royalties (section 3903.30). The acceptable forms of payment listed in section 3903.20 mirror the forms of payment accepted in the BLM's other mineral leasing regulations.

Section 3903.40 incorporates the requirement of Section 369(j) of the EP Act that the annual rental rate for an oil shale lease is \$2.00 per acre. One comment stated that the EP Act must be revised so that the rental rate is coupled to resource thickness, overburden depth, and quality of oil, etc. Since the statute sets the rental rate, the BLM has no discretion to revise it. A change in the EP Act is beyond the scope of this rulemaking. Another comment we received brought to our attention that there is no due date for rental payments. We revised final section 3903.40 to reflect that rental payments are due on or before the lease anniversary date. The lease anniversary date is the anniversary of the effective date of the lease (see section 3927.40). We also revised section 3903.40(b) to make it clear that there is only one notice sent by BLM demanding payment of late rentals.

Section 3903.51 addresses the minimal annual production requirement that applies to every lease. It also discusses payments in lieu of production beginning with the 10th lease year. The BLM determines the amount required for payment in lieu of annual production, but in no case will it be less than \$4 per acre. Payments in lieu of production are not unique to this rule. They are a requirement of other BLM mineral leasing regulations and the BLM believes they provide an incentive to maintain production.

Setting the payment in lieu of production at no less than \$4 per acre is an adequate payment to the Federal Government to justify allowing the lessee to continue holding a lease absent production, but should not be so high as to cause the lessee to relinquish the lease. A payment in lieu of production of \$4 per acre for the maximum lease size of 5,760 acres equals a payment of \$23,040 per year.

In response to the ANPR, the BLM received comments expressing various ideas concerning minimum production amounts and requirements. The comments are summarized as follows:

- (1) Minimum production should be 1,000 barrels a day;
- (2) Minimum production should be based on the viability of the operation;
- (3) Minimum production levels should be based on resource potential and production levels identified in the POD;
- (4) Minimum royalties should be assessed at the end of the primary term;
- (5) Minimum production should be based on a percentage of the projected resource base; and
- (6) There should not be a minimum production requirement.

We agree with several of the commenters' suggestions. The suggestions to base minimum production on the approved POD and the specifics of the operation were incorporated into sections 3930.30(c) and 3930.30(d). The suggestions related to defining the minimum production on a percentage of the resource base were not incorporated into the rule because of the difficulties associated with defining the recoverable resource, the variables associated with the different development technologies, and the differing kerogen content of the shales. We consider the suggestion that identified 1,000 barrels a day as the correct minimum production requirement too inflexible a standard because it does not allow for differences in shale quality and differences in extraction technology.

Section 3903.52—Royalty Rates on Oil Shale Production

Section 3903.52 establishes a royalty rate for all products that are sold from or transported off of the lease area. The BLM recognizes that encouraging oil shale development presents some unique challenges compared to BLM's traditional role in managing conventional oil and gas operations. We received a wide range of comments presenting alternative royalty approaches on both the proposed rule and the ANPR, and we address those comments below. In the proposed rule

we narrowed the range of options based on the ANPR comments and did not settle on a single royalty rate. Instead, we presented two royalty rate alternatives in the proposed rule (as outlined later in this section), and requested public comment on those specific alternatives. In addition, the rule considered a third alternative, a sliding scale royalty rate based on market prices for competing products, and we sought public comment on the appropriate parameters for the sliding scale royalty rate.

The EP Act (Section 369(o)) directs the agency to establish royalties and other payments for oil shale leases that "shall

- (1) Encourage development of the oil shale and tar sands resources; and
- (2) Ensure a fair return to the United States."

The market demand for oil shale resources based on the price of competing sources (e.g., crude oil) of similar end products is expected to provide the primary incentive for future oil shale development. Additional encouragement for development may be provided through the royalty terms employed for oil shale relative to conventional oil and gas royalty terms, but we recognize that such incentives must be balanced against the objective of providing a fair return to the United States for these resources. Through the ANPR process, the BLM initially examined a wide range of royalty options, including:

- (1) 12.5 percent royalty rate on the first marketable product;
- (2) 12.5 percent royalty rate on the value of the mined oil shale rock, as proposed in 1983;
- (3) 8 percent royalty rate on products sold for 10 years with optional increases of 1 percent per year up to a maximum of 12.5 percent, similar to the rates established by the State of Utah in 1980;
- (4) Initial 2 percent royalty to encourage production and a 5 percent maximum upon establishment of infrastructure;
- (5) Sliding scale royalty rate tied to timeframes up to a maximum of 12.5 percent;
- (6) Sliding scale royalty rate tied to production amounts up to a maximum of 12.5 percent;
- (7) Sliding scale royalty rate with royalty rates tied to the price of crude oil;
- (8) Royalty rate of 1 percent of gross profit before payout and royalty rate of 25 percent net profit after payout—(Canadian oil sands model);
- (9) Royalty based on cents per ton as proposed in the 1973 oil shale prototype program; and

(10) Royalty based on British Thermal Unit (Btu) content as compared to crude oil.

In evaluating an appropriate royalty rate system for oil shale that meets the EP Act's dual objectives of encouraging development and ensuring a fair return to the government, the BLM also reviewed other Federal royalty rates for Federal minerals set by statute and regulations administered by Department bureaus, and royalty rates applied to oil shale production in other countries.

The royalty rates for other Federal energy minerals vary. Specifically, current royalty rates for Federal energy minerals under Department leasing programs include:

- (1) Onshore oil and gas (12.5 percent);
- (2) Offshore oil and gas (16.67 percent); Gulf of Mexico Region (18.75 percent);
- (3) Underground coal (8 percent);
- (4) Surface coal (12.5 percent); and
- (5) Geothermal (for new leases: 1.75 percent for the first 10 years and 3.5 percent thereafter. For leases issued prior to the EP Act, 10 percent on net proceeds after deductions).

All of these programs allow for royalty rate relief under certain circumstances (30 U.S.C. 241 and 209).

The BLM also looked at royalty applications for oil shale and similar unconventional fuels in other countries, including:

- (1) For oil sands, Canada applies a royalty rate of 1 percent of the gross revenue before payout (before companies have recouped investment costs) with a 25 percent net profit royalty rate applied after payout;
- (2) Australia has a 10 percent gross royalty on the value of the shale oil produced;
- (3) Brazil applies a 3 percent gross royalty rate;
- (4) Estonia does not have a royalty; and
- (5) No information on a royalty rate for shale oil produced in China was available.

It should be noted that Canada produces oil from oil sands, not oil shale. The oil in the sands is the same as crude oil, but dispersed in sand. Extraction and processing is more expensive than for conventional crude oil production, but less expensive than is anticipated for oil shale.

Australian operations are using the Alberta Taciuk Process, which is the same type of technology currently used by the Oil Shale Exploration Company (OSEC) in Utah. Despite their 10 percent royalty rate, the Australian oil shale project (the Stuart Project) was heavily subsidized by the Australian government through other means (tax

incentives). Even the government subsidies could not sustain oil shale operations in Australia. The last three operators went into bankruptcy after brief operations. Suncor, the founder of the Stuart Project and a successful developer of the Canadian tar sands, exited the Australian oil shale business after losing approximately one hundred million dollars.¹ For its Utah demonstration project, OSEC is also expected to test the Petrosix horizontal retort process, which is currently being used by Petrobras, Brazil, for oil shale operations.

Australia and Brazil are the only other countries known to be producing, or to have produced, oil shale using the same technologies as in the United States. Oil shale developmental efforts in China and Estonia are owned by their respective governments. Because no other country has yet achieved successful commercial oil shale operations and because of the wide variety of oversight and revenue structures employed in each country, the BLM's review of these systems did not identify a useful model for a royalty system to be used for oil shale development on Federal lands in the United States.

In the ANPR, the BLM solicited public input on the royalty rate and point of royalty determination. The BLM's purpose for requesting comments was to solicit ideas on these royalty issues for a resource that has little or no history of commercial development.

There were approximately thirty-one entities that provided comments through the ANPR process that were specific to royalty rate and royalty point of determination. The comments suggested royalty rates that ranged from a royalty rate of zero to a royalty rate of 12.5 percent. Of the royalty-related comments, three suggested that the royalty be set at 12.5 percent, the same rate as in BLM's oil and gas program, while some comments described a 12.5 percent royalty rate as unreasonable. It is contemplated that the primary products produced from oil shale will compete directly with those from onshore oil and gas production, which has a 12.5 percent royalty rate. However, the BLM recognizes that the nature of potential oil shale operations differs from that of conventional oil and gas operations and that these differences may suggest the need for a royalty system other than the traditional flat rate of 12.5 percent used for conventional onshore oil and gas operations.

In determining the royalty rate for oil shale, it should be noted that there is a significant difference between oil shale mineral deposits and a conventional crude oil reservoir. As discussed in the "Background" section of this preamble, oil shale is a marlstone that contains no oil, but kerogen, that needs to be refined and converted to synthetic crude oil.

Currently, proposed processes to extract kerogen from an oil shale deposit are considerably different, as well as labor and capital intensive. Oil shale is a solid rock that must be mined or treated in place to release the kerogen. Two of these processes are discussed in the "Background" section of this preamble.

We received a wide range of comments on the appropriate royalty rate as a result of the ANPR. Seven of the comments recommended that a "very low royalty rate" be established until after companies have recouped the costs of their investments (debt service and capital investment). Many among the seven recommended that a 1 percent royalty rate be the starting point, and they used the Alberta oil sands royalty scheme as an example. As discussed above, the BLM looked at royalty applications for oil shale and similar unconventional fuels in other countries. The Alberta tar sand model presents two challenges. First, because of the continual infusion of capital to acquire new equipment, the payout point is being reached only after many years of operation. Secondly, because of the complexity of determining when payout may occur, such a royalty scheme requires a more robust and costly administrative process to guard against manipulation; those costs would reduce the net return to the United States. Therefore, the BLM considered the investment payout scheme as inconsistent with the premise of "a fair return" to the United States as mandated in EP Act.

Three of the ANPR comments recommended that "royalties must be high enough" to support local communities and infrastructure; however, these comments did not provide specific royalty rates. Oil shale royalties are not designated for community and infrastructure support, but by statute are required to be split between the Federal Treasury and the states (30 U.S.C. 191). Presumably states could choose to direct a portion of the royalty revenues they receive to local community and infrastructure support, but that would be a state choice, and for the purpose of this rulemaking, these comments were not considered because they assume a use of royalty revenues not available under current law.

¹ Environmental News Service, July 22, 2005, <http://www.ens-newswire.com>.

Three comments suggested that royalties should not be charged on hydrocarbons unavoidably lost or used on the lease for the benefit of the lease, but did not directly address the royalty rate issue.

One comment suggested the royalty be “based on the material as it exists naturally in the land, and as it is removed from the land.” This comment seems to suggest that royalty should be based on mined raw shale. While the BLM acknowledges the inherent differences between an oil shale deposit and other deposits from which similar products can be produced, this suggestion was not considered because there is no known value for raw oil shale since there is no oil shale industry or an established market for raw oil shale. However, it should be noted that in 1983 the BLM proposed a rule to establish a royalty rate equivalent to 12.5 percent of the value of oil shale after mining or resource extraction and before processing, as determined by the BLM. The 1983 proposed rule was published on February 11, 1983 (48 FR 6510). The 1983 proposed rule provided that “the derivation methodology for this value shall be announced prior to the solicitation of bids.” The proposed rule further stated that “the royalty rate shall, to the extent practicable, not be levied on any value added by the production process after the point of resource extraction.” It would be unreasonable to adopt such a proposal today, due to the changes in extraction methodology (in situ versus ex situ). It would also be challenging to develop a fair and transparent process to calculate the royalty equivalent in today’s economic environment, and no values were assigned to the mined or unprocessed rock and tonnage in the 1983 proposed rule. As noted, the 1983 proposed rule deferred the determination of those parameters to a later date.

In addition to ANPR comments received on royalty rates, the BLM considered an initial 2 percent royalty to encourage production and a maximum 5 percent rate upon establishment of infrastructure. This method recognized the high costs involved in producing shale oil. However, we did not adopt this approach because of the difficulty involved in determining when necessary infrastructure is in place.

In the proposed rule the BLM also considered an 8 percent royalty rate established by the State of Utah for state oil shale leases. It was determined that this rate represents the historic base royalty rate for solid fuel minerals on the State of Utah School and Institutional Trust Lands Administration lands—including asphaltic sands, uranium, and coal. To date, several oil shale leases issued by the State of Utah are in the infancy stages of research and development. These leases were issued with an initial royalty rate of 5 percent for the first 5 years after production begins. The royalty rate may increase by 1 percent per year to 12½ percent.

After examining the basis for setting rates, as suggested in the ANPR comments, the BLM determined that an initial flat 12.5 percent royalty rate for all future production may not allow oil shale to become competitive with traditional oil and gas development and therefore could be viewed as inconsistent with the requirements of EP Act.

Royalty Rate Alternatives Proposed for Further Consideration

As noted previously, we did not propose a single royalty system. Based on the information the BLM reviewed, and considering the unique challenge of trying to set a royalty rate on oil shale production in light of the many uncertainties regarding the economics and technology of a potential future oil shale industry, we presented different royalty rate alternatives in the proposed rule:

1. A flat 5 percent royalty rate; and
2. A 5 percent royalty rate on a specific volume of initial production beginning within a prescribed timeframe, with a 12.5 percent rate applied thereafter.

In addition, we sought comment on the appropriate parameters for a third option: A two or three tiered sliding scale royalty based on the market price of competing products (e.g., crude oil and natural gas). A further explanation of each of these proposals is presented below.

Proposed Option 1. Flat 5 percent royalty.

Although mitigated somewhat by the much greater geographic concentration of oil shale resources, there is a significant difference between the energy value of oil shale and crude oil.

On a per-pound basis, very high quality oil shale rock generates 4,300 Btu, coal generates an average of 10,600 Btu, while crude oil generates 19,000 Btu. Even wood has more heating capacity than oil shale rock, generating an average of 6,500 Btu. Applying the relative Btu value of oil shale to crude oil would result in a 2.6 percent royalty for oil shale. Using the same comparison to the royalty rate for underground coal would result in a 3.2 percent royalty rate for oil shale. In other words, it would require almost 5 times as much oil shale to produce the Btu value of crude oil and more than 2 times as much oil shale to produce the equivalent Btu value of coal.

The BLM looked at royalty rates on leases issued under Interior’s 1973 Prototype Leasing Program. The prototype leases provided for royalties of \$.12 per ton for oil shale with a quality of 30 gallons of oil per ton (30 g/t) with the addition of \$.01 for every increase in gallon per ton of oil shale. In 1973, the average price of a barrel of oil was \$3.89. At \$.24 per ton of 42 g/t or one barrel/ton of oil shale, the royalty per barrel of oil would have been 5 percent. This rate is similar to the rate derived by comparing production costs to royalty rates as recommended by the proposed regulations.

The BLM also estimated what royalty rates for shale oil might be, based on comparisons of production costs for similar products. The cost of removing oil from shale rock is currently estimated to be two to three times higher than the current cost of producing conventional crude oil from onshore operations. The current published estimated production cost for shale oil ranges from about \$37.75–\$65.21 a barrel. Current unpublished estimates are in the \$75–\$90 range. The production cost for conventional onshore crude is approximately \$19.50 a barrel.² The table below compares the estimated cost of shale oil production for different technologies with the estimated cost of current onshore United States conventional oil production. The table also estimates what royalty rates for oil shale production might be for the different production methods compared to a 12.5 percent royalty rate for conventional oil production, adjusted to account for differences in production costs.

² Energy Information Administration, Crude Oil Production, dated July 3, 2008. <http://www.eia.doe.gov/ncic/infosheets/>

[crudeproduction.html](http://www.eia.doe.gov/crudeproduction.html) and http://www.eia.doe.gov/meu/perfpro/tab_12.htm. The production cost at

the time of analysis was approximately \$19.50 per barrel.

Technology	Estimated shale oil production costs per barrel	Royalty calculation based on difference in production cost of a barrel of conventional oil versus shale oil	Adjusted royalty for shale oil (percent)
Surface mining	\$44.24	\$19.50/\$44.24 = 44.07% × 12.5% = 5.51%	5.5
Underground mining	54.00	\$19.50/\$54 = 36.11% × 12.5% = 4.51%	4.5
Fracturing and heating in place	65.21	\$19.50/\$65.21 = 29.90% × 12.5% = 3.74%	3.75
Heating only in place	37.75	\$19.50/\$37.75 = 51.65% × 12.5% = 6.46%	6.5

Adjusting royalty rates based on higher anticipated production costs for oil from oil shale is not a new concept and is similar to the situation in the coal program where underground coal operations compete with surface coal operations, which have lower production costs. Congress addressed this disparity in production costs by allowing for different royalty rates for coal mined underground versus coal mined at the surface.

Therefore, one alternative that considers the decreased energy content and increased production costs, while encouraging production and ensuring an appropriate return to the government is to set a flat royalty rate of 5%. This alternative assumes that oil shale will continue to be more expensive to produce for many years when compared to new conventional oil.

Proposed Option 2. A 5 percent royalty on initial production, with 12.5 percent thereafter.

As stated in the proposed rule, this alternative would have provided a reduced royalty rate of 5% as a temporary incentive for early production of oil shale (similar to royalty incentives offered to spur initial Outer Continental Shelf (OCS) deepwater production), but with the standard 12.5% onshore oil and gas royalty rate applying to all oil shale production after a set timeframe and a set amount of production has taken place. Like the other royalty options, this option would have required oil shale lessees to pay royalties on the amount or value of all products of oil shale that are sold from or transported off of the lease. The proposal established that the standard royalty rate for the products of oil shale is 12.5 percent of the amount or value of production. However, under this option, for leases that begin production of oil shale within 12 years after the issuance of the first oil shale commercial lease, the royalty rate would have been 5 percent of the amount or value of production on the first 30 million barrels of oil equivalent (BOE) produced.

The advantage of this alternative over a flat 5% royalty (Option 1) is that it provides a better return to taxpayers on

later production if oil prices remain high and oil shale production becomes competitive with new conventional oil projects. At \$60 a barrel, this would amount to roughly \$1.8 billion in production per lease at the lower 5% royalty rate, providing roughly a \$135 million in savings to the lessee compared to using the standard onshore oil and gas royalty rate of 12.5%.

One potential downside to this alternative is that offering royalty incentives without regard to oil prices increases the likelihood that, if oil prices remain high, the government will sacrifice revenue without affecting actual oil shale development. For example, at \$120 a barrel, the savings would be worth \$270 million to the lessee, even though oil shale operations would be more profitable than at oil prices of \$60 a barrel.

Therefore, in the proposed rule we requested comment on whether the temporary 5% royalty on initial production should also be conditioned on crude oil and natural gas prices (similar to OCS deepwater royalty incentives) and if so, what oil and gas price level would trigger payment at the higher 12.5% rate if prices exceeded the threshold. We also requested comments on the 12 year timeframe for reduced royalty.

Proposed Option 3. Sliding scale royalty based on the market price of oil.

Two comments on the ANPR suggested a sliding scale royalty format. One comment specifically suggested a sliding scale royalty scheme based on a royalty schedule that varies with the price of conventional crude, as follows:

At \$10 per barrel of conventional crude, the royalty rate should be zero;

At \$15 per barrel, royalty should be 0.25 percent and should increase by 0.25 percent for every \$5 per barrel increase up to \$35 per barrel;

At \$40 per barrel, the royalty rate should be 2 percent and should increase by 0.5 percent for every \$5 per barrel increase in the price of conventional crude until the price of conventional crude reaches \$100 per barrel; and

At \$100 per barrel, royalty rate should be 8 percent and should remain at 8 percent at prices above \$100 per barrel.

Another ANPR comment suggested two approaches to calculating royalty.

The first part of the comment suggested that a simple way to accomplish royalty rates would be to index the value of barrels of oil equivalent to some percentage of the New York Mercantile Exchange (NYMEX) futures (for instance, a 30 day average front month) prices. The commenter suggested that the index should be some fraction of the price, such as 50 to 65 percent. In the second part of the comment, the commenter suggested that, as an alternative to indexing, the BLM uses a sliding royalty rate that is calculated on the difference between product price and the highest-cost production in the industry. The commenter cautioned that “there need to be provisions that deferred portions of the royalty do not reduce mineral lease payments to the States, if an escalating royalty rate is used.”

The BLM, in consultation with the MMS, evaluated these variable royalty options, but decided that as presented, they would be highly complex, and therefore, cumbersome to administer. With price volatility in the crude oil market, an intricate sliding scale royalty scheme could make enforcing compliance very difficult for the MMS. In addition, there is uncertainty about the types of products that would be derived from oil shale refining. Royalties based on oil shale quality would also be difficult for the BLM to administer when attempting to verify production quantities. For instance, if oil shale is extracted in an underground heating system, it would be extremely difficult for the BLM to determine how much oil or other product came from a particular volume or area of in-place oil shale.

While the BLM and MMS are concerned about the complexity of administering some of the sliding scale royalty proposals, we recognize that there is some merit to the sliding scale concept, and in a simpler form, a sliding scale royalty may prove useful in meeting the dual goals of encouraging production and ensuring a fair return to taxpayers from future oil shale development.

One of the concerns that has been expressed regarding oil shale development is that potential oil shale

developers may be reluctant to make the large upfront investments required for commercial operations if they believe there is a chance that crude oil prices might drop in the future below the point at which oil shale production would be profitable (i.e., competitive with new conventional oil production). A sliding scale royalty system could allow the government to at least partially mitigate this development risk by providing for a lower royalty rate if crude oil prices fall below a certain price threshold. The basic concept is that in return for the government accepting a greater share of the price risk that an operator faces when prices are low (in the form of a lower royalty), the government would receive a greater share of the rewards (through a higher royalty) when prices are high.

At the time of the proposed rule the BLM had not yet decided on the specific parameters of a sliding scale royalty system, but considered a simplified, two-or three-tiered system based on the current royalty rates already in effect for conventional fuel minerals and with a 5 percent royalty rate (Option 1) representing the first tier. The proposed rule explained that the applicable royalty rate would be determined based on market prices of competing products (e.g., crude oil and natural gas) over a certain time period and that if prices remain below a certain point during the applicable period, the royalty rate on oil shale products would be 5 percent for that period. If prices are above that range for the period, a higher royalty would be charged. In a three-tiered system, a third royalty rate would apply if prices rise above a second price threshold during the applicable period.

In the proposed rule the BLM sought comment on the specific parameters that could be applied to a sliding scale royalty system. More specifically, the BLM asked for feedback on the following questions:

1. Should a sliding scale system include two or three tiers? Assuming a 5 percent royalty for the first tier, what would be appropriate royalty rates for the second and/or third tiers?
2. What are appropriate price thresholds to apply to each tier? Should the thresholds be fixed (in real dollar terms), or should they float relative to a published index?
3. Should the sliding scale apply to all products, or should nonfuel products pay a traditional flat rate?
4. Are there other ways to simplify a sliding scale royalty to reduce the administrative costs for BLM, MMS, and producers?

As explained in the proposed rule, under a sliding scale system, if prices

fall below the lower range, producers would have a "safety net" in the form of the lower 5% royalty rate. Whether or not the lower royalty kicks in at some point, simply having it in place provides some added certainty for investors that would help encourage oil shale production. In return for this "safety net" that conventional oil and gas producers do not enjoy, oil shale producers would be required to pay a higher royalty rate(s) when crude oil and/or natural gas prices are high (and where oil shale is expected to be substantially more profitable).

There are a couple of advantages of this alternative. It reduces the risk for oil shale operators that oil prices might fall below the point that continued oil shale production would be economic. However, it also ensures an improved return to the government if prices remain within one of the higher expected ranges at which oil shale may be profitable. One disadvantage is that taxpayers accept a greater risk of lower returns if prices fall and remain well below the lowest threshold. However, with the lowest royalty rate step set at 5 percent, this risk is no greater than under a flat 5 percent royalty system (proposed Option 1).

Other Royalty Issues

The BLM also received 5 ANPR comments specific to the royalty point of determination. Two of the comments suggested that royalty should be determined "at the point at which the oil product exits a process facility in a marketable state." One comment suggested that "the point of royalty determination be at the earliest point of liquid or gaseous product marketability." Another comment suggested that "the oil produced should be measured at the point at which the oil product exits a processing facility in a marketable state." The last comment did not provide a specific suggestion; rather, it stated that the BLM "must set the royalty rate and point of royalty determination with reference to the economic cost of emissions that would be created from developing, and then burning, the oil shale resource." After a careful evaluation of these comments and consultation with the MMS, we have concluded that the royalty would be assessed on all products of oil shale that are sold from or transported off of the lease. This point of royalty determination is similar to points of royalty determination for other Interior Department minerals programs.

Currently, there is no oil shale industry and the oil shale extractive technology is still in its rudimentary stages; as such, commercial shale oil

production does not exist anywhere in the world. As research and development of oil shale technology progresses, the BLM will have adequate time to reexamine and readjust royalty rates for oil shale production, either up or down. In the proposed rule we asked for specific comment on the time necessary to develop an oil shale industry.

The proposed rule requested comments on what future royalty valuation regulations need to contain. In particular, the Department asked for comments on the potential types of oil shale products, the most equitable and practical point and method to determine the value on which to apply the royalty rate, and whether there are or should be opportunities to determine value by market proxy or indices. The Department solicited comments on alternative approaches to valuation and royalty rates.

Several commenters suggested the royalty be based on the material as it exists naturally in the land, and as it is removed from the land. One commenter stated that royalties should be assessed at the first point of sale. Another commenter recommended that the point of sale of the synthetic crude should be the point of price determination. Likewise, other commenters stated that the Department should determine royalties after processing or manufacturing.

We received one comment that said that the BLM should charge royalty on production that is used on the lease. The comment is based upon one commenter's estimate that about 1/3 of the product is likely to be natural gas and that it would attempt to use natural gas to heat the shale in subsequent development. One commenter stated that making this royalty-free short-changes the public.

One commenter stated that lease production used on or for the benefit of the lease should not be subject to royalty. The commenter urged that products of oil shale that are transported off-lease for use in a facility in the general area to develop resources on the lease should be viewed as use of that product on the lease.

The "point of royalty measurement" and the "point of royalty determination" are two different concepts. The point of royalty measurement concerns the volume upon which royalty is assessed and is where the particular mineral product is measured for royalty purposes. For oil and gas leases, royalty is due on "all" oil or gas removed or sold from the leases except for oil or gas unavoidably lost as determined by BLM or used on or for the benefit of the lease (see, e.g.,

30 CFR part 202, subparts C and D). For coal, royalty is due on “[all coal (except coal unavoidably lost as determined by BLM under 43 CFR part 3400) . * * * This includes coal used, sold, or otherwise disposed of by the lessee on or off the lease” (30 CFR 206.153(a)]. Generally, the BLM determines where the product is measured for onshore minerals and MMS for offshore minerals.

The point of royalty determination is generally the point at which value is assessed and is not a specified fixed point under any existing rules. Under the MLA, the Secretary is required to establish a royalty rate on the amount or value of the production removed or sold from the lease (30 U.S.C. 226(b)(1)(A))(see also the Outer Continental Shelf Lands Act, 43 U.S.C. 1337(a)(1)(A)). The Department has consistently interpreted this phrase to mean that royalties may be determined at a point off of the lease (see, e.g., *Amoco Production Co. v. Watson*, 410 F.3d 722, 729 (D.C. Cir. 2005), cert. denied in relevant part sub nom. *BP America Co. v. Watson*, 547 U.S. 1068 (2006)). The Department then allows certain applicable transportation and processing deductions from that off-lease royalty value, to arrive at a value for “the production removed or sold from the lease.”

With respect to the first comment that the royalty should be assessed on the oil shale as it exists in situ, this comment seems to suggest that the point of royalty determination be based on mined raw shale. While the Department acknowledges the inherent differences between an oil shale deposit and other deposits from which similar products can be produced, the Department did not consider this suggestion because there is no known value for raw oil shale, there being no established market for raw oil shale. Similarly, the Department is not in the position to definitively state that the point of royalty determination should be on processed or manufactured products. As many of the commenters acknowledged, there is not enough information at this date to determine how products will be extracted, nor is there enough information on the products that will result from extraction or how those products will be marketed.

It would be premature to fix the point of royalty determination at the lease or at the tailgate of a processing plant at this time. Therefore, the Department is retaining the point of royalty determination it proposed in this final rule as being on all products that are sold from or transported off of the lease area.

With respect to royalty-free use of fuel on the lease, as discussed above, for decades the Department’s valuation rules have not assessed royalties on fuel used for the benefit of the lease.

However, until the Department has more information on the extraction processes involved, it is premature to determine whether the Department will assess royalty on fuel used on the lease.

One commenter stated that if net royalty is being considered, the definition of royalty basis should be revenue from sales of hydrocarbon products, less transportation costs, all direct operating costs (mining and extraction) and administration costs, together with a deduction for the capital costs of assets employed based on Internal Revenue Service amortization methods.

One commenter recommended that the Department define the term “royalty,” indicate whether royalty is based on net or gross revenue, and specify the components thereof.

One commenter stated that MMS’s valuation of the products from oil shale will be significantly less than the market price of the final refined products because MMS will allow manufacturing/processing allowances.

One commenter stated that kerogen is worthless unless processed. The monetary value of kerogen is tied to the net proceeds between the market price of products and production costs and the technical and economic effectiveness of the process. The commenter also stated that a royalty and bonus process should be replaced with a competitive annual payment from the lessee to the Federal Government based on the value of the kerogen in the ground and net proceeds (time varying market price of products minus time varying production cost). One commenter believes that royalty should be assessed on the first sale.

Several commenters stated that MMS should propose valuation regulations concurrently with these BLM regulations to give potential oil shale lessees certainty, which will in turn “encourage development.”

This final rule establishes a royalty rate for Federal oil shale leases; however, the Department is not proposing corresponding MMS valuation regulations at this time. Because the oil shale industry is still in the research and development phase, it would be speculative to predict whether the industry as it matures will predominantly sell from the leases it mines solid oil shale, shale oil, synthetic petroleum, shale gas, natural gas, or products in several different forms or stages of processing. It is also

difficult to predict whether or when multi-buyer/multi-seller markets will develop that would provide FMV pricing for products of oil shale.

The comment that kerogen is worthless unless processed and, thus royalty should be based on a market price minus production costs, asks the Federal Government to share in production costs. Thus, and many of the comments regarding valuation and the point of royalty determination discussed above, suggest that MMS should abandon the marketable condition rule and share in production costs with the lessee. While it is premature to address this comment directly in this rule, it is important to note that the Department generally does not share in the costs of production or the costs of placing production in marketable condition for minerals produced from Federal leases.

The MMS will promulgate royalty valuation regulations before oil shale leases are required to begin paying production royalties under this rule. As stated in the proposed rule, to the extent possible, the MMS will ensure that any oil shale valuation regulation is consistent with other valuation regulations and will incorporate principles of simplicity, early certainty, and reduced administrative costs in the oil shale valuation regulations it promulgates. In addition, the MMS will consider the comments submitted to the BLM proposed rulemaking when formulating oil shale valuation regulations.

For example, the MMS could promulgate regulations similar to the current Federal oil valuation regulation to value crude oil produced from oil shale. Under such regulation, the value of oil sold at arm’s-length would be based on gross proceeds less allowable costs of transporting oil to the point of sale. The value of oil not sold at arm’s-length would be based on a market index price or the affiliate’s arm’s-length resale price. In both arm’s-length and non-arm’s-length situations, the regulations provide for adjustments for location, quality, and transportation allowances. Further, lessees also can petition for alternate valuation agreements that are situation specific when regulatory provisions do not apply. The regulations promulgated here, however, do not address those valuation issues.

The Federal Government does not typically require payment of royalties on potentially valuable minerals or inorganic matter that are not sold or transported off the lease for commercial purposes. Those materials would be considered waste, and would be subject to management and reclamation

requirements as provided in the lease or in an approved POD.

One commenter suggested that non-fuel products should pay a 12.5% royalty rate. Another commenter suggested that different minerals produced may require different royalties. Several commenters recommended that there be no royalties on spent oil shale. One commenter stated that royalties should not be assessed on by-products such as sulfur removed from the gas stream to meet air quality requirements and sold, whether at a loss or a profit. The commenter said that items transported off of the lease for recycling or disposal should not be considered products or by-products. Consistent with current Department policy, by-products that are not sold or bartered, including produced water, CO₂, ammonia, etc., are not royalty-bearing. The BLM and the lessee must take measures to minimize damage or loss of resource by-products and other resources on the lease.

Finally, one commenter stated that royalty should only apply to all fuel products and that by-products should be royalty free. The final rule establishes a royalty for all products that are sold or transported off the lease. The royalty rate for by-products will be the same, except for those commodities whose rates are already established under the mineral leasing laws or regulations. Title 30 U.S.C. 241(4), states that "For the privilege of mining, extracting, and disposing of the oil and other minerals covered by the lease under this section the lessee shall pay to the United States such royalty. * * * The Secretary has the discretion to reduce the royalty rate for all products produced from the lease to encourage use or the disposal of a product stream. The BLM will apply the same royalty rate for all oil shale products sold or transported off of the lease area.

In the economic analysis for this rule, the BLM analyzed the royalty implications of a range of royalty rates. Specifically, the BLM conducted a simulation-based analysis to estimate the revenue, profit, and royalty implication of a production scenario³ using three discount rates (7 percent, 3 percent, and 20 percent), three world crude oil price projections (Energy Information Administration's (EIA) 2007 reference, high, and low price

projections⁴), and six different royalty rates (1 percent, 3 percent, 5 percent, 7 percent, 9 percent, and 12.5 percent). The likelihood of a company, in the face of numerous technological challenges, having the incentive to develop Federal oil shale reserves and experiencing economic success will depend on a number of factors. However, because the simulated scenario analysis is based on a given production scenario and set production costs, the analysis did not assist in determining the project(s) economic viability due to the royalty rate applied. The analysis did, however, clearly identify world oil prices as a critical variable determining a project's economic viability. Under the EIA's low price projections, which project oil prices to be below \$36 per barrel through 2030, all operations are assumed to be uneconomic based on the set production costs used in the analysis of the rule.

Public Comments on the Proposed Royalty Rates

The BLM received many royalty-related comments. Few provided substantial data or rationale for justifying a particular royalty rate. Many commenters suggested variable-scale or sliding-scale royalty schemes albeit in various forms (1–3%, 1–5%, 0–6%, 2–12.5%, 5–16.67%). The industry submitted the majority of the comments that stated that the flat 5% royalty rate was too high and that it provided no incentive to encourage oil shale development.

One commenter provided information on a new oil sands royalty framework proposed in the Alberta Legislative Assembly in the fall of 2008. Under the new framework, the "base rate is 1% of gross revenue, and increases for every dollar that oil is priced above \$55 a barrel, to a maximum of 9% when oil is \$120 or higher." The commenter also stated "there are currently 89 active oil sands projects in the province, of which 39 are in post-payout and 50 in pre-payout." In the proposed rule preamble, the BLM incorrectly stated that "operators have never reached the payout point due to the continued capital expenditures in new equipment. The same commenter also requested the BLM refer to oil sands operators as "Alberta operators" rather than "Canadian operators." We appreciate these corrections.

Other comments on the proposed rule's royalty alternatives are summarized as follows:

(1) Several commenters suggested that the royalty rate for oil shale should start at 1%;

(2) A few commenters agreed with a flat 5% royalty rate;

(3) A few commenters suggested a 3% royalty rate;

(4) Some commenters suggested an 8% royalty rate;

(5) A few commenters agreed with a royalty scheme in which the rate starts at 5% and increases to 12.5%;

(6) A few commenters agreed with a sliding scale royalty rate, but proposed varying modifications;

(7) Some commenters suggested a 1% royalty rate, with several commenters suggesting a 1% rate for the first 10 years of production and an increase to 3% thereafter;

(8) A few commenters suggested a 1% royalty rate to be increased to 5%;

(9) A few commenters suggested a flat 12.5% royalty rate;

(10) A small number of commenters suggested a sliding scale scheme of 2–12.5%; 0–12.5%; and

(11) The majority of the commenters did not suggest a specific royalty rate.

The BLM addresses these comments in 4 groups:

(1) Flat royalty rate of less than 5%;

(2) Flat royalty rate equal to or greater than 5%;

(3) Sliding scale royalty rate of 1–5%; and

(4) Sliding scale royalty rate of 0–12.5%.

Flat Royalty Rate Less Than 5%

The commenters who advocated a flat royalty rate of less than 5% stated that the proposed royalty rates do not take into account the differences between the economics for oil shale production versus crude oil production. They stated that no adjustment was made for the difference in the amount of capital investment required between conventional oil and oil shale operations. They suggested that the production royalty rate should be reduced to 3% until the first plant on each lease is fully amortized in a minimum timeframe of 10 years. One commenter stated that "the 5% fixed royalty rate is too high," and that "U.S. oil shale resources have no value if they are uneconomic to produce." The BLM considered the comments and decided not to adopt the suggested 3% flat royalty rate or any rate below 5%. The BLM did not adopt the lower rates because the BLM's analysis of comparable production costs in the proposed rule indicated that the proposed rate of 5% better reflects the differences between the economics for oil shale production versus crude oil

³ *America's Strategic Unconventional Fuels Resources, Volume III Resource and Technology Profiles*, Task Force on Strategic Unconventional Fuels, September 2007, page III-17, Table III-4. Potential Oil Shale Development Schedule—Base Case, (<http://www.unconventionalfuels.org>).

⁴ Department of Energy, Energy Information Administration, Annual Energy Outlook 2007, Report #: DOE/EIA-0383(2007), February 2007.

production. The commenters who advocated the suggested royalty rate of 3% did not provide sufficient data to support their analysis.

One comment offered a new royalty rate scheme as an alternative if the BLM disapproves their suggested royalty rate of 1–3%. The commenter suggested that “royalty should reflect the fact that the extracted oil shale has no economic value of its own. It contains kerogen, which must be processed to produce a low-quality shale oil.” The commenter also suggested that royalty should be based on a mathematical computation which would incorporate FA, the NYMEX, the price of conventional crude oil, and a royalty rate of 3%. The commenter suggested that the royalty payment for a ton of (underground) mined and processed oil shale should be assessed according to the following formula: $(FA/42) \times (\text{Current NYMEX}/\$100/\text{BBL})$ of the oil shale that is produced for conversion into shale oil multiplied by a selected index reflecting the value of the shale oil. In essence the formula converts the FA into barrels (42 gallons per barrel), multiplies FA by the ratio of NYMEX and a fixed bench mark price of \$100 per barrel of conventional crude oil.

After careful consideration, the BLM did not adopt the comment because the suggested formula assigns too little a value to oil shale products, lacks the potential to yield a fair return to the taxpayers, and would be very complex and expensive for MMS to administer.

A commenter also stated that royalty “should not be so high as to stifle the emergence of a new domestic energy industry.” The BLM shares this concern and took steps to ensure that the initial royalty rate for oil shale production will encourage oil shale development consistent with the requirements of EP Act. The commenter went on to state that “increasing production costs, and massive R, D & D costs, and many taxes, all argue for a royalty rate well below 5%,” and therefore, the royalty regime should be simple, transparent, and easy to administer. The final rule establishes a flat, easy to administer 5 percent royalty rate for the first 5 years of commercial production and a transparent, simple to understand escalating rate of 1 percent after year 5 until it reaches a level comparable to the royalty rate on conventional crude oil (12½%). This royalty system should provide some royalty relief during the first years of capital intensive production activities.

Flat Royalty Rate Equal to or Greater Than 5%

The commenters who advocated a flat royalty rate equal to or greater than 5% stated that since the processes that will be used to develop oil shale are similar to the processes used to develop other solid minerals, the royalty rate for oil shale should be the same. The commenters who suggested a flat royalty rate greater than 5% asserted that the State of Utah has a royalty rate of 8% for asphaltic sands, uranium, and coal. Other commenters stated that “if royalty will be set, it should be 12.5%” because the “current royalty rate for conventional oil and gas is 12.5%.”

The BLM did not adopt the suggestions of this group of commenters who advocated a flat royalty rate greater than 5%. First, an 8% royalty rate is not an accurate depiction of the royalty structure in Utah. The royalty rate for oil shale development in Utah begins at 5%, may increase annually after the first five years, and ultimately reaches 12½% at some point. The practical implications of the Utah royalty regime is also undetermined since, no production has occurred on any Utah State lease. Second, the BLM is concerned that an initial 12½% royalty rate may be a disincentive to oil shale development because it will discourage the much-needed capital investment in the industry.

The BLM believes that the Utah royalty system is worthy of consideration and provides a comparable domestic royalty rate for oil shale development. If oil shale development succeeds on State lands in Utah, a similar Federal royalty system would appear to meet EP Act’s objectives of encouraging development and providing a fair return to taxpayers. In the final rule, the BLM has chosen to adopt a royalty rate similar to Utah’s by establishing an initial royalty rate of 5% during the first five years of production. Following five years of successful production, the rate will rise yearly by 1 percent until it reaches a level comparable to the royalty rate on onshore conventional crude oil. This will ensure that over the long-term the taxpayers are guaranteed a fair return, as required by EP Act, should oil shale development be economically viable.

Sliding Scale Royalty Rate of 1–5%

The commenters who advocated a sliding scale royalty rate of 1–5% stated that a 12½% royalty rate is too high. These commenters suggested that the oil shale industry is fundamentally a mineral extraction industry and should be viewed as such when establishing

royalties. These commenters stated that the projects, related development, and operating costs associated with oil shale development are typical of mineral extraction industries (i.e., trona and potash). The commenters believe that due to the similarity of oil shale to other mineral extraction industries, the BLM should adopt a royalty rate of 1% of the producer’s net return at the point of sale of the synthetic crude oil shale for the first 10 years of production. After 10 years, they suggested re-evaluating “the 1% rate to see if 3% net royalty would be appropriate with a transition step-up period of a 1% increase every 5 years to impose the 3% net rate after a 10 year transition period.” One commenter stated that if BLM adopts option 2 a 5% percent royalty on initial production with 12.5% thereafter that “there should be a floor at which royalties and annual minimum royalties are automatically suspended if WTI falls below \$80” a barrel. The BLM reviewed the above suggestions and decided not to adopt them because while they seek to encourage development, they are difficult as well as costly to administer. Based on the BLM’s analysis of comparable Btu values and production costs, we also do not believe rates lower than 5 percent represent a fair return to the United States. The BLM agrees with the commenters that a 12.5% royalty rate is too high if adopted as an initial rate. Also, the BLM did not adopt the suggestion that asks for a royalty rate of 1% on the producer’s net return at the point of sale of the synthetic crude oil shale for the first 10 years of production “due to the similarity of oil shale to other mineral extraction industries.” First, experience shows that there is no similarity between oil shale extraction and the other extractive industries (trona and potash) cited by the commenter. Second, the estimated resource value of oil shale far exceeds the combined values of trona and potash. Given the economic potential of oil shale, it would be difficult to ensure a fair return to taxpayers if the royalty rate is set at 1% of net revenue.

Another commenter stated that the “5% royalty rate for option 1 and the 5% and 12.5% rates for option 2 are too high for a frontier resource.” The same commenter further stated that unlike coal or oil and gas, the government is providing access to a solid ore, and that the investor is responsible for adding value by recovering and converting the kerogen in the ore to oil. The commenter suggested setting a royalty rate of 1% for the first 6 years, and 5% thereafter with assurance from the government that the higher royalty rate

of 5% would be implemented at a later date. The commenter added that "royalties should be suspended if the NYMEX crude oil prices fall below, say \$60."

One commenter suggested that a better alternative would be a 1% royalty rate for the first 10 years, followed by 3% royalty thereafter, and concluded that "Alberta established a similar approach and has been successful." This commenter stated that "if royalties are too high during the development phase, the startup costs will be too prohibitive and the resources won't be developed."

The BLM agrees that the oil shale industry is subject to high start-up costs and that the resources would not be developed without an economically viable technology. This technology could not be developed if costs become prohibitive. After careful consideration, the BLM does not agree with the idea of a starting royalty at 1% rate. The BLM's comparison of Btu values and production costs show a 1 percent rate to be too low. States and local governments share in Federal royalties and may view the lower rate (1% royalty rate) as not providing the revenue necessary to cover related infrastructure concerns and local community impact concerns.

Furthermore, a royalty rate based on a sliding scale tied to NYMEX would be subject to frequent fluctuations thereby making it cumbersome and difficult for the MMS to administer.

Sliding Scale Royalty Rate of 0–16.67%

Some commenters advocated sliding scale royalty schemes ranging from 0% to 16.67%. One commenter specifically suggested that "reduced royalty rates should be conditioned on prices similar to OCS deepwater royalty incentives," and stated that "there is no basis for a 12-year timeframe based on a reduced royalty rate that is not price sensitive." Instead the commenter suggested that the royalty rate should be tied directly to NYMEX, and there should be no fixed timeframe. The same commenter gave an example that if NYMEX is below \$60 a barrel the rate would be 5%, but when it exceeds \$60 a barrel, it would be 12.5%. In the proposed rule, the suggestion for a reduced royalty rate for production that occurs within 12 years of the issuance of the first oil shale lease was meant to encourage speedy development, while providing some royalty relief during the costly up front years of development. However, the BLM did not adopt this provision in the final rule. The BLM also did not adopt the suggestion to tie the royalty to NYMEX prices because to do so would

make royalty rates impracticable as well as cumbersome and costly for the BLM and MMS to administer. On the other hand, a 16.67% royalty rate will not encourage development, and without development, there will be no fair return to the taxpayers. To address comments that support a 16.67 percent royalty rate comparable to offshore rates, available information shows that shale oil production costs are much higher than costs of producing conventional crude oil. Yet, the maximum royalty rate for onshore oil and gas production is 12.5%. Given the cost differential, it would be a disincentive to production to set a higher royalty rate (16.67%) for a product that is costlier to produce.

Another commenter suggested another alternative that would set the initial royalty rate at 2% or 2.5%, which would "increase to 12.5% once 30 million barrels of oil equivalent have been produced." Then, the commenter concluded by stating "do not adopt a sliding scale since there are too many unknowns that could thwart development." The BLM did not adopt this proposal because the initial 2% royalty rate is too low to ensure a fair return considering the available information on comparable resource values and production costs. The BLM has no information to determine whether the production of 30 million barrels of oil equivalent is relevant when establishing a higher rate. The final rule provides for an increasing royalty of 1 percent per year that is based on time, rather than on production.

Another commenter stated that "it is difficult to comment with any confidence on the merits of various royalty rates without also knowing the parameters the lessor will use to value production from the lease, particularly for a mineral resource that have [sic] never been commercially produced and sold." The commenter also stated that royalty "should not be so high as to stifle the emergence of a new domestic energy industry." As stated previously, the MMS will address valuation issues in a future rulemaking, but will apply royalty to the amount or value of production. The BLM agrees with the commenter that the royalty rate should not be so high as to stifle the emergence of a new industry. This comment is consistent with a requirement of the EP Act that royalty be set in a manner that encourages development.

One comment stated that Option 2 (base of 12.5% with a reduction to 5% for the first million barrels of oil equivalent of any lease that begins production within 12 years) is ill

conceived. This commenter suggested the following two sliding scale options based on the following set of assumptions:

Commenter's price-trigger option:

First 5 years, rate is 0% with no adjustment based on price thresholds. After the first 5 years, the base rate is 1%; provided that the average daily closing NYMEX price for the calendar year exceeds \$150 a barrel. The rate would increase to 3%; provided further that the average daily NYMEX closing price for the year exceeds \$200 a barrel, the rate for production for that calendar year would be 5%. All prices would be indexed to 2008 levels.

Commenter's production-trigger option: A 1% rate for the first 60 million BOE operating within the first 20 years of the lease; a 3% rate for the following 60 million BOE within the first 20 years of the lease; and a 5% rate for any volume of production above the 120 million BOE within the first 20 years of the lease. These production triggers would be subject to the same price thresholds outlined in the price trigger option above. Therefore, if crude prices exceed the prescribed levels, the rate would increase by 2 or 4% respectively.

The commenter's options above are based on the assumptions that:

(1) MMS valuation of the products from oil shale will be significantly less than the market price of the final refined products because MMS will account for manufacturing/processing allowances;

(2) Lease production used on or for the benefit of the lease will not be subject to royalty; and

(3) Royalties should not be assessed on by-products such as sulfur removed from the gas stream to meet air quality requirements and sold whether at a loss or a profit. Items transported off of the lease for recycling or disposal would not be considered products or by-products. These, including produced water, CO₂, ammonia, etc., would not be royalty-bearing.

The BLM considered and opted not to use this sliding scale option because the initial rates are too low (less than 5%) and such royalty schemes are not simple, transparent, or particularly easy to administer. The BLM also found no justification or rationale to support the price or production trigger thresholds. In addition, a zero percent royalty for the first 5 years of production would not provide a fair return to the United States.

Other General Comments

Commenters stated that it was important that royalty rates be consistent across ownerships in order to prevent oil shale development from

concentrating on land with a lesser royalty rate. We agree with this comment. However, it must be recognized that, other than the State of Utah, there are no domestic royalty "rates" that apply to oil shale production. They also suggested that the BLM should adjust the royalty rate more frequently than the 20 year period in the proposed rule. The BLM cannot adjust lease royalty rates more frequently because the MLA authorizes the re-adjustment of royalty rates only after the initial 20 year term of a lease and every 20 years thereafter. The BLM can, however, change the regulatory royalty rate at any time should information become available that suggest the Federal rate is not comparable to rates on private or state lands. The new rates would apply to any lease issued or readjusted thereafter.

Another commenter stated that the BLM based the rates in the rule on estimated production costs, but provided no support for the cost estimates that it used in the calculation. The production costs used in the proposed rule's calculations were obtained from the Strategic Unconventional Fuels Report (*America's Strategic Unconventional Fuels, Volume III*) prepared for Congress and the President. The Task Force that published those production costs was established by Congress under Section 369 of the EP Act.

The same commenter suggested that the BLM defer the royalty rate determination until it has reliable information on the costs, recovery rate of technologies to be used on a lease, and the value of the product produced. The BLM disagrees with this suggestion because establishing a royalty rate early in the life of the oil shale industry provides the oil shale industry with the level of certainty necessary to obtain the capital investment required for oil shale development.

Equally significant, delaying the establishment of a royalty regime until "reliable information on the costs, recovery rate of technologies to be used on a lease, and the value of the product produced" would not attract investment for oil shale development. The royalty rate is also a part of fair market value received by the United States and could affect bonus bids offered for leases. These comments appear to be inconsistent with Section 369 of the EP Act, which requires the Secretary to establish royalty rates in a manner that encourages development and ensures a fair return to the United States.

Other comments were placed in the form of questions or general statements.

Some of these questions/statements include:

- (1) Why is "complexity" inconsistent with "fair return?"
- (2) "Any process that heats with electricity should be banned;" and
- (3) "There's one way to find out if 12.5% is too high. Put parcels up for bid based on 12.5% royalty and see if there are any takers."

The BLM examined the "complexity" issue and disagrees because, in practice, "complexity" can be inconsistent with "fair return." The more complex the system, the more expensive and inefficient it is to administer and audit. A simple royalty regime promotes certainty and reduces the administrative costs (audit, compliance and reporting costs) better than a complex royalty scheme. The BLM did not agree with the comment which suggested banning any process that uses electricity to heat/produce oil shale, because the commenter failed to provide any scientific data or rationale to support their idea. All resource production requires energy. The BLM also believes that putting oil shale "up for bid based on 12.5% royalty and see if there are any takers" is an unnecessary expense or gamble. Such an option would not provide the certainty that industry seeks and could discourage the investment that is needed now to potentially make oil shale economically competitive in the future.

One commenter asserted "specifically, the MLA says that the royalty is to be "not less than 12.5% in amount or value of the production removed or sold from the lease." The BLM examined and disagrees with the assertion because the MLA does not establish a royalty rate for oil shale nor require that oil shale royalty be set at par with that of oil and gas. Instead, the EP Act directs the Secretary to establish a royalty rate for oil shale for the dual purposes of encouraging production and ensuring fair return to the United States. The BLM agrees that there is merit in eventually reaching royalty rate parity with that of onshore oil and gas, as reflected in the royalty system chosen for these final regulations. As noted elsewhere in this preamble, the BLM believes that an initial lower royalty rate on oil shale would be beneficial in spurring investment in developing the resource, consistent with the EP Act's direction.

Another commenter suggested that no Federal royalty should be payable on spent shale, even if revenues are generated from the spent shale. This will encourage development of economic uses of spent shale and minimize onsite disposal costs. The

BLM examined this comment and affirms its position that royalty is payable on products and by-products of oil shale produced and sold/removed from the lease. So, if in the future spent shale becomes a valuable product, the appropriate royalty will apply at that time.

Oil Shale Production Royalties

After careful consideration of the public comments discussed in this rule, the BLM determined that a royalty system similar to that of the State of Utah is best suited to meet the dual requirements of the EP Act to encourage production and to ensure a fair return to the United States. In the final rule, the production royalty for oil shale will have an initial rate of 5% through the first five years of commercial production and increase by 1% annually beginning in the sixth year of production until a maximum rate of 12.5% is reached in the 13th year. By establishing an initial royalty rate of 5% during the first five years of production, we are encouraging development as mandated by EP Act. Based on our analysis, this initial rate (1) reflects the production cost disparity between shale oil and crude oil production, (2) addresses the high start up costs associated with new infrastructure required for developing, refining, and transporting oil shale products, and (3) could promote higher bonus bids to defray socioeconomic impacts to states and counties. Following five years of successful production, the rate will eventually rise to a level comparable to the royalty rate on conventional crude oil. This will help to ensure that over the term of the lease the United States is guaranteed a fair return, as required by EP Act, should oil shale development be economically successful. A more certain royalty scheme, independent of the NYMEX indices, will lower administrative costs (lower audit, compliance and reporting cost) relative to a variable royalty rate tied to NYMEX.

In summary, a low initial rate should encourage development and production during the early years when costs are high. As the technology becomes more efficient and cost effective the royalty rates will increase. If the costs to produce oil shale do not decrease, and operations become uneconomic, or marginally economic, royalty rate relief is available under section 3903.54.

Whenever the Secretary determines it necessary to promote development or finds that the lease cannot be successfully operated under its terms, the Secretary may waive, suspend, or reduce the rental, or reduce the royalty, but not advance royalty, on an entire

leasehold, or on any deposit, tract, or portion thereof, except that in no case can the royalty rate be reduced to zero percent. A lessee must apply for any of these benefits. As mentioned previously, the royalty rates can also be changed by regulation should future information indicate the need. Leases issued or readjusted after a regulatory change in the rate will be subject to the new rate. The MLA provides for readjustment of the royalty rate at the end of the 20th lease year and each 20 year period thereafter (see 30 U.S.C. 241).

Section 3903.53 requires the filing of documentation of all overriding royalties associated with a lease and requires that the filing must occur within 90 days after the date of execution of the assignment. This section is similar to that of the BLM's other mineral leasing programs. A comment on the proposed rule pointed out that we do not define "overriding royalties." Section 3903.53 of the final rule has been revised to clarify that an overriding royalty is a payment out of production to an entity other than the United States.

Section 3903.54 contains the requirements for filing an application for waiver, suspension, or reduction of rental or payments in lieu of production, or a reduction in royalty, or waiver of royalty in the first 5 years of the lease. As with the BLM's other mineral leasing programs, this section is intended to encourage the maximum ultimate recovery of the mineral(s) under lease. The proposed rule's preamble erroneously mentioned a cost recovery fee that was not in the regulation text for the proposed rule. Therefore, in the final rule there is no cost recovery fee for this section. One comment indicated that there is some confusion regarding the distinction between a suspension or reduction in rental or royalty and a waiver of royalty. The authority for a suspension, waiver, or reduction of rental or a reduction in royalty is 30 U.S.C. 209 and applies to numerous minerals under the MLA including, but not limited to, coal, oil, gas, and oil shale. The authority for a waiver of the rental and royalty for the first 5 years under an oil shale lease is 30 U.S.C. 241 and only applies to oil shale.

Section 3903.60 provides that late payments or underpayment charges are assessed under MMS regulations at 30 CFR 218.202.

Subpart 3904—Bonds and Trust Funds

Sections in this subpart address the requirements associated with bonding and trust funds, including the:

(1) Types of bonds the BLM requires and when bonds would be required (section 3904.10);

(2) When and where bonds would be filed (sections 3904.11 and 3904.12);

(3) Acceptable types of bonds (section 3904.13);

(4) Individual lease, exploration license, and reclamation bonds (section 3904.14);

(5) Amount of bond coverage (section 3904.15);

(6) Default (section 3904.20); and

(7) Long-term water treatment trust funds (section 3904.40).

Since all of the BLM's mineral leasing programs require bonds, the requirements in subpart 3904 are similar to the regulatory provisions in the BLM's other mineral leasing programs. The bonding requirements in this rule are similar to the bonding requirements under the BLM's mining law program in that both programs require that bonds cover the full cost of reclamation and allow for the use of long-term trust funds as a mechanism to address potential long-term water issues.

Bonding ensures performance at a cost up to the bond amount in the event of default by a lessee or licensee. This subpart requires two types of bonds; a lease or exploration license bond and a reclamation bond. This subpart also explains that reclamation bonds will be required to be in an amount sufficient to cover the entire cost of reclamation of the disturbed areas as if they were to be performed by a contracted third party.

Section 3904.10 provides that prior to lease or exploration license issuance, the BLM requires a lease or exploration license bond for each lease or exploration license to cover all liabilities on a lease, except reclamation, and all liabilities on a license. One commenter requested an explanation of what liabilities the lease bond covers. A lease bond covers the lessee's compliance with the terms and conditions of the lease and will be calculated to cover payments for rental, minimum or production royalty, outstanding bonus bid payments, and assessments. The bond also could be used to cover any other payments required of the lessee that are associated with noncompliance with the terms and conditions of the lease. The bond will be executed by the lessee and will cover all record title owners, operating rights owners, operators, and any person who conducts operations on or is responsible for making payments under a lease or license. This section also requires the lessee or operator to file a reclamation bond to cover all costs the BLM estimates necessary to cover reclamation on a lease.

Section 3904.11 requires the prospective licensee, lessee, or operator to file a lease bond prior to issuance of a lease, file a reclamation bond prior to approval of a POD, and file an exploration bond prior to exploration license issuance. This section is similar to other BLM bonding regulations as it would require the filing of a bond before liabilities may accrue. We received a comment requesting a revision to section 3904.11 clarifying when a lease bond is filed. Section 3925.10 of the rule provides that the successful bidder will submit a bond as a condition of lease issuance. Therefore, no change is made to section 3904.11 in the final rule. A commenter requested that the regulation provide that bonds be "a condition of" issuance of licenses or leases, or of approval of PODs. We did not change the section because proof of bond coverage is a pre-condition to issuance or approval of those documents. We revised this section in the final rule to make it clear that submission of a bond is a condition precedent of the approvals mentioned in the section.

Section 3904.12 requires that a copy of the bond with original signatures be filed in the proper BLM office, and section 3904.13 describes the different types of bonds that the BLM will accept.

Section 3904.13 addresses the types of personal and surety bonds the BLM will accept. Personal bonds are limited to pledges of cash, cashier's checks, certified checks, or U.S. Treasury bonds. The BLM state offices have available for public review a Treasury Department list of qualified sureties for bonds. We received several comments requesting that the types of personal bonds that will be accepted should be expanded. We believe that the number and types of bonds available to lessees and licensees are varied enough to provide flexibility and accessibility to all holders.

Section 3904.14 provides that the BLM will establish bond amounts on a case-by-case basis, and sets the minimum lease bond amount at \$25,000. One comment expressed concern that \$25,000 is an inadequate minimum bond amount. The actual bond amount for a lease, as opposed to the minimum bond amount, will be calculated each year to cover the rental payments, minimum royalty, outstanding bonus payments, assessments, if applicable, and other payments that are due for the lease. The minimum lease bond amount, established by the regulations, however, is greater than that required in other BLM mineral leasing programs. The BLM chose this higher minimum bond amount to insure coverage of

unpredictable lease liabilities due to the unknown nature of future oil shale development and the likelihood of large, outstanding bonus bid payments. In addition to the lease bond, the reclamation bond amount and the bond amount for a license will be calculated to cover actual reclamation costs.

Reclamation and exploration bond amounts will be established to cover the costs of reclamation as if it were to be performed by a contracted third party. Past oil shale operations have required extensive reclamation, and this has demonstrated the need to have a reclamation bond that covers the full cost of reclamation. By requiring that the bond equal the estimated costs of having a third party perform the reclamation, the BLM anticipates that the cost of reclamation will be covered.

This section also provides that the BLM may enter into agreements with states to accept a state-approved reclamation bond to satisfy the BLM's reclamation requirements and protect the BLM, to the extent the bond is adequate to cover all the operator's liabilities on Federal, state, and private lands. This avoids duplicate procedures and the inconvenience and cost of filing separate bonds with both the state and the BLM. Such agreements were recommended by state representatives at the BLM listening sessions and are also addressed in regulatory provisions of other BLM mineral leasing programs. We received a comment suggesting that this section should provide for the establishment of an escrow account or trust fund as an option to replace bonding as a method of insuring reclamation. With the exception of special circumstances, as outlined in section 3904.40 of this rule, the BLM believes that requiring escrow accounts or trust funds would impose unnecessary costs on lessees as well as additional administrative costs to the BLM while offering no advantage to ensure that funds will be available in case the lessee or licensee cannot meet reclamation obligations. Although these rules will not specifically provide for escrow accounts or trust funds, as suggested by the commenter, state approved reclamation rules may allow for them. In these cases, and where the BLM has an agreement with the state, the BLM will indirectly accept escrow accounts and trust funds, but the state will be responsible for managing them.

Section 3904.15 explains that the BLM may increase or decrease the bond amount if it determines that a change in coverage is warranted to cover the costs and obligations of complying with the requirements of the lease or license and these regulations. This section also

explains that the BLM will not decrease the bond amount below the minimum established in section 3904.14(a). This section requires the lessee or operator to submit a revised estimate of the reclamation costs to the BLM every three years after reclamation bond approval. If the current bond does not cover the revised estimate of the reclamation costs, the lessee or operator would be required to increase the reclamation bond amount to meet or exceed the revised cost estimate. This section is consistent with the bonding regulations that currently exist for other BLM minerals programs. A commenter requested a revision to section 3904.15 to require the BLM to audit cost estimates provided by lessees or operators under this section. In the final rule we revised section 3904.15 to state that the BLM will verify the cost estimates provided by the lessee or operator. A commenter proposed changes to provide for incremental bonding. We did not revise the rule because this section allows the BLM to increase or decrease bond amounts as the need for coverage changes. This allows for incremental bonding where appropriate.

Section 3904.20 describes what actions the BLM will take in the event of a default payment from a lease, exploration, or reclamation bond to cover nonpayment of any obligations that were not met. It also requires the bond to be restored to the pre-default level. This section is similar to sections in the other BLM mineral regulations regarding default.

Section 3904.21 allows the termination of the period of liability of a bond. The BLM will not consent to the termination of the period of liability under a bond unless an acceptable replacement bond has been filed. Termination of the period of liability of a bond ends the period during which obligations continue to accrue, but does not relieve the surety of the responsibility for obligations that accrued during the period of liability. We received a comment that the proposed rule contains no provisions regarding bond release procedures. We agree that explicit bond release provisions will promote the availability of bonds without endangering the environment. Therefore, in the final rule we added new paragraphs (c), (d), and (e) to section 3904.21 to allow for bond releases. Paragraph (c) provides that a lease bond will be released when the BLM determines that all lease obligations accruing during the period of liability have been fulfilled. No time frame for release has been set, because it can take some time to complete any

necessary audits to verify that all the required obligations have been met. Paragraph (d) provides that a reclamation bond or license bond will be released when the BLM determines that the reclamation obligations arising within the period of liability have been met and that the reclamation has succeeded to the BLM's satisfaction. The time necessary to verify the success of reclamation activities may differ according to such local factors as drought or native plant communities that are difficult to establish.

We note that section 3904.14(c) provides that the BLM may enter into agreements with states to accept a state reclamation bond to cover the BLM's reclamation bonding requirements, in which case the state bond release procedures would be applicable.

A commenter recommended that termination of the period of liability of a bond should relieve the surety of liability for obligations that accrued during the period of liability. We disagree because we distinguish termination of the period of liability (the surety is no longer accruing obligations) from release of the bond (the surety no longer has liability under the bond). We do not believe that all potential sureties for replacement bonds would be willing to accept liability for activities that occurred before the replacement bond is issued. Nonetheless, in the event that there are such sureties, in the final rule we added a new paragraph (e) that allows release of bonds when the BLM accepts a replacement bond that expressly assumes all liabilities that arose under the period of liability of the original bond. The replacement bond must meet the requirements under section 3904.13, and the BLM may require that the replacement bond be for a different amount under section 3904.13.

Section 3904.40 establishes trust funds or other funding mechanisms to ensure the continuation of long-term treatment to achieve water quality standards and for other long-term, post-mining maintenance requirements. Experience in other mineral programs has shown the need for a mechanism to ensure the long-term treatment of water. This provision is similar to regulations in the BLM's mining law program under 43 CFR 3809.552 and is designed to address similar long-term water protection issues. In determining whether a trust fund will be required, the BLM will consider the following factors:

(1) The anticipated post-mining obligations (PMO) that are identified in the environmental document and/or approved POD;

(2) Whether there is a reasonable degree of certainty that the treatment will be required based on accepted scientific evidence and/or models;

(3) The determination that the financial responsibility for those obligations rests with the operator; and

(4) Whether it is feasible, practical, or desirable to require separate or expanded reclamation bonds for those anticipated long-term PMOs.

The determination that a trust fund is needed and the amount needed in the fund may be made during review of the proposed POD or later as a result of further inspections or reviews of the operations.

We received one comment stating that we should require a bond to assure water quality restoration. We believe the bonding provisions in this section, as well as the requirement for full reclamation bonding, address the commenter's concerns.

Subpart 3905—Lease Exchanges

This subpart allows the BLM to approve oil shale lease exchanges.

Section 3905.10 explains that the BLM will approve a lease exchange if it would facilitate the recovery of oil shale and it would consolidate mineral interests into manageable areas. It also states that oil shale lease exchanges are governed by the regulations under 43 CFR part 2200. Section 206 of FLPMA authorizes exchanges of interests in Federal lands for non-Federal lands (43 U.S.C. 1716).

Part 3910—Oil Shale Exploration Licenses

The regulations in this part address exploration licenses. An exploration license allows a licensee to enter the Federal land covered by the license and explore for minerals, but it does not authorize the licensee to extract any minerals, except for experimental or demonstration purposes.

Section 3910.21 authorizes the issuance of oil shale exploration licenses on all Federal lands subject to leasing under section 3900.10, except lands within an existing oil shale lease or in preference right lease areas under the R, D and D program. This type of limitation on which lands the BLM may issue an exploration license is consistent with that of other BLM minerals exploration regulations.

Section 3910.22 makes it clear that the consent and consultation procedures under section 3900.61 that apply to leases also apply to exploration licenses. The BLM will issue licenses under the terms and conditions prescribed by the surface managing agency concerning the use and protection of the nonmineral

interests in those lands. Section 3910.22 is similar to regulations for BLM's other mineral leasing programs requiring consent and consultation for exploration licenses.

Section 3910.23 requires the operator to have a lease or license before conducting any exploration activities on Federal lands. This section also allows that under an exploration license, small amounts of material may be removed for testing purposes only; however, any material removed cannot be sold. This is similar to regulations in other BLM mineral programs that recognize that some removal of material is necessary for testing purposes. One comment brought to the BLM's attention a typographical error in section 3910.23 of the proposed rule. The cross-reference to section 3904.41 in the proposed rule is changed to the correct cross-reference, section 3931.40, in the final rule.

Section 3910.31 identifies specific requirements for filing an application for an exploration license. Application requirements under this section include:

(1) Submission of a nonrefundable filing fee;

(2) Description of lands covered by the application;

(3) An exploration plan;

(4) Compliance with maximum acreage limitations for an exploration license; and

(5) Submission of information to prepare a notice of invitation for other parties to participate in exploration.

Mirroring the coal regulations, this section establishes an acreage limit of 25,000 acres as the maximum size allowable for an exploration license. As is the case for other BLM leasing programs that provide for exploration licenses, there is no required application form. The \$295 filing fee for an exploration license is based on the filing fee for a coal exploration license at the time the rule was proposed. The BLM anticipates that the time required to process an oil shale exploration license will be similar to that for a coal exploration license, and therefore believes the same filing fee is justified.

We received one comment suggesting that acreage limitations for exploration licenses (25,000 acres) and leases (5,760 acres) should be the same. We disagree with this suggestion. An exploration license only allows a licensee to conduct exploration activities and does not include an entitlement to a lease. Therefore, there is no reason for the acreage limitations for a lease and a license to be the same. Typically, exploration occurs on a broader scale in order to refine and narrow the lease area to the most promising acreage. The applicant may want to explore for more

than the 5,760 acres that is allowed in one lease, and the most efficient and economical way to authorize these exploration activities would be through one license and not multiple licenses.

Therefore, we believe that the larger maximum acreage figure for licenses is warranted. An additional comment received regarding section 3910.31 questioned the reasoning for allowing exploration on a tract of land that would be almost 5 times larger than the acreage limitation for one lease. There is a precedent in the coal program for the 25,000 maximum acreage amount for exploration licenses. The Federal Coal Leasing Amendments Act amended the MLA to allow for as much as 25,000 acres to be included in a single coal exploration license. If past experience with exploration licenses in the coal program is any indication, it would be rare for most licenses to reach the 25,000 acreage figure because of the expenses associated with conducting exploration activities on such a large scale. The BLM also has the discretion not to approve a license in whole or in part. We did not revise the acreage limitation provision in the final rule.

Section 3910.32 requires the BLM to perform the appropriate NEPA analysis before issuing an exploration license. The section also explains that the BLM will include in an exploration license, terms and conditions to mitigate impacts to the environment, to protect Federal resource values of the area, and to ensure reclamation of the lands disturbed by exploration activities.

Section 3910.40 provides that a licensee must comply with all applicable Federal laws and regulations, the terms and conditions of the license and approved exploration plan, as well as applicable state and local laws not otherwise preempted by Federal laws, such as FLPMA. The final section adds a requirement that licensees and their operators keep the BLM informed of changes in names and addresses. That requirement had been in proposed section 3930.20(c).

Section 3910.41 explains provisions relating to the administration of the exploration license, including the license term, the effective date of an exploration license, conditions for approval, and provisions relating to the modification, relinquishment, and cancellation of an exploration license. Like exploration licenses for other BLM mineral leasing programs, the term of an exploration license is 2 years. The requirements for oil shale exploration licenses are similar to those of other BLM minerals programs. One commenter requested a revision to section 3910.41 that would add a

provision for the BLM to cancel an exploration license in the event significant adverse impacts to the environment occur. We have not revised the section to include such a provision because we believe the regulations address this concern. Prior to issuing an exploration license, the BLM will perform an environmental review under section 3910.32(a) that will identify impacts to the environment. The impacts will be addressed by mitigation measures included as terms and conditions of the license to address any adverse impacts. The BLM can terminate the license if the licensee does not comply with the terms and conditions included in the license or the approved exploration plan (see final sections 3910.32(b), 3910.41, and 3934.30). Under section 3936.20, the BLM will issue notices of noncompliance if a licensee's operations threaten immediate damage to the environment, the deposit, or other resources. If the licensee fails to take corrective action, the BLM can order operations to cease, take actions to terminate the license (section 3934.30), or order the licensee to pay an assessment (section 3936.30). In addition, the BLM may also order activities to cease should health, human safety, resource condition or the environment be threatened. Another comment suggested that exploration licenses should be assignable. We agree and have addressed this comment in subpart 3933.

Section 3910.42 provides that issuance of an exploration license does not preclude the issuance of a Federal oil shale lease for the same area. This section also makes it clear that if an oil shale lease is issued for an area covered by an exploration license, the BLM will cancel the exploration license effective the date of lease issuance. The BLM received a comment requesting that we add a provision that would allow lands to be added to an existing exploration license. Section 3910.31(e) requires that exploration applicants invite others to participate in exploration under a license. Adding lands to an existing license would mean that the amended license could possibly have two sets of participants, two different terms, and two separate exploration plans. The simplest way for an entity desiring to explore lands adjacent to an existing license is to submit a new license application. The final rule does not include a provision to add lands to an existing license.

Section 3910.44 addresses collection and submission of data relating to an exploration license and includes provisions relating to confidentiality of

data. This section is similar to provisions in other BLM minerals programs. The final rule states that the BLM will consider data confidential and proprietary until the BLM determines that public access to the data will not damage the competitive position of the licensee or the lands involved have been leased, whichever comes first. Under this rule this means that the data is no longer proprietary, but that does not necessarily mean that the information is public.

Section 3910.50 addresses the issue of surface damage resulting from exploration operations and requires that exploration activities not unreasonably interfere with or endanger any other lawful activity on the same lands or damage any surface improvements on the lands. This is similar to other BLM minerals regulations that address surface use.

Part 3920—Oil Shale Leasing

The foundation for the oil shale leasing program is a competitive leasing process similar to the BLM's coal leasing program. Prior to making areas available for consideration for leasing through a competitive lease sale, there is a two-step process that begins with a call for expressions of leasing interest (section 3921.30), to be followed by a call for applications (section 3921.60) if the BLM determines that there is interest in a competitive lease sale. In addition to contributing to the orderly development of the resource, this process facilitates compliance with NEPA by focusing the analysis on areas in which there is active interest in obtaining a lease.

Subpart 3921—Pre-Sale Activities

The sections under this subpart contain regulatory provisions relating to pre-leasing activities. Many of the sections are similar to existing provisions of other BLM mineral leasing programs, particularly coal.

Section 3921.10 explains that a BLM State Director may request in the **Federal Register** expressions of interest for those areas identified in the land use plan as available for oil shale leasing.

Section 3921.20 clarifies that the appropriate NEPA analysis must be prepared for the proposed leasing area under the Council on Environmental Quality's (CEQ) regulations at 40 CFR parts 1500 through 1508 and Department policies and procedures developed pursuant to NEPA.

We received several comments regarding the NEPA process and the opportunity for public participation and review from Federal, state, and local agencies throughout the process. All

NEPA analyses and documentation will be performed in compliance with the CEQ regulations, with public participation being an essential part of the process. Sections 3900.50, 3910.32, and 3921.20 of this rule reinforce the fact that the BLM will comply with NEPA and other appropriate Federal laws and regulations to ensure the protection of the resource and the environment. The BLM also revised section 3931.10(f) to make it explicit that appropriate NEPA analysis is also required before exploration plans or PODs are approved. The BLM's NEPA Handbook (H-1790-1) and Land Use Planning Handbook (H-1601-1) provide extensive guidance regarding the roles of and opportunities for other Federal, state, and local agencies and the public to participate in the BLM's environmental processes. The BLM also affords Federal, state, and local governments the opportunity to participate, as cooperating agencies, during the preparation of environmental impact statements. The BLM, therefore, believes that there are adequate opportunities built into the BLM's NEPA and land use planning process to provide full and meaningful coordination with Federal, state, and local government, as well as opportunities for public participation. In addition, outside the NEPA process, section 3921.40 requires the BLM to notify the appropriate state governor's office, local governments, and interested Indian tribes of the opportunity to provide comments on industry's responses to the call for expression interest and other issues related to oil shale leasing.

Several commenters disagreed with the requirement of multiple NEPA analyses and suggested that the BLM combine the two NEPA analyses. The environmental analysis referenced in section 3900.50 is used to support land use planning decisions of all kinds and will, among other things, determine whether the lands are suitable for leasing oil shale or not. The analysis under section 3921.20 will specifically address the impacts of oil shale leasing, hence the need for information requested in section 3922.20 on the types of oil shale development activities contemplated by potential lessees. In-as-much as the NEPA analysis completed for leasing may not always accurately predict the types of impacts of future oil shale development, additional NEPA analysis will be required before actual development activities occur to ensure that impacts not contemplated, planned, or apparent at the time of leasing are addressed.

With the commercial oil shale industry in the early stages of development, it would be inappropriate to combine the NEPA analysis for leasing and POD stages at this time. At the leasing stage, there may be uncertainties concerning the level, type, and amount of development and therefore, a more narrow decision (leasing only decision) may be made, while at the POD stage, when more specific information is known, the analysis will be more focused on the lessee's proposed development activities. It will include specific technology information, exact mining or surface disturbance acreage, the specific equipment infrastructure, and the exact on-the-ground footprint of the proposed operation. However, it is likely that much of the NEPA analysis and information developed prior to leasing could be used or referenced during subsequent NEPA analysis.

Several commenters stated that the BLM should collaborate with state agencies such as the state's department of natural resources, department of health, and water quality control division and local municipal governments to protect water resources. As stated above, Federal, state, and local governments will be afforded multiple opportunities to participate in the BLM's NEPA and land use planning process. One commenter stated that the BLM should retain authority to withdraw specific tracts from leasing should the results of further NEPA analysis support it. The commenter also stated that the BLM should retain authority to modify lease terms or add protective stipulations to a lease after it has been issued.

The BLM has the authority to not approve the leasing of lands that are identified in a land use planning document as open to application for future commercial leasing, exploration, and development. The BLM will conduct pre-lease NEPA analysis to identify necessary controls to mitigate or eliminate environmental impacts on parcels being considered for leasing. If, as part of the NEPA analysis, the BLM determines that leasing and subsequent development of the oil shale resources would cause significant impacts, the BLM can require the applicant to: (1) Mitigate the impact so that it is no longer significant; or (2) Move the proposed lease location. If neither of these options resolves the anticipated conflicts, the BLM can decide that protection of the resource outweighs the development of the oil shale resources or vice-versa. Once a lease is issued, additional mitigation could be applied based on the further NEPA

documentation performed at the POD stage. At the POD stage, site-specific mitigation measures can be developed and applied as conditions of approval. In addition, subpart 3932 of this rule discusses lease modifications and readjustments. Under that subpart, the BLM has the authority to change lease terms, conditions, and stipulations at end of the first 20-year period of the lease and, excepting royalty rates, at the end of each 10-year period thereafter.

Section 3921.30 provides that the notice calling for expressions of leasing interest would be published in the **Federal Register** and in at least one newspaper of general circulation in the affected state. The notice will allow a minimum of 30 days to submit expressions of leasing interest, including a legal land description and other specified information.

Section 3921.40 requires that the BLM notify the appropriate state governor's office, local governments, and interested Indian tribes of their opportunity, after the BLM receives responses to the call for expression of leasing interest, to provide comments regarding the responses and other issues related to oil shale leasing. The BLM included this requirement in the rule in response to discussions at the three listening sessions with the governors' representatives. One commenter recommended that the BLM expand this section to include notification to potentially affected Federal land managers. The BLM does not see the need to include potentially affected Federal agencies at this stage of the process. The CEQ regulations emphasize cooperation with other Federal agencies early in the NEPA process. Any other Federal agency that has "special expertise" with respect to any environmental issue, which will be addressed by the NEPA analysis, may participate as a cooperating agency. If an affected Federal agency declines to become a cooperating agency, the agency has the opportunity to provide scoping comments and review and comment on draft EISs and/or associated planning documents that would be developed prior to leasing and approval of PODs.

Section 3921.50 explains that after analyzing expressions of leasing interest, the BLM will determine a geographic area for receiving applications to lease. This section also explains that the BLM may add lands to those areas identified by the public in the expressions of leasing interest. One commenter stated that the BLM should also have the authority to remove lands in an application to lease based on resource protection concerns. As noted

above, the BLM already has the authority to make any necessary adjustments to the area under consideration prior to holding the lease sale.

Under section 3921.60, the BLM's call for lease applications will be published in the **Federal Register** and will identify the geographic area available for application under subpart 3922. Under this section, the public will have at least 90 days to submit applications for lease.

Subpart 3922—Application Processing

The sections under this subpart contain regulatory provisions relating to application requirements. These provisions are similar to existing regulations of other BLM mineral leasing programs.

Section 3922.10 requires an applicant nominating a tract for competitive leasing to pay a cost recovery or processing fee that the BLM will determine on a case-by-case basis as described in 43 CFR 3000.11 and as modified by provisions of section 3922.10. The section provides that the applicant who nominates a tract will pay to the BLM the processing costs that the BLM incurs up to the time of publication of the competitive lease sale notice. That fee amount will be in the sale notice. If the applicant is the successful bidder, the applicant would then also pay all processing costs the BLM incurs after the date of the sale notice. Payment of all cost recovery fees is required prior to lease issuance.

If the successful bidder is someone other than the original applicant, the successful bidder will be required to submit an application under section 3922.20 within 30 days after the lease sale and be responsible for paying to the BLM the fee amount included in the sale notice. In such circumstances, the BLM will refund the fees the original applicant paid to the BLM. The successful bidder is also responsible for any processing costs the BLM incurs after the date of the sale notice. If there is no successful bidder, the applicant is responsible for processing costs, and there will be no refund.

With respect to costs incurred relating to the NEPA analysis to support a competitive lease sale, the BLM processing fees noted in the sale notice include, if applicable, the BLM's costs associated with preparation of the NEPA analysis, which may include BLM costs incurred in contracting with a third party to perform the NEPA analysis. In cases where there are several applications that have been filed for the same area, it is likely that the BLM would prepare a single NEPA analysis, which would address issues related to

environmental impacts identified in all applications that were filed in response to the call for applications.

In the case where the successful bidder for a tract is not the original applicant, the successful bidder will be responsible for paying the fee noted in the sale notice and any additional BLM processing costs, including any additional NEPA analysis. For example, in the case where a successful high bidder is not the original applicant and the technology that the successful bidder proposes to use was not previously analyzed in the NEPA analysis, the successful bidder is responsible for paying for the cost of the original NEPA analysis and any additional NEPA analysis that is necessary.

It should be noted that an applicant will not be reimbursed for moneys the applicant (and not the BLM) may pay directly to third persons to perform studies, including any required analyses under NEPA.

Under section 3922.10, the BLM adopted case-by-case processing fees for applications that mirror case-by-case fee requirements applicable to the leasing of coal and non-energy leasable minerals offered through competitive lease sales. The BLM's minerals material sales regulations also contain case-by-case processing fees. Case-by-case fees allow the BLM to recoup its processing costs by charging an applicant the reasonable costs the BLM incurs in processing a particular application. Cost recovery is authorized under the Independent Offices Appropriation Act of 1952, as amended, 31 U.S.C. 9701, which states that Federal agencies should be "self-sustaining to the extent possible" and authorizes agency heads to "prescribe regulations establishing the charge for a service or thing of value provided by the agency." The BLM also has specific authority to charge fees for processing applications and other documents relating to public lands, including EISs, under Section 304(b) of FLPMA (43 U.S.C. 1734(b)). Cost recovery policies are explained in Office of Management and Budget Circular A-25 (Revised), entitled "User Charges." The general Federal policy stated in Circular A-25 (Revised) is that a charge will be assessed against each identifiable recipient for special benefits derived from Federal activities beyond those received by the general public.

Additionally, this section states that the BLM will not issue a lease offered by competitive sale without having first received an application from the successful bidder under section 3922.20. Under section 3922.10(b)(5) a successful bidder at a competitive lease

sale who was not an applicant must file an application within 30 calendar days after the lease sale.

A commenter noted that although section 3922.10 requires a cost recovery fee for lease nominations, there appears to be no fee required for BLM processing of PODs. The comment further recommended that the BLM charge a cost recovery fee for processing PODs, particularly in light of recently enacted legislation requiring the BLM to assess fees for approval of applications for permits to drill (APDs) on oil and gas leases.

Since the BLM did not propose a cost recovery fee for PODs, we are not adopting the recommendation.

Section 3922.20 identifies specific information that an applicant is required to include in a lease application to enable the BLM to have sufficient information to prepare the appropriate NEPA analysis to evaluate the impacts of proposed leasing. The amount of information requested as part of an oil shale lease application differs from other mineral leasing programs because the methodology for recovering oil shale is not as standardized as it is for more conventional fuels. Although no specific form is required, information the applicant is required to provide includes, but is not limited to:

- (1) Proposed extraction method (including personnel requirements, production levels, and transportation methods) and estimate of the maximum surface area to be disturbed at any one time;
- (2) Sources and quantities of water to be used and treatment and disposal methods necessary to meet applicable water quality standards;
- (3) Air emissions;
- (4) Anticipated noise levels from proposed development;
- (5) How proposed lease development will comply with all applicable statutes and regulations governing management of chemicals and disposal of waste;
- (6) Reasonably foreseeable social, economic, and infrastructure impacts of the proposed development on the surrounding communities and on state and local governments;
- (7) Mitigation of impacts on species and habitats; and
- (8) Proposed reclamation methods.

Several commenters stated that it may be difficult to provide the detailed level of application information requested in the proposed regulations prior to tract delineation. The commenters are correct in their statements that the specific details of a mining operation may not be completely known, particularly if the lease tracts are ultimately redesigned prior to leasing. The BLM, however, will

still need as much specific information as possible on proposed technologies and the potential impacts of these technologies prior to leasing in order to make reasonable assumptions concerning the level and type of commercial oil shale activity likely to occur. The applicant must submit information on its proposed technology, tract location, and potential environmental impacts, so that the BLM, or a third party contractor, will have enough data to analyze the direct, indirect, and cumulative effects should leasing occur and to develop specific mitigation measures or stipulations to eliminate or mitigate adverse effects. Additional NEPA analysis will be required prior to approval of PODs and actual development activities and will benefit from a more detailed leasing analysis.

Another commenter suggested that the BLM add provisions to ensure that prospective licensees and lessees identify the full breadth of potential impacts of operations on activities such as access and power generation, on resources and values of adjacent National Park Service and special status lands, and require them to identify specific measures on how they will avoid such impacts.

Included in the application requirements in the final rule are requests for the type of information the commenter identified. In addition, the scoping process required under NEPA will be used to identify issues and concerns, resources and resource values affected, connected and reasonably foreseeable actions, and reasonable alternatives based on the nature and scope of the proposed action. The scoping process will determine which issues will be analyzed in detail, while simultaneously eliminating issues from further analysis. As a consequence of the NEPA analysis, reasonable alternatives, stipulations, or other mitigation measures will be developed to mitigate or eliminate any adverse environmental impacts of leasing.

Another comment suggested that the BLM require baseline monitoring and monitoring of mine or in-situ construction, operational, and post-operational activities in order to provide accurate information about the effects that commercial development will have on the environment and local communities. The regulations provide the flexibility for the BLM to require monitoring, if necessary, as a condition of exploration plan or POD approval. It is premature, at the rulemaking stage, to determine whether and what types of monitoring might be necessary during the development of oil shale resources;

therefore, we made no change in the rule as a result of this comment.

We received a comment regarding section 3922.20 that disagrees with the requirement to gather information for a lease application at the exploration license phase where anyone can participate. The commenter believes that the gathering of information should occur after a lease issues so that only the lessee knows what the resource information is. While provisions in these regulations allow for exploration on unleased lands under an exploration license, exploration may also occur on a lease without a requirement that the resource information be shared. The information requested in the lease application is needed for the BLM to adequately assess potential environmental impacts as required by NEPA. No regulatory changes were made as result of this comment.

Another comment suggested that in order to address multiple mineral development issues (first in time, first in right), the final rule should contain a provision to require the applicant to include on the maps submitted locations of producing, drilling, and abandoned wells, existing facilities of other lessees, and existing equipment and pipelines related to other mineral development or the BLM undertake to provide the information in advance of any lease sale. While we agree that this information is useful and necessary, this requirement has not been adopted because the BLM typically has this information and will ensure that all parties interested in bidding will have access to it prior to the lease sale.

Another comment concerning section 3922.20 asked that we add to that section wording similar to that in 3926.10(b)(2) for the R,D and D leases requiring the applicant to include a "description of consultation with the state and local officials to develop a plan for mitigating the socioeconomic impacts of commercial developments on communities, services, and infrastructure." The BLM has revised final section 3922.20(c)(11) to require the applicant to include a discussion of the proposed mitigation measures or a plan to mitigate adverse impacts, not only to communities, but to services and infrastructure.

Another commenter requested that the BLM use as a model MMS's 30 CFR 285.102, 285.105, 285.203, 285.610, and 285.626 proposed regulations (see 73 FR 39460). Part 285 is titled "Alternative Energy and Alternative uses of existing facilities on the Outer Continental Shelf." Section 285.102 outlines what MMS' responsibilities are, section 285.105 outlines the responsibilities of

the applicant, and section 285.203 outlines who MMS will consult with before issuing a lease. We do not believe that the MMS outer continental shelf regulations meet the objectives of the BLM's oil shale program. This rule addresses consultation and the responsibilities of the applicant to provide sufficient information that the BLM needs to prepare the appropriate NEPA analysis to evaluate the impacts of proposed oil shale leasing and to delineate tracts for leasing.

Section 3922.30 provides that the BLM could request additional information from the applicant, and explains that failure to provide the best available and most accurate information might result in suspension or termination of processing of the application or in a decision to reject the application. The BLM's ability to obtain additional information at this stage is essential to the NEPA analysis to support leasing. Failure to provide the needed information would have a direct impact on the adequacy of the NEPA analysis and therefore could have an adverse impact on the BLM's decision to proceed with a lease sale.

Section 3922.40 makes it clear that the purpose of tract delineation for a competitive lease sale is to provide for the orderly development of the oil shale resource. This section also clarifies that in addition to adding or deleting lands from an area covered by an application, where lands covered by applications overlap, the BLM may delineate those lands that overlap as separate tracts. The BLM may delineate tracts in any area acceptable for further consideration for leasing, regardless of whether it received expressions of interest or applications for those areas. The need to delineate tracts for adequate development of the mineral resource is recognized in all the BLM mineral leasing programs, and provisions similar to this are contained in the other BLM mineral leasing regulations.

Subpart 3923—Minimum Bid

Section 3923.10 implements the policy of the United States under Section 102(a) of FLPMA (43 U.S.C. 1701(a)(9)) that the Federal Government should receive FMV for leasing its minerals. Also, Section 369(o) of the EP Act requires that payments for leases under that section must ensure a fair return to the United States. Under section 3924.10, the BLM sales panel determines if the high bid reflects the FMV of the tract, which we equate to fair return. We anticipate that the sales panel will analyze the bids and make a determination, taking into account the

appraisal reports, as explained in greater detail in the preamble to subpart 3924.

The BLM recognizes the difficulty in determining a value for a resource (oil shale) that has tremendous potential, but has not yet been proven to be economic to develop. The risk of setting pre-sale FMVs that are too high and that would discourage development of a commercial leasing program is very real. The BLM is also aware that the oil shale industry is presently in the research and development stage and comparable lease sales might be rare or unavailable when leasing first occurs under these regulations, but this will not always be the case. Competitive lease sales of Federal oil shale leases in the 1970s resulted in bids of \$10,000 per acre, or higher, indicating that even though development risks are high, the potential reward is also high. Both the economic and the technological circumstances have changed since the 1970s, including the withdrawal of substantial subsidies, but the vast quantities of oil shale on Federal lands weigh in favor of high minimum bid amounts. For comparison purposes, the coal program has a minimum bid amount of \$100 per acre and the oil and gas program has a minimum bid amount of \$2 per acre. This section sets a minimum bid of \$1,000 per acre.

We received a number of comments on the proposed minimum bid (subpart 3923) and FMV (subpart 3924) provisions. Comments that exclusively address minimum bid issues are discussed below. Comments that address FMV issues on both subparts are discussed under subpart 3924.

A commenter stated that given the FMV requirement, the inclusion of a minimum bid appears to be superfluous and unnecessary. Other commenters suggested that the minimum bonus bid must reflect the true value of the resource. We also received numerous comments stating that the minimum bid was either too high or too low. Commenters suggested that with the \$1,000 per acre minimum bid and the vague FMV standards, the BLM could be forced to lease tracts for far less than their true value. Those advocating a higher minimum bid point to the 1970's prototype leases as an indicator of value. We also received comments that the \$1,000 per acre minimum bid is an unrealistically high minimum. One commenter pointed out that bids on the tar sand leases issued by Utah's School and Institutional Trust Land Administration ranged from \$1.38 per acre to \$212.29 per acre. Several other commenters suggest the \$100 per acre coal minimum bid or the \$2 per acre oil and gas minimum bid are more

reasonable floor values, especially given the infancy of the industry and the Congressional mandate to promote oil shale development. Another commenter pointed out that a \$1,000 per acre minimum bid does not account for differences in the potential oil yields. For example, it favors thick deposits over thinner deposits, as it represents a smaller share of the value of the thick deposits. The commenter suggests that this could hinder resource development. The commenter also said that minimum bids should be posted for individual leases at the time of offering or be based on a yield figure such as \$0.005 per barrel.

The bonus bid represents one part of the FMV to be received by the Federal Government. Rental, royalties, and other considerations influence FMV. In some instances, the minimum bid may ultimately be determined to represent FMV and the acceptable high bid for the lease. The minimum bid requirement does not ensure that the United States receives FMV for the use of the oil shale resource, but rather establishes a floor to minimize the participation of bidders that are not likely to be serious about developing the oil shale. As discussed in the proposed rule, the BLM will employ a well-established appraisal process to determine each tract's FMV. In the proposed rule, we specifically asked for comments on the appropriateness of the proposed \$1,000 per acre minimum bid. As noted above, we received suggestions that the \$1,000 per acre bid amount was either too high or too low; however, for the most part we received little information to support those positions. The argument that a per acre minimum favors tracts with thicker seams, in certain instances, is valid. However, the agency has a history of using a simple standardized per acre unit, e.g., \$100 per acre for coal leasing, for minimum bids to avoid any confusion that the minimum bid amount equates to the actual tract FMV. Also, it needs to be noted that the prospective lessee is responsible for nominating the prospective lease tracts. To the extent that the minimum bid may actually exceed FMV for certain thin-seam tracts, the prospective lessee will avoid nominating such lands. As such, we have decided to keep the minimum bid at \$1,000 per acre.

Subpart 3924—Lease Sale Procedures

Provisions of this subpart identify the process by which tracts of land are made available for competitive lease sale. The BLM will lease oil shale through a competitive bidding leasing procedure that mirrors competitive lease sales procedures currently in place for

other solid minerals leasing programs, particularly coal.

Section 3924.5 details the contents of the sale notice that the BLM would publish in the **Federal Register** and newspapers of general circulation in the area of the proposed lease. The purpose of the notice is to alert the public that the BLM will be holding an oil shale lease sale and to provide enough of the details about the proposed lease terms and conditions, lease area, and leasing limitations for the public to make an informed decision whether to participate in the lease sale. This section is similar to other BLM mineral leasing regulations that require notification of the lease sale and is a necessary part of the oil shale leasing program. One commenter thought that section 3924.5 should be revised to require the BLM to provide at least 6 months' advance notice to bidders of a proposed lease sale to allow bidders a realistic opportunity to conduct due diligence. We believe that the public notice requirements associated with the presale environmental review process will provide ample advance notice that a sale is imminent. However, we revised the rule to state that the lease sale will not be held until at least 30 days after the notice of lease sale is posted in the BLM state office. This 30-day notice mirrors the other solid mineral leasing processes such as coal and non-energy leasable minerals.

Section 3924.10 details competitive lease sale procedures, including receipt and opening of sealed bids, submission of one-fifth of the amount of the bonus bid, requirements for future submission of remaining installments of the bonus bid, and post-sale procedures for determining the successful bidder. This section also addresses the actions of the sales panel in determining whether or not to accept the high bid, including a FMV determination. This section is similar to the BLM's competitive leasing regulations for coal and non-energy leasable minerals. The BLM chose to adopt this process because it has been successful in other mineral leasing programs and because we believe this process is appropriate for oil shale leasing. One comment requested an explanation of why the BLM is allowing the successful bidder to pay the balance of the bonus bid on a deferred basis. The bids received in the early 1970s ranged from \$9,000 per acre to \$41,000 per acre, indicating that future bonus payments could be large. Because of the large dollar amounts that may be associated with future lease sales, the BLM believes it is reasonable to allow the companies to pay the bonus payments in installments. Also, as

mentioned previously, the BLM has adopted for the oil shale commercial leasing program some components of the competitive leasing process in place for the coal, which allows for deferred bonus payments, which experience has shown has worked well.

When evaluating the adequacy of a high bid, the sales panel will rely on the appraisal process to estimate the FMV for commercial oil shale leases. An appraisal is an unbiased estimate of the value of property. The appraisal process is a systematic approach to property valuation. It consists of defining data requirements, assembling the best available data, and applying an appropriate appraisal method. The principles of property valuation that the BLM will apply are presented in the "Uniform Appraisal Standards for Federal Land Acquisitions and in the Appraisal of Real Estate." The term "fair market value" is defined in the Uniform Appraisal Standards for Federal Land Acquisitions as the amount in cash, or on terms reasonably equivalent to cash, for which in all probability the property would be sold by a knowledgeable owner willing, but not obligated, to sell to a knowledgeable purchaser who desired, but is not obligated, to buy.

In ascertaining that figure, consideration should be given to all matters that might be brought forward and substantial weight given to bargaining by persons of ordinary prudence. Factors that will affect the market value of an oil shale lease include the lease terms which encompass rental and royalty obligations. The bonus bid for the lease must be equal or greater than the lease FMV.

There are three methodologies generally used in appraising real property: The comparable sales approach, income approach, and replacement cost approach. Normally, the replacement cost approach is not applied to appraisals involving mineral leases and similar property.

In the comparable sales approach, the value of a property is estimated from prior sales of comparable properties. The basis for estimation is that the market would impute value to the subject property in the same manner that it determines the value of comparable competitive properties. When reliable comparable sales data are available, it is generally assumed that the comparable sales approach will provide the best indication of value.

In the income approach, the value assigned to the property is derived from the present worth of future net income benefits. If sufficiently similar sales are not available, the FMV determination

will generally rely on the income approach.

The FMV determination follows a pre-existing valuation standard, which utilizes the circumstances of place, time, the existence of comparable precedents, and the evaluation principles of each involved party. In determining the FMV under this rule, our determination will be based on comparison with identical or similar past, actual, or expected services and goods relating to oil shale. It is the policy of the United States, stated in Section 102(a) of FLPMA (43 U.S.C. 1701(a)(9)) and Section 369(o)(2) of the EP Act, that the United States receive FMV for the issuance of Federal mineral leases.

The BLM proposed to establish oil shale lease FMV using a process similar to that used in the Federal coal leasing program. This process relies on the appraisal process in an attempt to estimate the market value for those leases. As such, the process relies on many of the procedures used in private sector valuations, and where available, will rely on private sector transactions to establish the market value for Federal oil shale leases. The Federal coal leasing program and this rule utilize competitive bidding, specifically sealed bidding, for determining who receives the lease.

In the rule, the BLM is establishing a minimum acceptable bonus bid for Federal oil shale leases. The amount is not a reflection of FMV, but is intended to establish a floor to limit or dissuade nuisance bids. The rule requires a minimum acceptable bonus bid of \$1,000 per acre. The BLM requested further comments on the minimum bid proposed.

As per comments on specific values, the rule does not attempt to establish actual FMV for bidding on future Federal oil shale leases. Values received in the 1970s may not be an accurate indicator for future values.

We received a number of comments on the proposed minimum bid (subpart 3923) and FMV (subpart 3924) provisions. Comments that exclusively addressed minimum bid issues are discussed under subpart 3923. Comments that address FMV issues or both subparts are discussed below.

Several commenters suggest that the proposed FMV provision provides unreasonably vague standards and does not establish definitive procedures for determining FMV. Commenters also said that the provisions in the rule for establishing FMV would not help the BLM decide whether or not to accept a bonus bid. As noted in one comment, of the three methodologies, there are no

comparable sales, there is no commercial production so there isn't any income, and the replacement cost approach doesn't make sense as an appraisal method for mineral properties. Commenters also observed that the proposed appraisal process requires significant data that is not currently available and that without knowing how the resource will be developed, it is impossible for the BLM to determine FMV. Commenters suggested that the BLM should wait on commercial leasing until the R, D and D program has had a chance to identify and answer the development, technology, and economic questions of oil shale development. One of the benefits of the R, D and D program is that it provides a better understanding of the development technologies and costs; it was suggested that this will enhance the agency's ability to determine FMV.

The regulations call for the use of well-established appraisal procedures and methodologies. The limitations are not with the process, as one commenter stated, but with the available information. The BLM readily acknowledges the difficulty in determining FMV for commercial oil shale leases where there isn't an active industry. We agree with the comments that suggested that with the future success and commercialization of R, D, and D efforts, data will be more readily available to support FMV determinations for future commercial leasing.

We received a comment that the EP Act does not require nor intend for the recovery of FMV. A commenter stated that in the proposed rule the BLM failed to identify any valid statutory authority to impose FMV. We received comments suggesting that the BLM should forego attempting to estimate FMV. We also received a comment suggesting that the BLM should forego the bonus bid requirement altogether. Commenters said that the BLM should let the market determine value, i.e., the highest bidder wins. Another commenter stated that FMV should be equal to a minimum bid of \$100 per acre. Other comments suggested that bid acceptance should include demonstrated technology development capability. Commenters wanted the BLM to consider additional factors such as the time it takes to develop a property, resource recovery, recovery of other minerals, and the environmental disturbance associated with oil shale development. Another commenter suggested that in deciding the bid acceptance, the BLM must also consider the large, negative, and long-term impacts (e.g., greenhouse gas

emissions) associated with commercial oil shale development.

The BLM is required by Section 102(a) of FLPMA (43 U.S.C. 1701(a)(9)) to receive FMV for mineral leases. Although Section 369(o) of the EP Act uses the term "fair return," we interpret fair return to mean FMV, as required by FLPMA. As mentioned in the proposed rule, FMV is defined in the Uniform Appraisal Standards for Federal Land Acquisitions as the amount in cash, or in terms reasonably equivalent to cash, for which in all probability the property would be sold by a knowledgeable owner willing, but not obligated, to sell to a knowledgeable purchaser who desired, but is not obligated, to buy. Because FMV is not a precise calculation, but rather an interpretation of the market, under the final rule the BLM will use sales panels to analyze bids. The BLM will also use other factors such as geology, market conditions, mining methods, and industry economics, in making a determination whether the high bid reflects FMV. The BLM will consider all matters that may potentially affect the market value of the lease. The purpose of the bonus bid, however, is to obtain FMV for the United States; it is not to impose an environmental tax. Ultimately, FMV is determined by the market. However, in the absence of competition, the highest bid may not reflect FMV. Many of these comments raise sale and lease specific issues that are beyond the scope of these regulations.

A commenter suggested a specific provision be added to the regulations to allow for the appeal of FMV determinations to the IBLA. Any adversely affected party has the right to appeal any decisions under part 3900 of this rule. Section 3900.20 addresses appeal rights.

A commenter stated that the BLM should determine FMV by the time of the sale. The commenter suggests that establishing FMV after the sale could take months, even years, and that this delay would add to the uncertainty. The BLM generally makes an estimate of FMV based on available data in advance of any sale. This estimate will not be disclosed. However, because of the importance of market transaction information in establishing FMV, the bid acceptance decision will not be made until the sales panel has had an opportunity to review and consider the information from that sale.

Subpart 3925—Award of Lease

Section 3925.10 provides that the lease will ordinarily be awarded to the qualified bidder submitting the highest

bid which meets or exceeds the BLM's estimate of FMV. We revised paragraph (a) of this section to make it consistent with paragraphs (d) and (e) of section 3924.10 in that the winning bid must be equal to or greater than FMV as determined under those provisions. This section also contains requirements for the submission of the necessary lease bond, the first year's rental, any unpaid cost recovery fees, including costs associated with the NEPA analysis, and the bidder's proportionate share of the cost of publication of the sale notice. The provisions in this section are similar to regulations in the BLM's competitive leasing regulations for coal and non-energy leasable minerals. One commenter requested that this section include terms that would: (1) Place potential bidders on notice that a lease can be terminated in the event that vital information has been overlooked or misapplied, including environmental information; and (2) Identify the components of a liquidated damage award in order to avoid protracted litigation and unrealistic expectations on the part of potential lessees in the event a lease must be cancelled for public purpose reasons, like environmental protection. Although we recognize that there are situations beyond a lessee's control that that may require the BLM to cancel a lease, the potential for lease cancellation is no greater in this program than in other BLM mineral leasing programs. As in other leasing programs, there is always the possibility that a lawsuit could be filed by a party that is opposed to lease issuance. It is a risk that a potential lessee assumes in conjunction with participation in the program and the competitive leasing process. To maintain consistency with regulatory provisions in other BLM mineral leasing programs, we are not adopting these recommendations. The BLM believes that potential lessees are aware of the possibility of cancellation and therefore did not include a provision in the final rule putting "potential bidders on notice" of this issue. Another commenter stated that the BLM must clear up the confusion between "nominators," "original applicants," and "applicants." Although the terminology "nominator" and "original applicant" does not appear in this subpart, section 3925.10 refers to "successful bidder" and "applicant." The term "applicant," which is first referenced in section 3922.10, pertains to a party who nominates a tract for competitive leasing in response to the BLM's call for expression of leasing interest under section 3921.30 or

applies for a tract for competitive leasing under subpart 3922. The term "original applicant" applies to a party who submitted an application in response to the call for applications under section 3921.10, and is used to distinguish that party from a party who submits a bid at the time of the competitive lease sale, but did not previously submit an application under subpart 3922. We did not adopt the comment since we believe that the distinction between an applicant and a successful bidder is clear, especially in light of the cross-reference in section 3925.10(e) to section 3922.20 which clarifies who is an applicant.

Subpart 3926—Conversion of Preference Right for Research, Development, and Demonstration Leases

Section 3926.10 provides application procedures or requirements to convert R, D and D leases and preference right acreage to commercial leases. Under this section, a lessee of any R, D and D lease is required to apply for conversion to a commercial lease no later than 90 days after the BLM determines that commencement of production in commercial quantities has occurred. As stated in Section 23 of the R, D and D leases (issued in response to the BLM's call for nominations of parcels for R, D and D leasing 70 FR 33753 and 33754, June 9, 2005), R, D and D lessees can acquire acreage contiguous to the remaining preference right lease area up to a total of 5,120 acres. In order to acquire the contiguous acreage and convert to a commercial lease, the lessee is required to demonstrate to the BLM that the technology tested in the original lease has the ability to produce shale oil in commercial quantities. In addition, the lessee, as required in R, D and D leases, is required to submit to the BLM:

(1) Documentation that there have been commercial quantities of oil shale produced from the lease, including the narrative required by Section 23 of the R, D and D leases;

(2) Documentation that the lessee consulted with state and local officials to develop a plan for mitigating the socioeconomic impacts of commercial development on communities and infrastructure;

(3) A bid payment no less than that specified in section 3923.10 and equal to the FMV of the lease; and

(4) Bonding as required by section 3904.14.

Additionally, the section lists those items that are necessary for the BLM to determine whether to approve an application for conversion.

We received several comments on this section recommending either revisions

or the need to clarify specific requirements relating to the application process. Commenters included current R, D and D lessees, some of whom noted in their comments the significance of section 3926.10 and its relationship to Section 23 of the R, D and D leases, which contains requirements for conversion of an R, D and D lease to a commercial lease. Comments relating to section 3926.10 generally focused on the following areas: Definition of commercial quantities; timeframe for filing an application for conversion; documentation of production of oil shale in commercial quantities in an R, D and D lease; consistent use of the same technology in an R, D and D lease as a condition for conversion; bonus payment equivalent to FMV; appeal rights associated with FMV determination; consultation with Federal, state, and local officials; NEPA compliance; the requirement that commercial scale operations be conducted without unacceptable environmental consequences; term of the newly converted lease; and flexibility to exchange preference areas with other commercial oil shale lease sites.

Comments relating to the definition of commercial quantities are addressed in this preamble in the discussion of section 3900.2 Definitions.

Several comments expressed concern with the requirement under section 3926.10(b)(1) that an R, D and D lessee must document to the BLM's satisfaction that it has produced commercial quantities of oil shale from the lease. A commenter stated that an R, D and D lessee should be allowed to obtain the preference lease area without being required to demonstrate that a profit had been made on the oil shale produced exclusively in the 160-acre R, D and D lease area. According to the commenter, if the goal of the R, D and D program is to demonstrate that commercial development of oil shale is feasible, it should not matter that the retort was actually located on nearby or adjacent lands. We disagree. The quality of an oil shale deposit will vary with location and therefore we believe that the location could affect the feasibility of a commercial oil shale project. The requirement in Section 23 of the R, D and D leases to produce in commercial quantities on an R, D and D lease is a key component of the BLM's R, D and D program. As the intent of subpart 3926 is not to establish new or different application requirements for conversion than those listed in Section 23 of R, D and D leases, but rather to be consistent with those provisions in the regulations, we are not eliminating the requirement

for an R, D and D lessee's to produce commercial quantities.

We received one comment stating that the application of the commercial quantities requirement to the conversion process of an R, D and D lease is confusing, thereby creating risk to an R, D and D lessee of inadvertently losing its rights to convert to a commercial lease. Another comment stated that as a practical matter, the lessee will be unable to make the required demonstration until results of the pilot tests are fully evaluated and therefore "commercial quantities" is not readily determinable by an R, D and D lessee. The commenter recommended that section 3926.10(b) be revised to require that an application for conversion be filed no later than 90 days after the R, D and D lessee concludes the evaluation of the pilot test. The comment further suggested that in order to assure that the results of the pilot test have been adequately analyzed by the lessee, the final rule should not restrict an R, D and D lessee to a 90-day timeframe for filing an application for conversion and therefore the regulations should include a provision that would allow the BLM and the R, D and D lessee to agree to a later date for filing an application for conversion. We recognize that the determination that an R, D and D lease is producing in commercial quantities entails quantitative analysis. As stated in the preamble discussion relating to the clarification of the definition of the term "commercial quantities," it is the BLM's position that evaluation of data is necessary in order to make a determination whether the lease is capable of producing commercial quantities. However, it is envisioned that the POD for R, D and D leases will contain provisions that will acknowledge this evaluation process and be considered when the lessee determines and the BLM confirms that commercial quantities have been achieved. It is also important that a timely decision to convert occurs once commercial production commences to ensure that R, D and D leases do not inadvertently become de facto commercial leases. We made no revisions to the final rule as a result of this comment.

We received a comment stating that section 3926.10 needs to clarify what action the BLM would take on an application that is not timely filed, since the proposed rule did not address the issue. The requirement to file for conversion within 90 days after commencement of production in commercial quantities is a provision in the R, D and D leases. The consequences for failure of an applicant to comply

with the regulations or terms of the R, D and D lease, are stated in the lease and regulations, and include suspension, bond forfeiture, and/or cancellation of the R, D and D lease. The penalty for failure to comply with any of the requirements of section 3926.10 is also a basis for rejection of an application for conversion. The final rule does not adopt this comment.

Several commenters expressed concerns about the provisions of section 3926.10 requiring that an R, D and D lessee submit a one-time payment equal to or greater than FMV or \$1000 per acre. A comment urged the BLM to abandon the requirement for payment of the FMV for conversion of an R, D and D lease, in addition to payment of rentals and royalties, as being inconsistent with Congress' express intention in enacting the oil shale provisions of the EP Act and as being beyond the BLM's authority under the MLA. The commenter also recommended that if the final rule does require payment of FMV in conjunction with an application for conversion, that the payment be offset against future royalties from production from the same leasehold. We are not adopting the commenter's recommendations and we re-emphasize the statements in the preamble of the proposed rule (73 FR 42939) that, Section 369(o)(2) of the EP Act requires that payments for leases under that section must ensure a fair return to the United States. Furthermore, the proposed rule's preamble pointed out that Section 102(a) of FLPMA (43 U.S.C. 1701(a)(9)) requires that the United States receive FMV for the issuance of Federal mineral leases (73 FR 42940). There is no provision to credit bonus bids against future royalties, as the bonus bid is considered part of FMV and the price a potential lessee would pay for the lease right, in addition to royalties paid on production.

Another comment stated that although it supports the BLM's efforts to choose an appraisal methodology with a rational basis, in the interest of fairness and economics, the final rule needs to make a distinction on the determination of FMV for potential commercial lessees as compared to FMV determinations for R, D and D lessees applying for conversion. In drawing the distinction, the commenter stated that unlike R, D and D lessees, applicants for a commercial lease offered through the competitive leasing process have not incurred the same expenses or risks associated with testing and developing technologies and environmental impacts, and therefore, the FMV for R, D and D lessees needs modifying in

order to account for the risk-adjusted investment to date. The comment further stated that if an income-based method is adopted, the net cash flows should include research and development expenses and capital investments incurred by R, D and D lessees prior to conversion, plus risk-adjusted rate of return. In response to this comment, we note that the BLM's process of making FMV determinations for competitive leasing, as well as FMV determinations for conversion of an R, D and D lease to a commercial lease, will take into account the value of the resource, which is a longstanding practice. Costs associated with developing technology and producing in commercial quantities are costs of doing business. As we stated in the preamble of the proposed rule, "[o]il shale development is characterized by high capital investment and long periods of time between expenditure of capital and the realization of production revenues and return on investment" (73 FR 42946). While the financial risks associated with proving technologies is greater than that in other BLM mineral leasing programs that have established extraction technologies, the BLM's appraisal process is a systematic approach to property valuation. The FMV determination will be based on comparison with identical or similar past, actual, or expected services and goods relating to oil shale. An R, D and D lessee will also have the advantage of a right to a noncompetitive commercial lease.

We also received a comment stating that there are seemingly inconsistent provisions in the proposed rule and Section 23 of the R, D and D lease relating to the payment of FMV. According to the comment, section 3926.10(c)(2) provides that the bid payment for the lease must meet or exceed FMV, while Section 23(a)(2) of the R, D and D lease requires "Payment of a bonus based on the Fair Market Value of the lease, to be determined by the lessor through the rulemaking described in subsection (b) or other process for obtaining public input." The comment recommended that the words "or exceeded" be removed from section 3926.10(c)(2) and stated that if the BLM must determine FMV for the lease in advance of conversion, the lessee would never pay an amount that would exceed that value. We agree that the payment requirement for an R, D and D lessee should not exceed FMV. We are therefore adopting the comment and in section 3926.10(c)(2) and have removed the phrase "or exceeded" to be consistent with section 3926.10(b)(3)

and Section 23(a) of the R, D and D leases.

One commenter stated that the BLM will have no way to assess whether the bonus payment is equal to the FMV in the absence of a competitive leasing process for the preference right lease area and that in such a case, the rule is subject to arbitrary application. Another comment stated that, although the proposed rule defined the term FMV, it did not provide any process for determining FMV. The commenter recommended that the bonus bid amount for conversion of an R, D and D lease to a commercial lease be determined through an open and fair process where the BLM and the R, D and D lessee would each select an appraiser, who would then select a third appraiser if the first two appraisers disagree. As acknowledged in the preamble to the proposed rule (73 FR 42939), the BLM recognizes the difficulty in determining a value for oil shale, a resource that has tremendous potential, but has not yet proven to be economic to develop. At the time that applications for conversion of existing R, D and D leases are filed, we anticipate that more information relating to oil shale will be available in a variety of areas, including mining methods, market conditions, etc. Determination of FMV has been a long-established process that exists in many BLM mineral related programs as well as those that are non-mineral related, such as rights-of-way. We recognize that Section 102(a) of FLPMA and Section 369(o) of the EP Act require that the Federal Government receive a fair return. Although the BLM anticipates that R, D and D lessees will play a role in providing data to be used in the appraisal process to determine FMV, the BLM will follow uniform appraisal standards and will not address in this rule the details of agency procedures for determining FMV or minimum acceptable bid values. To do so would ensure that the BLM's minimum bid, or the best estimate of what the bid should be, would never be exceeded during a competitive lease sale.

A comment on FMV determination recommended that section 3926.10 should include a provision to allow appeal of the BLM's FMV determination to the IBLA. Although the section does not include specific language relating to the right of appeal of the FMV determination, section 3900.20 addresses appeals and provides that any party adversely affected by a BLM decision made under parts 3900 and 3910 through 3930 may appeal the decision under 43 CFR part 4. Since section 3900.20 already covers appeals

relating to FMV determinations under subpart 3926, we are not adopting this comment.

With respect to the consultation provision of section 3926.10(c)(3), a commenter was concerned that the section did not provide guidance as to the form or result of this consultation. A similar comment stated that it agreed with the requirement in this section that an R, D and D lessee consult with state and local officials to develop a plan for mitigating the socioeconomic impacts of commercial development on the communities and infrastructure, but that the final rule should go on to require the BLM to make a determination that the R, D and D lessee did, in fact consult with state and local officials. Since the particular provision requires "documentation that the lessee consulted with state and local officials," the BLM's review of that documentation will likely result in a determination of whether or not the consultation did, in fact, occur. For this reason, we are not adopting the recommendations made in these comments.

We also received another comment relating to the same consultation provision that recommended that section 3926.10(c) also require consultation with Federal, state, and local officials on environmental impacts. The NEPA analysis that is required prior to the conversion of an R, D and D lease to a commercial lease will address environmental impacts and will provide the opportunity for public participation. We are not adopting the comment.

With respect to NEPA analysis, some commenters stated that the BLM should expand section 3926.10 to clarify that conversion of an R, D and D lease to a commercial lease is preceded by adequate NEPA analysis. The commenters did not believe that the requirement of NEPA analysis was clearly stated in the section. Section 3926.10(a) requires conversion applicants to meet all requirements in parts 3900, 3910, 3920, excepting those provisions related to the competitive leasing process, and 3930, including NEPA analysis and the submission of application information (see final section 3900.50).

With respect to the provision in section 3926.10(c)(5) that the BLM will approve an application for conversion to a commercial lease if the commercial scale operations can be conducted, subject to mitigation measures to be specified in stipulations or regulations, "without unacceptable environmental consequences," a commenter recommended that the BLM apply this standard in a manner that is consistent

with guidance set forth in published legal opinions issued by the Solicitor of the Department and decisions of the IBLA. The comment noted that FLPMA requires the Secretary to "take any action necessary to prevent unnecessary or undue degradation of the lands (43 U.S.C. 1732(b))." The comment further noted that based on the Solicitor's Memorandum Opinion, Surface Management Provisions for Hardrock Mining, M-37007 (October 23, 2001) and the IBLA decision, *The Colorado Environmental Coalition v. The Wilderness Society*, 165 IBLA 221 (2005), the FLPMA standard applies to mineral development on public lands, whether the rights to conduct such development are created pursuant to a valid mining claim established under the mining laws or a lease issued under the MLA, and that it does not authorize the BLM to deny an operation on public lands that is proposed to be conducted pursuant to the standards generally applicable to such operations. In noting that "unacceptable environmental consequences standard" is also a provision in Section 23 of the R, D and D lease, the comment further stated that the final rule should clarify that the BLM will approve an application to convert an R, D and D lease if the lessee's operations under the proposed conversion lease will be conducted in a manner that complies with applicable law or regulations, prudent management and practice, or reasonable available technology. We adopted the commenter's recommendation to revise section 3926.10(c) as it relates to applicable law or regulation. However, we did not adopt the rest of the commenter's suggestion because the BLM does not regulate management practices or technology choices unless Federal resources are adversely affected.

With respect to the lease term of an R, D and D lease, we received a comment recommending that the term be extended by the time necessary for the BLM to approve an application for conversion and that the final rule should clarify that the lease term for an R, D and D lease is not counted toward the 20-year lease term of a commercial lease, once the R, D and D lease is converted. We are not adopting this comment since we believe that it is clear in the regulations that the lease term of a commercial lease is not dependent upon or connected to the lease term for an R, D and D lease. Furthermore, section 3926.10 does not address either the term of an R, D and D lease or the term of a commercial lease. Once an R, D and D lessee meets the terms and conditions for conversion, the BLM will

issue a commercial lease that will be subject to the regulatory requirements of this final rule, including the lease term.

A commenter made the recommendation that the scope of subpart 3905 Exchanges be expanded to allow R, D and D lessees the opportunity to exchange their preference right acreage with acreage in alternative lease sites. The basis for the recommendation is that R, D and D lease sites and their respective preference areas were designated and granted long before proper site characterization could be conducted and that R, D and D lessees should be rewarded for their contributions rather than “locking them into” prematurely designated preference areas. Designation of preference areas has been a key component of the BLM’s R, D and D program. In light of the fact that each R, D and D lessee was given the opportunity to designate a preference area, and because upon conversion to a commercial lease there is an opportunity to apply for a lease exchange, we are not adopting the comment in the final rule.

One commenter suggested that the BLM should not approve the development of the same technology on more than one R, D and D lease. The BLM agrees with the commenter that one technology can be used to convert only one lease and not multiple leases. For example, if one entity held multiple R, D and D leases, each approved for the use of a different technology, that entity would not be allowed to perfect the technology to convert one lease and then use that same technology to convert the other leases. That would be contrary to the intent of the program, which is to encourage research, development, and demonstration of oil shale technologies. The BLM will approve a lessee’s application to convert the R, D and D lease to a commercial lease and acquire the preference right lease only if the lessee complies with the terms of the lease. The commenter also suggested that a preference right commercial lease should not be granted in association with an R, D and D lease unless the prospective lessee uses the technology that was: (1) Approved in a development plan; and (2) Tested on the associated R, D and D lease. The BLM agrees with the suggestion, because the R, D and D leases are meant to be technology-specific, meaning that a lease is granted for the sole purpose of testing and proving a particular technology, but with the knowledge that the BLM retains the flexibility to approve changes or modifications to proposed technology and the POD.

Another commenter suggested that “if technology is demonstrated on the BLM

RD [lease] that was not proposed in the BLM RDD [lease] application then no conversion is possible, and furthermore that technology not proposed shouldn’t have been allowed to be demonstrated on the BLM RDD lease either.” This commenter further stated “in order to acquire the contiguous acreage and convert to a commercial lease, the lessee would be required to demonstrate to the BLM that the technology tested on the original lease would have the ability to produce shale oil in commercial quantities.” The BLM does not agree with the first part of the comment that stated if technology is demonstrated on the BLM R, D and D lease that was not proposed in the R, D and D lease application then no conversion is possible and that technology not proposed shouldn’t have been allowed to be demonstrated on the lease. These propositions are inconsistent with the terms of the R, D and D lease. In fact, the BLM believes that the terms of the R, D, and D leases anticipate that changes in the technology or the R, D and D development plan may occur; hence we designated the leases as R, D and D leases. For instance, where a lessee assigns its lease to another entity, under the terms of an R, D and D lease, the assignee may obtain BLM’s approval to substitute the research, development, and demonstration of another technology not currently being utilized in the Green River Formation. Furthermore, Section 8 of the lease requires that “the operator must submit to the authorized officer an exploration, mining plan, or in situ development plan describing in detail the proposed exploration, prospecting, testing, development or mining operations to be conducted” and states that “after plan approval, the Lessee must obtain the written approval of the authorized officer for any change in the plan approved under subsection (a).” Finally, Section 23(a) of the R, D and D lease states “the Lessee shall apply for conversion of the research, development and demonstration lease to a commercial lease no later than 90 days after the commencement of production in commercial quantities. The Lessee shall have the exclusive right to acquire any or all portions of the preference lease area for inclusion in the commercial lease, up to a total of 5,120 contiguous acres, upon (1) documenting to the satisfaction of the authorized officer that it has produced commercial quantities of shale oil from the lease.” In other words, the lease terms require the lessees to perfect the technology approved in the R, D and D exploration, mining, or development plan for which

the lease was granted in order to obtain the preference right lease acreage to that lease.

The BLM agrees with the commenter that the terms of the lease allow the lease to convert to a commercial lease and acquire the contiguous acreage upon commencement of production in commercial quantities.

Subpart 3927—Lease Terms

Sections in this subpart address lease form, lease size, lease duration, effective date of leases, diligent development, and production.

Section 3927.10 provides that the BLM will issue oil shale leases on a standard form approved by the BLM Director. This section mirrors similar requirements in other BLM mineral leasing regulations.

Section 3927.20 sets the maximum oil shale lease size at 5,760 acres, which is the maximum size authorized under Section 369(j) of the EP Act. The maximum lease size contained in this section is not discretionary since it was established by statute (see Section 369(j) of the EP Act)). One commenter on the proposed rule requested that the maximum size for an R, D and D lease should be increased to 5,760 acres from 5,120 acres to reflect the EP Act. The existing R, D, and D leases were offered prior to passage of the EP Act and contain the maximum lease acreage allowable at the time under the MLA of 5,120 acres. Revising the maximum acreage for an R, D and D lease in the rule would create an inconsistency between the rule and existing R, D and D lease terms. Section 369(j) of EP Act allows the BLM to issue leases up to 5,760 acres, but gives the BLM discretion to issue leases with less acreage, therefore, the BLM has not made this change in the final rule.

In the final rule we revised section 3927.20 by removing the minimum lease size requirement for oil shale leases. Please see the discussion of comments under the Regulatory Flexibility Act discussion in the procedural matters section for this rule for an explanation of the change.

The proposed rule specifically asked for comment on whether or not the final rule should include provisions for the establishment of logical mining units (LMU) for oil shale leases. We received several comments on whether the regulations should provide for LMUs. A commenter recommended that the BLM amend the proposed rule to incorporate provisions for consolidation of leases “in order to enhance efficiency of development by reducing capital and operating costs while at the same time maximizing recovery of the private

resource which might otherwise go undeveloped.” Another commenter stated that it believes that there are legal, environmental, and policy reasons for the regulations to promulgate a rule on LMUs, similar to the BLM’s coal program, and there is no public policy rationale to defer promulgation. The commenter contended that the preamble discussion of the proposed rule frequently identifies the Federal coal leasing regulations as a model for many of the provisions and that “in spirit of consistency and governmental alignment,” it recommends that the BLM adopt the same three preconditions which must be satisfied for lease consolidation: “single operator, single operation, and continuity.” Additionally, the commenter noted in the case of an R, D and D lessee holding several leases, if the lessee had the ability to consolidate multiple leases into an LMU type of project, which cumulatively might produce several projects, the surface disturbance at a given time would be minimized. The comment went on to state that additionally, ultimate recovery of the resources should be greater as the single operation could operate up to and across lease boundaries without the constraint of artificial boundary lines, and reclamation of the surface should be more effective and successful. Another comment expressed the viewpoint that it seems premature to incorporate provisions for LMUs when there currently are no standardized extraction methods and no history of production to determine if regulatory provisions are necessary. The comment further stated that there will likely be no need for LMUs if future oil shale development utilizes in situ, or in place technology, but if future development resembles a coal operation in terms of surface mining or subsurface mining, then LMU provisions could be adopted to resemble the coal program. The BLM interprets these comments as a recommendation to establish a mechanism similar to that of a coal LMU. As defined in the coal leasing regulations at 43 CFR 3480.0–5(a)(19), “Logical mining unit (LMU) means an area of land in which the recoverable coal reserves can be developed in an efficient, economical, and orderly manner as a unit with due regard to conservation of recoverable coal reserves and other resources.” The BLM supports the establishment of logical mining units that consolidate and make operations more efficient, but we do not understand how oil shale development that does not yet have standardized extraction methods, and may have operations with different

diligence requirements, can be effective. It is the BLM’s position that establishing a mechanism similar to a LMU is not warranted at this time. After the methods for developing oil shale are better established, if the BLM determines that the creation of a mechanism similar to an LMU is warranted, the BLM would then pursue rulemaking to adopt this recommendation. Therefore, no provisions for the establishment of LMUs are included in the final rule.

Section 3927.30 provides that an oil shale lease will be for a period of 20 years and so long thereafter as the condition of annual minimum production is met. Section 21 of the MLA (30 U.S.C. 241(a)(3)) authorizes issuance of oil shale leases for “indeterminate periods.” The BLM chose a 20-year period for the original lease term for ease of administration because Section 21 of the MLA (30 U.S.C. 241(a)(4)) specifies that the royalty rate for leases should be subject to readjustment at the end of each 20-year period. Lease readjustment is common to other BLM mineral leasing programs, including coal and certain non-energy leasable minerals. The final section also contains a requirement that the operator and lessee notify the BLM of changes in names or addresses. That requirement was relocated from section 3936.20(c) of the proposed rule.

Section 3927.40 identifies the effective date of the lease and the process used to determine the effective date of the lease. This section is similar to regulations on the effective dating of leases under the BLM’s coal program.

Section 3927.50 requires lessees to meet diligent development milestones and annual minimum production requirements. The BLM considers continued minimum annual production a necessary part of diligent development of the lease. This requires that a company continue to produce the minimum annual requirement or make payments in lieu of production in order to hold the lease. Diligent development is a component of other mineral leasing programs such as coal and oil and gas and is required under Section 369(f) of the EP Act.

Part 3930—Management of Oil Shale Exploration Licenses and Leases

Sections in this part address the requirements for exploration licenses and for leases related to: general performance standards, operations, diligent development milestones, PODs and exploration plans, lease modifications and readjustments, assignments and subleases, relinquishments, cancellations and

terminations, production and sale records, and inspection and enforcement.

Sections 3930.10 through 3930.13 explain the performance standards for exploration, development, production, and the preparation and handling of oil shale under Federal leases and licenses. Additional standards may be required at the time of lease issuance and as operations proceed. The BLM used the coal program as basis for many of the performance standards for these sections because of the similarity of the mining and exploration methods and the possible impacts associated with those methods. The performance standards for in situ operations were derived from aspects of the standards used for exploration and standards applicable to the BLM’s oil and gas program.

Section 3930.20 establishes the standard operating requirements for the development of an oil shale lease, including requirements concerning the MER of the resource, how to report new geologic information, and the compliance with Federal laws. The section also addresses measures necessary to protect resources, including proper disposal and treatment of solid wastes. These operational requirements are common to other BLM mineral leasing programs.

Section 3930.30 lists the milestones for diligent development of an oil shale lease. The requirement for establishing milestones is in Section 369(f) of the EP Act. The BLM determined that the milestones should be the series of steps necessary for the development of the oil shale. Defining milestones this way is logical because the steps are necessary to begin production and the BLM believes the requirements will encourage development. This section requires a lessee to meet the following five diligent development milestones:

(1) Within 2 years of lease issuance, submit to the BLM a proposed POD which would meet the requirements of subpart 3931;

(2) Within 3 years of lease issuance, submit a final POD;

(3) Within 2 years after the BLM approves the POD, apply for all required permits and licenses;

(4) Before the end of the 7th lease year, begin permitted infrastructure installation, as described by the BLM approved POD; and

(5) Begin production by the end of the 10th lease year.

Each of the milestones in this section is an opportunity for the lessee or operator to fulfill the statutory requirements and provide evidence of

its commitment to diligent development of the resource.

The BLM received several comments indicating the need to recognize that milestones may not be achieved due to time delays that are not within the control of the operator or lessee such as NEPA delays and delays in acquiring permits from the BLM and other agencies. Several comments suggested the need for establishing maximum time limits for government processing of permit applications as a solution to BLM permitting delays. Placing time constraints on the analysis of oil shale permitting may not allow for a thorough, comprehensive, and legally defensible analysis of the application. The suggestion to have an automatic extension of time if the BLM does not meet a processing deadline does not address those instances when other Federal or state agencies are the cause of the delay. Final section 3930.30(b) allows the BLM to grant additional time to complete milestones and therefore, we did not revise the rule to impose time limits for BLM processing.

The BLM received comments questioning the need for milestones, suggesting that deadlines are arbitrary, and that diligence should be established based on good faith efforts. The EP Act specifically required establishing a commercial leasing program that contained milestones. The proposed and final rules incorporate the milestones as part of a diligent development scenario. The requirement for diligent development is not unusual. Other BLM mineral leasing programs such as the coal program have a diligent development component as part of their operating regulations. Diligent development requirements are necessary to encourage development and prevent speculation. The BLM based each milestone on the normal sequence of development that a company would follow to proceed from lease acquisition, through development, to production. The time required to accomplish each milestone is based on the typical development schedules for other minerals and the proposed development schedules that companies submitted as part of the R, D and D nomination process. The BLM rejects the suggestion that diligence be based on good faith efforts. This standard is too vague for a regulatory provision and could cause implementation problems.

The BLM received comments stating that the milestones are too weak and do not result in screening out operators that have no intention of going into production. The BLM's milestones were created to ensure that an operator will be diligently developing the lease. As

stated above, the milestones are based on typical development schedules for other minerals and the schedules that companies submitted as part of the R, D and D nomination process, and, therefore, we believe they are reasonable. The BLM believes the payment we may assess for missing a milestone will encourage development and discourage speculation.

One commenter suggested that due to the tight time-frames associated with the milestones, exploration will most likely have to occur prior to nominating an area for leasing under an exploration license. The BLM agrees that most exploration should take place prior to nominating an area for leasing. The regulations do, however, allow the lessee to further explore under an exploration plan or POD once the lease is issued.

Several comments pertained specifically to section 3930.30(a)(4) Milestone 4, which states that before the end of the 7th year after lease issuance, the lessee must begin infrastructure installation, as required by the BLM approved POD; and section 3930.30(a)(5) Milestone 5, which states that before the end of the 10th year after lease issuance, the lessee must begin oil shale production. The commenters were concerned that both milestones are dependent on acquiring needed permits in a timely manner and that action and reviews by regulatory agencies are not under the control of the lessee and may be very time consuming. Section 3930.30(b) recognizes the need to account for delays beyond the control of the operator and provides the BLM the ability to grant additional time to complete each milestone.

The BLM received comments concerning the requirement to begin production prior to the end of the 10th lease year. Some commenters stated that the milestone is unnecessary since, once infrastructure is in place, it is unlikely that a lessee will let a multi-million dollar investment sit idle and therefore the requirement should be deleted. Other commenters suggested that the regulations should allow production to begin at a later date and suggested 15 years after lease issuance, or as an alternative, as soon as practicable. The BLM believes that the requirement to begin production prior to the end of the 10th lease year is necessary to insure that companies will diligently pursue development and will continue to produce once the operation is capable of commercial production. Section 3930.30(b) allows the BLM to grant additional time to complete the milestones, so there is no need to alter the 10th year requirement or use a less

prescriptive standard such as "as soon as practicable."

The BLM received comments suggesting revision of section 3930.30(a)(4) to acknowledge that delays in permitting may cause delays in infrastructure installation. We addressed the comment by revising section 3930.30(a)(4) to acknowledge that construction of infrastructure may not begin before approved permits have been issued.

The BLM received comments indicating a need to clarify how the impacts of the possible delays would affect each milestone. Although the proposed regulations anticipated the need to account for delays that are beyond the control of the operator and provided a mechanism at section 3930.30(b) to address those delays, the proposed rule was unclear as to how the allowable extensions of time would affect subsequent milestones.

Milestones 1 and 2 pertain to the submittals that are under the control of the operator and not dependent on the timing of other agencies decisions. Milestone 3 allows a lessee 2 years to apply for permits, although a prudent operator would likely apply before or immediately after their POD was approved. Milestones 4 and 5 are dependent, to some extent, on timely processing by agencies, and an extension of time applied to milestone 4 would likely force the need to extend the 10 year production deadline in milestone 5. To clarify how the BLM would address this if an application for a milestone 4 extension is approved, section 3930.30(b) is revised to provide that allowable time extensions to meet milestone 4 will extend the requirement to begin production in the 10th lease year by an amount of time equal to the extension granted for milestone 4. We also added a sentence to paragraph (b) to explain that any extension made under this section also extends the requirements for payments in lieu of production and minimum production under paragraphs (c), (d), and (e) of this section.

It should also be noted that under certain conditions the BLM may grant suspensions that toll diligence and other lease requirements (see section 3931.30).

The requirement to maintain production under an approved POD is also in this section. Although it is not a milestone, the BLM will require yearly production as part of the diligent development of the lease. This section also allows payments in lieu of production to meet the requirement of yearly production. Minimum annual production is required starting the 10th

year of the lease unless the lease has been suspended or the BLM has approved an extension of diligence milestone 4. Payment in lieu of production in year 10 of the lease satisfies the milestone requiring production by the end of the 10th year of the lease.

Section 3930.40 identifies the assessments for not achieving the required milestones. The proposed regulation included a civil penalty of \$50 per acre per year for each missed milestone. In response to comments, the BLM agrees that there is no specific statutory authority to impose civil penalties for missed milestones. The final rule therefore provides for assessments to serve as liquidated damages for the costs, damages, and delays of income that the BLM would otherwise not have suffered. Under this rule, the BLM will assess \$50 per acre for each missed diligence milestone for each year, prorated to daily assessments until the operator or lessee reaches the diligence milestone. The rule thus retains the \$50 per acre per year that was in the proposed regulations, but the proration to daily assessments more accurately reflects the BLM's additional costs of administering the lease and the government's increased risk of delays in receiving royalty payments. Larger leases would face larger daily assessments in part because the government's expected royalty receipts are higher from larger leases. The assessments also provide incentives for diligent development of the resource and should discourage speculation.

We received comments indicating that the proposed penalties were not high enough and should mirror the oil and gas regulations, which allow for fines as high as \$25,000 per day and also include criminal penalties. There is no statutory authority for the BLM to impose civil or criminal penalties for noncompliance with the regulations. The assessment that the BLM is imposing will serve as non-penal compensation for the BLM's increased costs and expenses of administering the lease, and for loss of timely royalty income caused by the lessee's lack of diligence as demonstrated by failure to meet the milestones.

Subpart 3931—Plans of Development and Exploration Plans

Sections in this subpart provide requirements for submission of a plan of development (POD) (section 3931.10), required contents of a POD (section 3931.11), reclamation of all disturbed areas (section 3931.20), suspending operations and production on a lease (section 3931.30), exploration on a lease

prior to POD approval (section 3931.40), information to be included in the exploration plan (section 3931.41), modification of exploration or development plans (section 3931.50), maps of underground and surface mining workings and in situ surface operations (section 3931.60), production reporting (section 3931.70), geologic information (section 3931.80), and boundary pillars and buffer zones (section 3931.100).

Section 3931.10 requires submission of a POD that details all aspects of development of the resource and protection of the environment, including reclamation. It also identifies the need for a similar plan for exploration activities. The POD is a key document that details the specifics of all activities associated with developing or exploring the lease. Section 3931.10(d) has been edited for clarity. The BLM may require additional information or changes to the plan before it can be approved. The BLM may disapprove a plan, in which case it will explain why disapproval was necessary. In response to comments concerned about mitigation of specific impacts of development, we have revised section 3931.10(f) to make it clear that appropriate NEPA analysis is required prior to exploration plan or POD approval.

Section 3931.11 lists and describes the contents of a POD. Some of the contents include a general description of geologic conditions and mineral resources, maps or aerial photography, proposed methods of operation and development, public protection, well completion reports, quantity and quality of the oil shale resources, environmental aspects, reclamation plan, and the method of abandonment of operations. The information in the POD is necessary so that the BLM can review the plan and ensure that operations, production, and reclamation will occur consistent with Federal law and regulation and to ensure the protection of the resource and the environment through appropriate NEPA analysis and resulting mitigation measures. In the final rule we added a new paragraph (d)(11) to section 3931.11 that requires that a description of the methods used to dispose of and control mining waste be included in the statement of the proposed methods of operation and development. In the final rule we also added a definition of the term "mining waste" to the definitions section. The reason for revising this section and adding the new definition is discussed in the preamble discussion of the definitions section of this rule.

Section 3931.20 describes the requirements for reclamation of all disturbed areas under a lease or exploration license. This section is similar to requirements in other BLM mineral program regulations for prompt reclamation of disturbed areas. Several commenters expressed concern with the reclamation provision in section 3931.20 (a) of the proposed rule where the BLM states that the operator or lessee must reclaim the disturbed lands to their pre-mining or pre-exploration use or to a BLM-determined higher use. Commenters suggested that "BLM-determined higher use" should be removed and another commenter expressed concerns that the provision could require the applicant to perform more expensive reclamation than what would be required to reclaim the disturbed area to pre-mining or pre-exploration levels. The BLM agrees that the phrase is not very specific and could have a negative impact on the lessee or operator. In the final rule we revised section 3931.20(a) to state that the operator or lessee must reclaim the disturbed lands to their pre-mining or pre-exploration use, or to a higher use, as agreed to by the BLM and the lessee.

Section 3931.30 details the requirements for suspending operations and production on a lease. Under this section, if the BLM determined it was in the interest of conservation, it may order or agree to a suspension of operations and production. If the BLM approved the suspension, the lessee or operator would be relieved of the obligation to pay rental, to meet upcoming diligent development milestones, or to meet minimum annual production, including payments in lieu of production. The term of the lease would be extended by the amount of time the lease is suspended. The need to suspend operations is well established and similar provisions are found in other BLM mineral leasing regulations.

Section 3931.40 provides the requirements necessary for the BLM to authorize exploration on an exploration license or on a lease prior to POD approval. Often, exploration is necessary after lease issuance to acquire the geologic information necessary to prepare a POD.

Section 3931.41 lists the information required for an exploration plan. The information required is similar to that required in other BLM mineral programs and is necessary for adequate evaluation of the proposed exploration activities and the measures needed to mitigate environmental impacts in accordance with applicable laws. We received comments suggesting that the rule is inconsistent in that this section requires

information on vegetative cover, but the information is not required for PODs. Information on vegetative cover is usually obtained at the preleasing stage, so it is not usually needed again at the POD stage. The BLM requires information on vegetative cover for exploration plans because it is possible that the exploration is proposed on unleased lands that have never been analyzed for exploration under NEPA. The commenter also asked if the vegetative cover requirement would be used as a reclamation standard. The NEPA analysis that will be completed prior to exploration or development of oil shale will determine what reclamation standards or levels of mitigation related to vegetative cover would be required.

We received several comments suggesting that prospective licensees provide information on potential impacts on National Park Service units. There is no need to require additional information to specifically address National Park Service lands since potential impacts on all lands affected by the exploration will be analyzed and mitigation measures addressed in the required NEPA document that evaluates the proposed action. We made no change to this section as a result of this comment.

Section 3931.50 explains how the operator or lessee may apply for a modification of exploration or development plans to address changing conditions and situations that might develop during the course of normal exploration activities or to correct an oversight. This section also explains that the BLM may, on its own initiative, require modification of a plan. Finally, this section explains that the BLM may approve a partial exploration plan or POD in circumstances where operations are dependent on factors that would not be known until exploration or development progresses. These modification provisions are similar to those in other BLM minerals programs. We received several comments suggesting that the BLM should expand the reasons for modifying exploration or development plans to include "new information, improved methods, and technology." The BLM agrees with the suggestion and in the final rule we revised section 3931.50(a) to include "new information, improved methods, and new or improved technology" in the list of reasons that the BLM will consider modification of an exploration plan or POD.

Section 3931.60 contains information relating to the format and certification of required maps of underground and surface mining workings and in situ

surface operations. These maps are necessary for the BLM properly to assess the potential impacts associated with exploration and mining.

Section 3931.70 explains the requirements for production reporting, the associated maps and surveys for mining operations, and maps showing the measurement systems for in situ operations. This section requires accurate maps and production reports and explains the requirements for production reporting. These are necessary requirements for the Federal Government to track lease production accurately. We received several comments that indicated that the timeframes for reporting production and exploration were too short and suggested quarterly reporting with submittals no later than the end of the quarter. For comparison purposes, the production reporting period for coal and for oil and gas is monthly. Oil shale production methodology ranges from methods that closely resemble the coal program to methods that are more similar to oil and gas operations. To account for the variance in the methods, we revised the reporting period to more closely align the reporting requirements with those of the coal program. In the final rule, the reporting period is quarterly, with the submittals no later than 30 days after the end of the reporting period.

We received several comments asking for clarification of the requirement to report production of all oil shale products and by-products. The commenter is not clear what products and by-products to which it is referring. The requirement to report production is a requirement of all of BLM's mineral leasing programs. Verification of reported production and sales are necessary components of the royalty collection program. The term "oil shale products and by-products" means all salable products derived from the mining and retorting or in-situ extraction and processing of oil shale. Potential products or by-products may include oil, gas, sulfur, raw shale, spent shale, CO₂, ammonia, and produced water. At this point in time it is not possible to know all of the possible salable products; however, as required by subpart 3935 of this rule, all products that are produced for sale and all products that are sold must be reported. The intent of production reporting is to ensure that the production volumes of various products and by-products can be accounted for at all points in the production process. For example, an underground oil shale mining operation with a surface retort is required to report under subpart 3935 of these regulations

the volume of raw shale that is mined or removed from the mine for further processing. All volumes entering the retort must balance with all volumes mined and reported to the BLM. Additionally, since there most likely will be volumes of various gaseous materials being produced and ultimately sold, these volumes must also be reported. We did not revise this section as a result of these comments.

Section 3931.80 addresses requirements for handling geologic information resulting from exploration activities. Additional requirements related to abandonment operations, well conversions, and blow-out prevention equipment are also addressed in this section. This section contains requirements similar to those in the BLM's oil and gas operations regulations.

Several comments indicated that the timeframes for reporting core hole results were too short and suggested quarterly reporting, with submittals no later than 90 days after the end of the quarter. The BLM agrees that analysis of the cores may take more time than originally estimated and that reporting the results no later than 90 days after the end of the exploration is a more realistic requirement. Therefore, in the final rule we revised section 3931.80 so that it requires that the operator or lessee submit to the BLM records of all core or test holes within 90 calendar days after drilling completion.

Section 3931.100 details the standards for boundary pillars and provisions to protect adjacent lands. This section allows for the recovery of the pillars if the operator provides evidence to the BLM that the recovery activities will not damage the Federal resource or those of the adjacent lands. These provisions are similar to those in the BLM's coal program.

The BLM received comments suggesting that the final rule should state that the boundary pillar provision should only apply to underground mining operations. The BLM agrees with the commenter that boundary pillars should only apply to underground mining. However, the BLM also believes that it is necessary to create buffer zones for in situ operations. Both the boundary pillars and buffer zones are necessary to protect against any unauthorized removal of oil shale resources from Federal lands by surrounding operations without adequate compensation to the taxpayers. Under in situ operations, oil shale formation fractures allow energy and fluid migration, and without the buffer zone, fluid could migrate across lease lines only to be captured by adjacent

operations. Therefore, the BLM has revised final section 3931.100(a) to make it clear that boundary pillars and the buffer zones apply to underground mining and in situ operations, respectively.

Subpart 3932—Lease Modifications and Readjustments

Sections in this subpart provide requirements for lease size modification, (section 3932.10), availability of lands for a lease modification (section 3932.20), terms and conditions of a modified lease (section 3932.30), and the readjustment of lease terms (section 3932.40).

Section 3932.10 provides the requirements for lease size modifications and is similar to sections in the other BLM mineral program regulations. This section explains that the lands in the modified lease must not exceed the acreage limitation in section 3927.20. The section also explains what items are necessary for a complete application, including the filing fee and qualifications statements. One commenter requested that we add a provision to this section requiring NEPA review for modification of a lease. The final rule addresses the NEPA issue at section 3932.20(c). Therefore, the final rule is not revised as a result of this comment.

Section 3932.20 explains the conditions under which the BLM would grant a lease modification, and that the BLM may approve the modification (adding lands to the lease) if there is no competitive interest in the lands. This section explains that before the BLM will approve a modification application, the applicant must pay the FMV (or bonus bid) for the interest to be conveyed. This section also makes it clear that the BLM will not approve a lease modification prior to conducting the appropriate NEPA analysis and receipt of the processing costs.

Section 3932.30 provides that the terms and conditions of any modified lease will be adjusted so that they are consistent with law, regulations, and land use plans applicable at the time the lands are added by the modification. The BLM revised section 3932.30(b) to clarify that the royalty rate of the new lease is the same as that in the lease that is being modified. This change will prevent confusion where lease rates have been readjusted. Bonding and lessee acceptance requirements are also addressed in this section. This section is similar to those in other BLM minerals program regulations.

Section 3932.40 provides that all oil shale leases are subject to readjustment of lease terms, conditions, and

stipulations, except royalty rates, at the end of the first 20-year period (the primary term of the lease) and at the end of each 10-year period thereafter. Royalty rates are subject to readjustment at the end of the primary term and every 20 years thereafter. The procedures for the readjustment of the lease are detailed in this section. Under this section, the BLM will provide the lessee with written notification of the readjustment. This section also allows lessees to appeal the readjustment of lease terms. One commenter recommended that the BLM should allow for the adjustment of the lease terms at more frequent intervals than the 20 year statutory period to allow for compensation for unknown production and mining techniques. One commenter recommended that the lease terms remain certain for the life of the lease. Another commenter recommended that the royalty rate adjustment should be subject to the same time periods as other lease terms. One commenter stated that if the royalty rate is adjusted after 20 years, it will create uncertainty and that would discourage investment. One commenter stated that there are no criteria by which a lessee can identify under what conditions or to what extent the lease terms may be adjusted.

The BLM did not revise the final rule as a result of these comments. The MLA (30 U.S.C. 241(a)(4)) only provides the BLM the authority to readjust the royalty rate at the end of the primary term and then every 20 years after that. Readjusted royalty rates will be set at the regulation rate in effect at the time of readjustment. The public will have the opportunity to comment as part of the rulemaking process on any future changes to the royalty rate set by these regulations.

Subpart 3933—Assignments and Subleases

Sections in this subpart address various requirements related to assignments or subleases of record title (section 3933.31) and overriding royalty interests (section 3933.32). This subpart also addresses requirements for:

- (1) Assigning or subleasing leases or licenses in whole or part (section 3933.10);
- (2) Filing fees (section 3933.20);
- (3) Account status and assumption of liability (section 3933.40);
- (4) Bonding (sections 3933.51);
- (5) Continuing responsibility (section 3933.52);
- (6) Effective date (section 3933.60); and
- (7) Extensions (section 3933.70).

The sections in this subpart are similar to the regulatory requirements of BLM's other mineral leasing programs.

The BLM received a comment suggesting that exploration licenses be assignable. We agree. Therefore, provisions for assigning licenses are included in this subpart.

Section 3933.10 now provides that all leases may be assigned or subleased, and all exploration licenses may be assigned, in whole or in part to any person, association, or corporation as long as the qualification requirements are met. Section 30 of the MLA requires an assignee to obtain BLM approval for an assignment.

Section 3933.20 requires payment of a \$60 non-refundable filing fee for processing an assignment, sublease of record title, or overriding royalty. The filing fee is the same fee required by the coal regulations for filing an assignment. The BLM anticipates that assignment, sublease of record title, or overriding royalty activities associated with an oil shale lease or license will be similar to the same activities in the BLM's coal program, and therefore believes the same filing fee is justified.

Section 3933.31 requires that assignment applications be filed with the BLM within 90 days of the date of final execution of the assignment, and lists what must be included in the assignment application, including the filing fee. This section also explains that the assignment of all interests in a specific portion of a lease or license creates a separate lease or license. We received one comment on this section, which recommended that the section also address standards for assignments of operating rights. We interpret this comment as recommending that the regulations separately list all information that BLM requires in conjunction with an application for approval of an assignment of operating rights. Standards for approval of assignments are already covered by section 3933.31(b), which also requires assignees to meet the qualification standards set forth under subpart 3902. In addition, sections under this subpart that apply to assignments address overriding royalty interest, lease account status, bond coverage, and continuing responsibility of assignors. We are therefore not adopting this comment.

Section 3933.32 explains that overriding royalty interests do not have to be approved by the BLM, but will be required to be filed with the BLM. The filing of overriding royalty interests provides a more complete record of the financial transaction affecting the Federal lease. The BLM has found this

information to be useful in other mineral leasing programs, especially in making rent and royalty reduction determinations.

Section 3933.40 requires that the lease or license account be in good standing before the BLM will process an assignment.

Section 3933.51 requires that assignees have sufficient bond coverage before the BLM will approve the assignment. This is a necessary component of the bonding program and is similar to requirements of other BLM solid mineral leasing programs.

Section 3933.52 addresses the responsibilities, obligations, and liabilities of the assignor and assignee. In addition to stating expressly that an assignor is responsible after an assignment for accrued obligations, this section addresses joint and several liabilities of the lessee and operating rights owner. After the effective date of the sublease, the sublessor and sublessee are jointly and severally liable for the performance of all lease obligations, notwithstanding any term in the sublease to the contrary.

Section 3933.60 explains that the effective date of an assignment and sublease is the first day of the month following the BLM's final approval, or if the assignee requested it in advance, the first day of the month of the approval. This is the customary effective date for an assignment in other BLM leasing programs.

Consistent with other BLM mineral leasing programs, section 3933.70 provides that the BLM's approval of an assignment or sublease does not extend the term or readjustment period of the lease or the term of the license.

Subpart 3934—Relinquishments, Cancellations, and Terminations

Sections in this subpart contain requirements for relinquishments (section 3934.10), termination of leases and cancellation and/or termination of exploration licenses (section 3934.30), written notice of default (section 3934.21), cause and procedures for lease cancellations (section 3934.22), payments due (section 3934.40), and bona fide purchasers (section 3934.50). Sections in this subpart are similar to sections found in regulations for other BLM mineral leasing programs.

Section 3934.10 provides that the record title holder of a lease may relinquish all or part of the lease if the requirements in this section are met. This section also contains provisions for the relinquishment of an exploration license. Prior to relinquishment, the licensee must give any other parties participating in the exploration license

an opportunity to take over operations under the exploration license. We received a comment expressing concern that this section allows a record title holder to relinquish a lease without approval from an owner of a working interest in the lease. According to the commenter, this section should be modified to require consent from any owner of any working interest (operating rights) associated with a lease in order to avoid the risk that the lease may be relinquished without its knowledge. With respect to working interests or operating rights, the BLM is not a party to an agreement between a lessee and a party holding a working interest in the lease. Because the contractual agreement is strictly between the lessee and the holder of the working interest, it is not appropriate for the BLM to impose the requirement on the lessee that a holder of a working interest must provide consent. We are therefore not adopting this comment.

Section 3934.21 requires the BLM to notify the lessee or licensee in writing of any default, breach, or cause of forfeiture, and the corrective actions that could be taken to avoid defaulting on the lease terms and lease cancellation.

Section 3934.22 explains the procedure for the BLM to cancel a lease. Section 31 of the MLA requires that lease cancellation take place in the United States District court for the district in which all or part of the lands covered by the lease are located.

Section 3934.30 provides the reasons that the BLM may terminate a license, including:

- (1) The BLM issued it in violation of law or regulation;
- (2) The licensee is in default of the terms and conditions of the license; and
- (3) The licensee has not complied with the exploration plan.

Unlike leases, the BLM may terminate an exploration license administratively.

Section 3934.40 provides that if a lease is canceled or relinquished for any reason, all bonus, rentals, royalties, or minimum royalties paid will be forfeited and any amounts not paid would be immediately payable to the United States.

Section 3934.50 addresses the rights of bona fide purchasers and provides that the BLM will not immediately cancel a lease or an interest in a lease if, at the time of purchase, the purchaser could not reasonably have been aware of a violation of the regulations, legislation, or lease terms.

Subpart 3935—Production and Sale Records

Section 3935.10 addresses books of account. Operators and lessees must maintain accurate records. This section explains what records must be maintained, and that the records must be made available to the BLM during normal business hours.

Subpart 3936—Inspection and Enforcement

Like other BLM minerals inspection and enforcement (I and E) programs, the objective of BLM's oil shale I and E program is to:

- (1) Ensure the protection of the resource;
- (2) Ensure that Federal oil shale resources are properly developed in a manner that would maximize recovery while minimizing waste; and
- (3) Ensure the proper verification of production reported from Federal lands.

The BLM is also responsible for lease inspections to determine compliance with applicable statutes, regulations, orders, notices to lessees, PODs, and lease terms and conditions. These terms and conditions include those related to drilling, production, and other requirements related to lease administration.

This subpart addresses inspection of underground and surface operations and facilities (section 3936.10), issuance of notices of noncompliance and orders (section 3936.20), enforcement of notices of noncompliance and orders (section 3936.30), and appeals (section 3936.40).

Section 3936.10 requires operators or lessees to allow the BLM to inspect underground or surface mining and in situ operations and facilities and exploration operations at any time both to determine compliance with the POD and to verify oil shale production.

Section 3936.20 advises the operator, licensee, or lessee of the procedures the BLM follows when issuing orders and notices of noncompliance. The section also addresses delivery of notices and verbal orders. The proposed section had required lessees and operators to notify the BLM of any change of name or address. That requirement has been moved from section 3936.20(c) to sections 3927.30 for leases, and 3910.40 for licenses.

Section 3936.30 explains the procedures the BLM follows when enforcing notices of noncompliance. This section explains the action the BLM may take in cases of noncompliance, including orders to cease operations and the initiation of lease or license cancellation or

termination procedures. An example of the type of non-compliance that might warrant the BLM issuing a cease operations order will be noncompliance with the BLM-approved POD and refusal to comply with the notice of noncompliance.

Section 3936.40 allows a lessee or operator to appeal BLM decisions under 43 CFR part 4. This section also provides that the BLM decisions and orders remain in full force and effect pending appeal, unless the BLM or the IBLA decides otherwise. Appeals language in this section mirrors regulatory provisions in other BLM minerals programs.

The BLM received several comments questioning the BLM's authority to assess penalties and the need for an opportunity for a hearing regarding an assessed penalty. We agree with the commenter in part. There is no clear statutory authority for civil penalties for noncompliance with the regulations. Accordingly, the final regulations do not provide for penalties. The BLM, however, has authority under Section 31 of the MLA to pursue an action in Federal court to cancel a lease for noncompliance with that Act, the lease, or the regulations (*see* 30 U.S.C. 188). The Department, though, has recognized for many years that lease cancellation is too drastic a remedy in most cases. The same section of that Act allows the BLM to provide for "appropriate methods for the settlement of disputes or for remedies for breach of specified conditions" (30 U.S.C. 188(a)). Under that authority, the BLM levies assessments as remedies for acts of non-compliance with oil and gas regulations, leases, permits, notices or orders pursuant to 43 CFR 3163.1.

Assessments as remedies for non-compliance are appropriate as liquidated damages both for the BLM's costs and expenses which would not have been incurred but for the noncompliance, and for the Department's losses, as the lessor for damages to resources and for the loss of the royalties from production that would have commenced sooner but for the noncompliance. *See M. John Kennedy*, 102 IBLA 396, 399–400 (1988) (emphasizing BLM's costs and expenses); 52 FR 5384, ____ (1987) (emphasizing compensation for the lessor).

The BLM received several comments indicating that the proposed penalties were not high enough and indicated that they thought the penalties should mirror the oil and gas regulations which allow for fines as high as \$25,000 per day and which could also include criminal penalties. There is not a statutory

provision for the BLM to impose civil or criminal penalties for noncompliance with these regulations. The assessment that the BLM is imposing is designed to cover costs and expenses of administering the lease which would not have been incurred but for the noncompliance and to cover threats, if any, to BLM resources. Payment of an assessment, however, does not relieve an operator of the duty to correct a violation.

Accordingly, final section 3936.30(a)(2) has been rewritten to provide for assessments of \$500 per day for each non-corrected noncompliance.

III. Procedural Matters

Executive Order 12866, Regulatory Planning and Review

This document is a significant rule and the Office of Management and Budget (OMB) has reviewed this rule under Executive Order 12866. We have made the assessments required by E.O. 12866 and the results are available by writing to the address in the **ADDRESSES** section.

(1) This rule will have an effect of \$100 million or more on the economy. It will not adversely affect in a material way the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities. Please see the discussion below.

(2) This rule will not create a serious inconsistency or otherwise interfere with an action taken or planned by another agency. The rule addresses the issuance and administration of Federal oil shale leases, which by statute is under the jurisdiction of the Department. The BLM worked closely with the MMS in drafting the royalty provisions of this rule, but the rule should have no effect on other agencies.

(3) This rule does not alter the budgetary effects of entitlements, grants, user fees, or loan programs or the rights or obligations of their recipients. The rule will not affect any of these except that the rule institutes certain fees (discussed earlier in the preamble to this rule and in the economic and threshold analyses for the rule) in a manner that is consistent with BLM and Departmental policy.

(4) This rule does not raise novel legal or policy issues. As stated earlier in this preamble, the legal and policy issues addressed by this rule are already dealt with in a similar manner in other BLM regulations currently in effect. Therefore, they are not novel.

A commenter suggested that the proposed rule does raise novel legal and policy issues. For example, the leasing,

technology, economics, environmental impacts, and legal issues surrounding oil shale development will be novel.

The potential leasing and development of oil shale resources on public lands will present many unique challenges. However, we do not believe there are any unique or novel legal and/or policy issues. As we noted above, the oil shale regulations reflect practices employed in other BLM energy and mineral programs.

Executive Order 12866 requires agencies to assess, where practical, the anticipated costs and benefits of regulatory actions to determine if the regulation is significant. As has been noted above, there is no domestic oil shale industry to help substantiate or form the basis for the projections and assumptions concerning what the future might hold for the leasing and development of oil shale resources on Federal lands. In addition, the assumption is that any significant production of shale oil is not likely to occur for a number of years. The potential events described, if they occur at all, may be in the distant future. Therefore, future costs and benefits must be discounted. The OMB's Circular A-94 states that a real discount rate of 7 percent should be used as a base-case for regulatory analysis. In addition to analyzing the potential future costs and benefits using a 7 percent discount rate, the BLM also used a discount rate of 20 percent to reflect these substantial risks and associated uncertainties in the opportunity costs that would not be reflected in the historic industry average of 7 percent. We also analyzed the future costs and benefits using a 3 percent discount rate.

The regulations have the potential to generate net economic benefits to the United States by allowing for the development of our vast domestic oil shale resources, though there is substantial uncertainty about the magnitude and timing of these benefits. The most substantial direct benefit of this regulatory action is to provide a vehicle for the leasing and development of Federal oil shale resources. Operators will have the opportunity to obtain leases with the right to develop the oil shale and ultimately produce shale oil in an environmentally sound manner. Companies' willingness to take advantage of the leasing and development opportunities provided by this rule will determine the level of production of shale oil, exploration, development and production costs incurred, and conceivably the profits (or losses) to be enjoyed.

The lack of a domestic oil shale industry makes it speculative to project the demand for oil shale leases, the technical capability to develop the resource, and the economics of producing shale oil. Projections that have been prepared vary significantly in not only the potential volume of shale oil that could be produced, but also the assumptions used to generate those projections. The recent report prepared by the Strategic Unconventional Fuels Task Force (Task Force) provided shale oil production projections under three scenarios. For our simulation-based analysis, we focused on the Task Forces' base case as a plausible scenario. This scenario presents a future without any subsidies in the form of tax credits or cost-sharing. The base case production of a half million barrels per day is approximately 182.50 million barrels per year, all from true in-situ projects. The Task Force's base case scenario assumes production commencing in 2015, with full production reached by 2020. In the proposed rule we asked for comment on the uncertainty surrounding the quantity and quality of recoverable oil shale, specifically as it relates to potential production of shale oil. We did not receive any comments specific to the availability and reliability of recoverable reserve data.

The Task Force estimates that resulting production could reduce the cost of oil imports by \$0.41 billion per year in 2015 to \$4.21 billion per year in 2035. This estimate is based on EIA's 2006 oil price projection. In their report, the Task Force also provides estimates of oil shale development's contribution to Gross Domestic Product (GDP). In the base case, annual direct contributions to GDP for the oil shale industry activity rises from \$0.65 billion per year in the early years, to \$5.72 billion per year in 2035.

We estimated the revenue, profit, and royalty implication of the Task Force's base case production scenario using three discount rates (7 percent, 3 percent, and 20 percent), three world crude oil price projections (EIA's 2007 reference, high, and low price projections) and 6 different royalty rates (1 percent, 3 percent, 5 percent, 7 percent, 9 percent, and 12.5 percent). The following summarizes the findings based on the 7 percent discount rate and a 5 percent royalty rate. The full range of calculations is presented in the Economic Analysis.

We estimate the value of the forecasted production, using EIA's 2007 reference case assumptions, could be approximately \$9.5 billion for 2020, up to \$11 billion by 2035. The gross present value, using a 7 percent discount rate,

of all shale oil produced for the period of analysis (2007 to 2035) is estimated at about \$50 billion. The gross present value of production for the year 2020 is estimated at about \$3.9 billion using a 7 percent discount rate. The gross present value of the shale oil produced in 2035 would be approximately \$1.7 billion with a 7 percent discount rate.

Oil shale development is characterized by high capital investment and long periods of time between expenditure of capital and the realization of production revenues and return on investment. The Task Force estimated the breakeven price for true in-situ operations at \$37.75 per barrel. Using the base case production projection, the cost to produce 182.50 million barrels annually would be almost \$6.9 billion. The present value of the production costs for 2020 would be about \$2.9 billion using a 7 percent discount rate. For production occurring in 2035, the present value of those production costs would be about \$1 billion. For the period of analysis (2007 to 2035), the present value of all production costs is estimated at about \$34 billion using a 7 percent discount rate. In the proposed rule we specifically asked for comment on the state of technology necessary to recover or produce oil from shale and the associated production costs.

We received several comments on the data used in the economic analysis. Commenters suggested that some of the data, specifically production cost estimates, are dated and inaccurate. Commenters noted recent production cost estimates in the \$75–\$90 per barrel range.

We readily acknowledge that the economic analysis does not reflect the latest projections, including production cost estimates. However, when the analysis was prepared we used the most recent published estimates from independent third party sources, e.g., government or academic sources. We also note that when we considered these higher production cost estimates, in conjunction with higher world oil prices, the specific projections changed, but the general findings and conclusions of the analysis did not change.

With the opportunity to lease and ultimately develop Federal oil shale resources, companies would be expected to generate profits from their commercial activities. Using the base case production scenario, cost projection assumptions, and EIA's reference oil price, by the year 2020 lessees/operators could see profits from oil shale development of over \$2.6 billion per year, with a net present value of \$1 billion with a 7 percent discount

rate. For 2035, we estimate the present value of the potential profit could be approximately \$670 million using a 7 percent discount rate. The net present value of shale oil produced in the period of analysis (2007 to 2035) is estimated at approximately \$16.2 billion.

Using EIA's high crude oil price scenario, calculated profits were substantially high. Total undiscounted profits for the period of analysis were \$187 billion, with a present value of \$50.6 billion using a 7 percent discount rate. For EIA's low oil price projection all operations are uneconomic regardless of the discount rate and/or royalty rate applied. In addition to these monetary costs and benefits associated with potential oil shale development, there could be varying degrees of environmental and socioeconomic costs and benefits. These potential costs and benefits could affect a wide range of resources, including groundwater quality and quantity, air quality, cultural resources, wildlife habitat, competing land uses, and local employment and infrastructure.

Impacts on livestock grazing activities are generally the result of activities that affect forage levels, of the ability to construct range improvements, and of human disturbance or harassment of livestock within grazing allotments. Using the Task Force's base case scenario of three in-situ operations, with total maximum lease acreage of 17,280, and some highly conservative and simplifying assumptions, there could be a loss of approximately 5,700 animal unit months. However, it is more reasonable to assume that only specific portions of the lease area (5,760 acres) will be disturbed at any one time. It is therefore possible that 3,120 to 4,970 acres within a 5,760-acre lease would remain available for grazing in undeveloped or restored portions of the lease. These figures are based on the assumption for a surface mine with surface retort with a production of 50,000 bbl of shale oil per day (see in section 4.1 and appendix A of the PEIS). The footprint of development ranges from 600–2,000 acres, Table 4.1.1–1 in the PEIS (page 4–4) and with long-term facilities (office buildings, retorts, etc.) covering 100 acres. It was assumed that grazing activities would be precluded on the leases that were undergoing active development, in preparation for future development, undergoing restoration after development, or occupied by long-term surface facilities. The actual figures are discussed in section (4.2.1.3 Grazing Activities, PEIS page 4–20).

Recreational use of BLM-administered lands within the three-state study area (Colorado, Utah, and Wyoming) is varied and dispersed. Impacts on recreation could be considered locally significant if potential oil shale development results in long-term elimination or reduction of recreation opportunities, activities, or experience, or they compromise public health and safety. While recreational use could be possible in undeveloped or restored portions of a lease area, the amount of land that would be available would vary from project to project. As such, the significance of the potential impacts of oil shale development could have on recreational opportunities will depend on the location of potential development and on the nature of the recreational activity precluded from portions of the lease area.

In addition to oil shale, the study area contains a wide range of energy and mineral resources. Mineral resource development conflicts may occur with oil shale development. The issuance of oil shale exploration licenses and leases does not preclude the BLM from issuing licenses and leases for other minerals, if the applicant can demonstrate that the technology to be used would allow recovery of oil shale resources without destroying or preventing the recovery of the other mineral resource. Conflicts among competing resource uses are generally considered and resolved when processing potential leasing actions or evaluating requirements for approval of PODs. In general, stipulations or conditions of approval could be developed to mitigate resource conflicts. It is the BLM's policy to optimize recovery of natural resources in an effort to secure the maximum economic return to the public and energy production, prevent avoidable waste of the public's resources utilizing authority under existing statutes, regulations and lease terms, and honor the rights of lessees, subject to the terms of existing leases and sound principles of resource conservation.

Many multiple use outputs from BLM land are not traded in markets and might not have measurable onsite expenditures associated with them. The absence of market price does not, however, mean an absence of value to society.

In addition to land use conflicts, water consumption is a major concern in the arid intermountain region. Certain types of oil shale development are anticipated to consume large quantities of water. Increasing the demand for water resources in the arid West must be considered a major opportunity cost to society associated

with oil shale development and fully analyzed before commercial development is allowed to proceed. Demand for reliable, long-term water supplies to support oil shale development could lead to the conversion of water rights from current uses. While it is not presently known how much surface water will be needed to support future development of an oil shale industry, or the role that groundwater would play in future development, it is likely that additional agricultural water rights could be acquired, but only in compliance with state law. Depending on the locations and magnitude of such acquisitions, there could be a noticeable reduction in local agricultural production and use.

Prospective oil shale developers would need to employ appropriate control technologies to reduce potential air emissions which otherwise could result from construction and operation of surface facilities. In addition to the emissions associated with the operations themselves, extraction of oil from shale could consume immense quantities of electricity. This would necessitate the building of new power plants, which could further contribute air emissions. Impacts on air quality would be limited by applicable local, state, Tribal, and Federal regulations, standards, and implementation plans established under the Clean Air Act and administered by the applicable air quality regulatory agency, with Environmental Protection Agency oversight.

Using the assumption of 3 in-situ projects, solid waste generated would be the drill cuttings and those would be handled as they are for oil and gas, which is to bury them on-site, in compliance with the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act and the Hazardous Solid Waste Amendments of 1984 (42 U.S.C. 6901 *et seq.*).

Aquatic habitats include perennial and intermittent streams, springs, and flat-water (lakes and reservoirs) that support fish or other aquatic organisms through at least a portion of the year may experience potential impacts. Impacts to wildlife species that may be associated with any particular project would depend on the specific location of the project and on the plant communities and habitats present at the site.

A total of 210 plant and animal species are either federally (U.S. Fish and Wildlife Service (USFWS) and BLM) or state-listed (Colorado, Utah, and Wyoming) and these species occur or could occur in counties within oil

shale basins. In the study areas, 32 species are listed or candidates for listing by the USFWS under the Endangered Species Act (ESA); 78 species are listed as sensitive by the BLM; 24 are listed by the State of Colorado; 33 are listed by the State of Utah; and 121 are listed by the State of Wyoming. Species listed by the USFWS under the ESA have the potential to occur in all oil shale basins. Nothing in the rule changes existing processes and procedures that ensure the protection of listed or proposed species or designated or proposed critical habitat. The rule is an administrative task that does not cause any impact to listed species or critical habitat. The rule does not commit the BLM to a particular course of action or authorize any ground-disturbing activity; it merely allows the BLM to establish a regulatory framework for oil shale leasing and development. A complete evaluation of listed species in the study areas will be made before leasing occurs or project activities begin. Project-specific NEPA assessments, ESA consultations, and coordination with state natural resource agencies will address project specific impacts more thoroughly. These assessments and consultations will result in required actions to avoid or mitigate impacts on protected species.

Oil shale development, in the western states of Colorado, Wyoming, and Utah, requires infrastructure to support industry development and operation, including refining capacity, pipelines, and sources of natural gas and electricity.

The socioeconomic environment potentially affected by the development of oil shale resources includes a region of influence in each state (Colorado, Utah, and Wyoming), consisting of the counties and communities most likely affected by development of oil shale resources. Construction and operation of oil shale facilities could have a major effect on the local communities, with impacts on the economy and the social and demographic make-up of the affected communities. For example, oil shale industry development could result in the addition of thousands of new, high-value, long-term jobs in the construction, manufacturing, mining, production, and refining sectors of the domestic economy. Construction and operations could result in a direct loss of recreation employment in the recreation sectors and indirect effects such as declining recreation employee wage and salary spending and expenditures by the recreation sector on materials equipment and services.

The Task Force provided employment projections for their production

scenarios, including their base case. Direct employment could range from 120 to 9,700 personnel in the base case. The total number of petroleum sector jobs (including indirect employment), estimated by the Task Force, ranges from 2,930 employees in 2015 to 20,830 in 2035 for their base case.

The final rule does not authorize any ground disturbing activities and is not an irreversible and irretrievable commitment of resources under NEPA. However, irreversible and irretrievable commitments of resources could occur as a result of future commercial oil shale projects that are authorized, constructed, and operated. The nature and magnitude of these commitments would depend on the specific location of the project development as well as its specific design and operational requirements. The construction of future commercial oil shale projects could result in the consumption of oil shale, sands, gravels, and other geologic resources, as well as fuel, structural steel, and other materials. Water resources could also be consumed during construction, although water use would be temporary and largely limited to on-site concrete mixing and dust abatement activities. The impact on biological resources from future project construction and operation could constitute an irreversible and irretrievable commitment of resources.

We received a comment concerning our statement in the proposed rule that "the impact on biological resources from future projects construction and operation would not constitute an irreversible and irretrievable commitment of resources." The commenter observed that given the unknowns associated with oil shale development, such a statement was not justified.

We agree with the commenter. Future project construction and operations could result in an irreversible and irretrievable commitment of those resources. Such decisions will be subject to future NEPA analysis. However, the establishment of these regulations does not involve any commitment of those resources.

It can be assumed that the potential effects of developing the oil shale resources are likely to be adverse; however, at this point, with the significant unknowns as to what may be developed and how it may be developed, plus where and when development may occur, there is no practical way to quantify the level or degree of the potential environmental and socioeconomic consequences, much less put a monetary value on them.

Before oil shale development could occur, additional project-specific NEPA analyses would be performed at two points in time: (1) Prior to leasing; and (2) Prior to POD approval. These analyses would address environmental impacts of oil shale production including impacts to livestock grazing, recreation uses, energy and mineral resources, socioeconomic, water use, air, aquatic habitat, and wildlife and would be subject to public and agency review and comment.

The Act requires the Secretary to establish royalties, fees, rentals, bonuses, or other payments for oil shale leases that encourage development of the resource, but also ensure a fair return to the government. As a result of any leasing and development, the Federal and state governments will benefit from the revenue generated through the bonuses, rents, and eventually royalties. These bid, rental, and royalty payments are revenue to the public, but a cost to the lessee/operator of obtaining, holding, and producing from the Federal leases. Monetary payments, such as rents, royalties, and bonus bids, from the lessee to the government, do not affect total resources available to society and in the context of a benefit-cost analysis are considered transfer payments.

The bonus is the amount paid by the successful high bidder when a parcel is offered for lease. By statute the parcel must be leased for FMV. The bonus is a part of the FMV paid for the lease and lease resources. At this point in time there is no practical way to generate a meaningful estimate of the potential bonus bids or fair market values for potential lease parcels.

Until the operation starts paying a production royalty, the lessee is required to pay the government a rental. The regulations include a rental rate of \$2 per acre. Maximum lease acreage is 5,760 acres for a maximum annual rental payment per lease of \$11,520 (constant-dollars) per year until an operation commences shale oil production. Based on the Task Force's base case of three in-situ operations, with total maximum lease acres of 17,280 acres, those three leases could generate a rental income of \$34,560 per year.

Producing leases will be required to pay a production royalty. The royalty rate for the products from oil shale leases is 5% of the amount or value of production removed or sold from the lease for the first 5 years of production. The royalty rate will increase by 1% each year starting the 6th year of commercial production to a maximum royalty rate of 12% in the 13th year of

commercial production. Using the production projections, EIA reference oil prices, and other assumptions discussed in the economic analysis, royalty payments for the period of the analysis (2007–2035) could have a net present value of \$4.4 billion with a 7% discount rate. We also analyzed the Federal revenue implications of alternative royalty rates given constant production and production cost assumptions. These alternative royalty revenue calculations are presented in the economic analysis for the proposed rule.

Beginning in the 10th lease year, for leases that have not commenced production, the lessee is subject to a payment in lieu of production of no less than \$4 per acre. For an operation with 5,760 acres under lease and no production by the end of the eleventh lease year, the payment in lieu of production would be \$23,040 (constant-dollars) per year. Based on the Task Force's base case of three in-situ operations, with total maximum lease acres of 17,280 acres, should operations on those three leases not commence production, the payment in lieu of production could generate payments to the Federal Government of \$69,120 per year.

The regulations require license and lease bonds for exploration licenses and oil shale leases. These bonds are intended to guarantee payments (rents, royalties, and deferred bonuses) the lessee may owe the government. The bond amount will be determined on a case-by-case basis. The minimum lease bond is \$25,000. The operator is also obligated to provide the BLM with a reclamation bond. The amount of these bonds will be based on the estimated cost for the government to contract with a third party to reclaim the operation should the operator be unable or unwilling to fulfill its reclamation obligations. The amounts of these reclamation bonds are likely to be quite significant; however, at this point there is no practical way to estimate the amount of these reclamation bonds.

There will be increases in BLM administrative costs associated with the issuance of leases and licenses and review and approval of operational plans. Most of these costs are relatively minor and will be subject to cost recovery that will be paid for by the benefitting party. There will be some BLM actions that will not be subject to cost recovery, including increased costs associated with ongoing inspection and enforcement responsibilities.

There are various costs and benefits associated with the final rule. Some effects are directly tied to the provisions

found in the regulations, such as the royalty rate. Other costs and benefits are tied to companies' ability and willingness to take advantage of the opportunities provided by the leasing regulations. The most significant of these costs and benefits include the value of shale oil that may be produced, the cost to produce the shale oil, and the environmental and socioeconomic consequences of resource development. The present values of the quantified monetary effects are expected to be in excess of the \$100 million annual threshold.

We estimate the net present value of the potential monetary costs and benefits considered in this analysis to be approximately \$13.6 billion using a 7 percent discount rate, \$28.5 billion using a 3 percent discount rate, and \$1.8 billion using a 20 percent discount rate. This conclusion is based on the calculated present value of the profit from shale oil produced from our analysis period (2007 to 2035) using EIA's reference oil price.

This conclusion includes one significant caveat. The socioeconomic and environmental costs and benefits associated with oil shale development are likely to be large. As has been noted above, we have no reasonable way to generate meaningful scenarios to quantify the potential impacts for an industry that does not exist or technologies that have not been deployed. As such, the net present value of the benefits of the rule may be significantly larger or smaller than the estimates presented in this analysis.

Small Business Regulatory Enforcement Fairness Act (SBREFA)

This rule is a major rule under 5 U.S.C. 804(2), the Small Business Regulatory Enforcement Fairness Act. This rule:

(1) Has an annual effect on the economy of \$100 million or more. Please see the discussion of Executive Order 12866, above.

(2) Will not cause a major increase in costs or prices for consumers, individual industries, Federal, state, or local government agencies, or geographic regions. Should production from Federal oil shale resources occur, it is anticipated that if there is any impact to costs or prices as a result of additional production entering the market, it would be to decrease them.

(3) Does not have significant adverse effects on competition, employment, investment, productivity, innovation, or the ability of United States-based enterprises to compete with foreign-based enterprises. The issuance of Federal oil shale leases and production

of oil shale resources from those Federal leases would not lead to adverse effect on any of the above because an increase in products from oil shale would tend to lead to a decrease in prices and potentially lead to increased competition, employment, investment, productivity, and innovation and the increased ability of United States based enterprises to compete with foreign-based enterprises.

National Environmental Policy Act

The BLM has prepared an environmental assessment (EA WO-300-07-009) and has found that this final rule does not constitute a major Federal action significantly affecting the quality of the human environment under Section 102(2)(C) of the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. 4332(2)(C). A detailed statement under NEPA is not required.

The Assistant Secretary for Land and Minerals Management has selected the Proposed Action to amend 43 CFR subtitle B Chapter II, by adding parts 3900, 3910, 3920 and 3930, as discussed in this rule based on the analysis in the EA and the information contained in this preamble. The Assistant Secretary's final decision associated with this rule incorporates the Decision Record for the EA. The BLM has placed the EA and the rationale for the Finding of No Significant Impact/Decision Record on file in the BLM Administrative Record at the address specified in the **ADDRESSES** section. We received several comments on the draft EA. Substantive comments are summarized and responses are provided below. As appropriate, the EA was modified based on the comments received.

Comment EA-1: The draft EA was based on a lack of information and incomplete environmental analysis. Without understanding critical issues and options for protecting air and water an informed decision cannot be made. The draft EA does not increase the BLM's understanding of the environmental consequences of commercial development.

The EA is based on the available information. It demonstrates that the BLM understands the critical issues and options and that the BLM has sufficient understanding of the environmental consequences of promulgating the regulations.

The EA contains the prerequisite level of information necessary to make a reasoned choice among the alternatives based on the scope and nature of the proposed action, in this case, the promulgation of a rule. The proposed action is very limited in scope—the establishment of a fixed, largely

procedural framework for the administration of an oil shale program, which governs the general manner in which industry and the BLM will operate. Congress mandated the Secretary to publish final regulations establishing a commercial oil shale leasing program. This congressional mandate is the basis for the underlying purpose and need for proposing the specific regulatory alternatives as well as for the decision to be made.

Consistent with this purpose and need, for its "no action" alternative, the draft EA evaluates an alternative that is not to promulgate regulations, rather than a "no leasing" alternative. The EA also objectively evaluates alternatives for a competitive and a preference right leasing program, as well as an alternative, that increases the bonding requirements and fully applies environmental best management practices (BMP).

The EA incorporates by reference information from the "Environmental Consequences" discussion from the PEIS, in order to provide the decision maker with additional information on the nature of the effects of possible future development of these resources, if there were to be future commercial leasing of oil shale resources, to allow the Department to make a more informed decision (see Response to Comment EA-2), however, the decision addressed by the EA is whether to promulgate regulations.

The rule, provides for appropriate NEPA analysis for future actions that may have environmental consequences, and outlines specific environmental processes and standards to put the lessee or operator on notice of what is required. For example, a provision at section 3900.50 reinforces the requirement that NEPA documents must be prepared prior to issuance of a lease or exploration license. The environmental analysis will include the consideration of direct, indirect, and cumulative effects of the proposed lease or exploration license issuance, reasonable alternatives, and mitigation measures to protect resources and resource values, as well as what level of development may be anticipated. This specific analysis may include mitigation measures such as BMPs, specific protections, or avoidance to mitigate or eliminate impacts to sensitive species or resources, such as air and water quality.

The EA demonstrates that the BLM has enough information and understanding to establish a regulatory program. The regulations are not a commitment to issue any lease or to approve any POD.

Comment EA-2: The draft EA does not contain any substantive analysis and makes broad conclusory statements, it is impossible to anticipate with any certainty the environmental consequences of development. The draft EA relies on the PEIS for its evaluation of the environmental consequences, and therefore gaps in the PEIS such as no in-depth analysis of direct, indirect, and cumulative impacts or the identification of actions are carried forward to the draft EA, as such, the BLM did not take a "hard look" at the environmental consequences of the proposed rule.

The EA takes a hard look at the environmental consequences of oil shale development, even though the regulations being promulgated do not in and of themselves have an impact on the environment. As discussed in Response to Comment EA-1, the scope and nature of the proposed action and alternatives is the establishment of a regulatory framework for an oil shale program. The analysis looks at the effects of the various components, requirements, and processes outlined in the rule's provisions. These rules are primarily procedural and do not commit any resources or authorize any BLM action that would have a direct, indirect, or cumulative impact on the physical, biological, or socioeconomic environment. (*Also, see* Response to Comment EA-8.) Any commitment of resources or approval of exploration, development, or production activities would be based on future decisions made in compliance with the BLM's land use planning and NEPA procedures, as required by the various sections of the rule and is outside the scope of this EA.

Although the EA is only evaluating the impacts of a regulatory framework and is not required to analyze the impacts of commercial development, the EA incorporates by reference information and analyses from the PEIS to provide the decision-maker with additional information and a general understanding of the nature of the environmental consequences that can be expected from future commercial development. Chapter 4 in the PEIS presents an analysis of oil shale technologies and their potential environmental and socioeconomic impacts, as well as potential mitigation measures that may be considered, if warranted, prior to the issuance of a lease.

We disagree that the PEIS contains significant "gaps" that could be filled with analysis of available data. To the extent that the comment pertains to portions of the PEIS that are not

incorporated by reference in the EA, it is not relevant to this decision.

The PEIS discusses the potential direct, indirect, and cumulative impacts of oil shale development based primarily on BLM professional expertise and experiences with surface-disturbing activities from other types of mineral development (e.g., coal mining, and oil and gas). Because there is no commercial oil shale industry in the United States, there is no data available on what, if any, extraction process will be commercially viable, and thus there is uncertainty about the precise impacts from commercial oil shale development. Nonetheless, based on BLM's experience with other types of mineral development, the types of impacts discussed in the PEIS may occur. Using comparable data from other mineral programs, the BLM determined that there was sufficient information on the nature of the effects for a land use allocation decision, but not sufficient information to support a lease sale. The analysis discloses potential effects associated with leasing and development to provide the decision-maker the available, essential information to make an allocation decision. In view of this limited scope, the PEIS, in particular, in Chapter 6 of that document, fulfills the requirement to take a "hard look" at the direct, indirect, and cumulative consequences of the allocation alternatives described in Chapter 2 of the PEIS. The EA was modified to make it clear that it was BLM's intent to incorporate by reference the impact analysis, and not tier to the PEIS.

Comment EA-3: Stating that subsequent NEPA analysis will be required cannot be used to avoid compliance with NEPA.

The EA does not purport to avoid compliance with NEPA by stating that subsequent NEPA analysis will be required. The EA fully assesses and discloses the environmental consequences of the adoption of this rule and other reasonable alternative regulatory approaches and is in full compliance with NEPA. The EA presents sufficient information to the decision-maker to aid in deciding upon the requirements that will govern the leasing of oil shale and the process for review and conditioning of oil shale operations. As stated in the EA, the regulations make no commitment on the part of the BLM to approve any action, grant any permit or issue any lease. The regulations are primarily procedural, establishing a framework in which specific development proposals will be subject to intensive scrutiny and project-specific regulation in the form of

conditions of approval, rather than define the specific activities authorized or prohibited or the conditions under which they can occur, except in the broadest terms.

As the EA explains, prior to any leasing or development taking place in accordance with the procedural requirements of the rule, several other decision points will need to be reached. Each of these decision points will involve a new proposed action, which will be subject to appropriate NEPA analysis, and will occur prior to any impacts to the environment. These decision points are land use planning allocations, such as those analyzed in the PEIS on a programmatic level, issuance of exploration licenses, identification of parcels for offering at a lease sale, conversion of the R, D and D leases to commercial leases, and approval of on-the-ground projects or activities. The required analysis of environmental consequences at each of these future decision points, or stages, will be facilitated by the availability at that decision point of more site-specific information, about the exact location, technology and process proposed for the operation, which will allow for that analysis to focus on the issues relevant to the specific proposal. As a consequence, specific measures to mitigate or eliminate impacts identified at that time can be developed.

Comment EA-4: The BLM is performing a piecemeal approach to NEPA compliance by proceeding without an assessment of multiple actions where each may individually have an insignificant environmental impact but which collectively have a substantive effect.

The BLM is not "piecemealing" its compliance with NEPA. The BLM is engaged in staged decision making. The unavailability of data regarding the technologies that might become commercially viable in the future and the requirements of the EP Act to adopt regulations for a commercial oil shale leasing program combine to render staged decision making and NEPA analysis for commercial oil shale leasing and development the most effective approach. The appropriate NEPA analysis will accompany each stage of the decision making.

The EA looks at the impacts of this rule. The PEIS analyzes, at a programmatic level, the decision to allow lands to be open to oil shale lease and therefore, examines possible impacts of development of these resources over the planning area. At each decision point, or stage, from leasing to development of individual projects, the scope of the analysis under

NEPA will be consistent with the proposed action contemplated at that decision point. Such analysis would necessarily include, particularly in the cumulative impacts analysis, the past, present, and reasonably foreseeable future actions that are appropriately included in relation to the proposed action presented for analysis at that time. Although there is no available data that could support a non-speculative cumulative effects analysis at this time, such information will start to become available when the industry is ready to commit to technologies and processes to develop oil shale. A more specific analysis of the impact of oil shale activities, including any possible "collective" impacts, will be performed, and a Reasonably Foreseeable Development Scenario for oil shale development will be prepared to help focus the analysis. In this way, the BLM will avoid a "piecemeal" approach (see Response to Comment EA-3).

Comment EA-5: The draft EA does not provide the detailed analysis or cumulative analysis as required by NEPA analysis.

The EA provides the analysis appropriate for the decision to promulgate the regulations. Given that purpose and need, the discussion of types of impacts from oil shale development is quite detailed, particularly in light of the nascent stage of the industry. In fact, given the largely procedural character of the rule and the speculative character of the environmental impacts from a future regulated industry, one could argue that the proposed action of promulgating the rule is subject to at least one of the Department of the Interior categorical exclusion. As discussed in Response to Comment EA-1, the scope and nature of the proposed action and alternatives is the establishment of a regulatory framework for an oil shale program. The analysis looks at the various components, requirements, and processes outlined in the rule's provisions. These regulations are process-oriented and do not commit any resources or authorize any BLM action that would have a direct, indirect, or cumulative impact on the physical, biological, or socioeconomic environment. As there are no environmental impacts caused by the proposed action or alternatives, it follows that there are no cumulative impacts either. The analysis in the EA is appropriate, for the scope of the proposed action.

Comment EA-6: Does the draft EA look at the elasticity of production under different policy scenarios—to justify this set of policy-driven rules and

regulations as the optimum combination of options.

The draft EA did not speculate as to how future production might be different under different regulatory schemes. We have no reason to believe that such differences would affect production levels, which depend more on technological advances, demand, the prices of competing fuels, land use allocation decisions and subsequent site-specific decisions informed by site-specific environmental analysis.

Comment EA-7: The draft EA is so devoid of substance that it cannot be used to meaningfully support any subsequent leasing decision.

As discussed in Response to Comment EA-1, the nature and scope of the proposed action is the establishment of a regulatory framework for an oil shale program and does not commit the BLM to hold a lease sale. That is, this EA is not intended to support any subsequent leasing decision. As explained in the PEIS, the BLM intends to prepare separate NEPA analysis to support any decision to lease, which will be a proposed action entirely separate and apart from that under consideration here, or in the PEIS.

Comment EA-8: The draft EA incorrectly concludes that no significant impacts can result from its current decision, yet the draft rule identifies significant impacts from commercial development, and, all the factors which are used to define "significantly" based on intensity have been met; including setting a precedent, controversial proposed action. The decisions made in these regulations (i.e., royalty rates) will have a significant impact on the scope and pace of commercial oil shale development, and therefore will have direct, indirect, and cumulative effects on the physical biological and socioeconomic environment.

No significant impacts result from promulgating the regulations because the Secretary could lease Federal oil shale without the regulations, and similarly could decide not to offer leases after regulations are promulgated; the regulations are not causing any tract to be leased or to be developed. The BLM considered the context and intensity of the consequences of promulgating the regulations, and whether the establishment of the regulations, in of themselves, could significantly affect the environment.

When the factors associated with the intensity or severity of impact are evaluated against the provisions of the regulations, they do not meet the criteria as to the degree to which the rule affects the various resources or historic properties, and the rule does not

contribute incrementally to the cumulative effect of other past, present, or reasonably foreseeable Federal or non-Federal actions.

The BLM evaluated the severity of effects associated with the rule. To determine significance, the severity of the effects must be examined in terms of the type, quality, and sensitivity of the resource involved; the location of the proposed project; the duration of the effect (short- or long-term) and other considerations of context. Significance of the effect will vary with the setting of the proposed action and the surrounding area. The rule is primarily procedural and does not commit any resources, authorize any BLM action in a specific location, or result in short- or long-term impact, and therefore the factors and criteria related to intensity are not applicable.

The commenter notes that an EIS is required if the action is considered controversial. The criteria for determining whether controversy makes an action significant is 40 CFR 1508.27(b)(4), which states "The degree to which the effects on the quality of the human environment are likely to be highly controversial." CEQ guidelines require that an EIS be prepared where there is a substantial dispute as to the size, nature, or effect of the "major" Federal action. There are no such disputes as to the regulations, which have no effects on the environment, and thus the "controversial" criterion does not apply.

A commenter notes that an EIS is required if the action may establish a precedent for future actions with significant effects or represents a decision in principal about a future consideration. The rule is not a decision on any project and therefore does not set a precedent for such decisions in the future, nor establish a custom or practice. The rule contains standards, procedures, or requirements that govern the general manner in which industry and the BLM will operate. It is a set of rules that govern conduct and guide actions but do not commit, on the part of the BLM, to approve or authorize an action or require a specific decision.

The royalty rate may affect the interest in leasing and development, but the rule does not commit the BLM to engage in leasing or approve development. The royalty rate may be one of the factors used in the development of a Reasonably Foreseeable Development Scenario to help focus the NEPA analysis for a future leasing decision. The pace and scope of that oil shale development are issues outside the scope of the rule and its supporting EA. The Secretary retains

discretion to decide whether, when, and where to offer tracts for lease.

Comment EA-9: The NEPA analysis in support of the rule is flawed because the promulgation of the oil shale regulations is a "major federal action" and that the draft rule states that significant impacts from commercial development can occur and therefore, the BLM is required to prepare a detailed EIS.

The EA properly concludes that the promulgation of regulations is not a major Federal action significantly affecting the human environment. Whether or not a detailed EIS is required turns on the significance of the effects of the decision before the Secretary, not all of the impacts of commercial oil shale development. The Secretary has long had statutory authority to lease Federal oil shale without any regulations. The promulgation of this largely procedural rule itself will not cause any impacts to the quality of the human environment, much less "significant" ones.

Comment EA-10: The BLM inappropriately tiered the draft EA to the PEIS, and therefore the BLM's reliance on the PEIS as the source of information about environmental consequences of the rule is not grounded in law and nor provides a thorough or defensible analysis of specific technologies and associated impacts. The BLM cannot tier its EA to the PEIS.

The comment is accurate that it was inappropriate to describe the EA as tiered to the PEIS. The EA was modified to clarify that it was the BLM's intent to incorporate by reference the impact analysis, and not tier to the PEIS. Tiering is distinct from incorporation by reference. Incorporation by reference allows information presented in one source to be referred to in another source, without the necessity of simply copying out that information. As explained in the draft EA, the EA incorporates by reference information on the environmental consequences of the development of oil shale resource that is presented in the Chapter 4 of the PEIS. This was done to inform the decision-makers as to the possible environmental consequences of developing these resources.

Comment EA-11: The BLM did not publish the draft EA or provide copies of the document to the states of Colorado, Wyoming, and Utah until requested.

There is no legal requirement to publish a draft EA for public comment. Nonetheless, the BLM did notify the public of the availability of the draft EA. The BLM placed the EA on file in the

BLM Administrative Record at the address specified in the **ADDRESSES** section of the **Federal Register** Notice for the proposed rule. The BLM invited the public to review these documents and suggested that anyone wishing to submit comments in response to the EA do so in accordance with the Public Comment Procedures section. Although the BLM is under no obligation to provide copies of the document to the States of Colorado, Wyoming, and Utah, of course BLM did provide copies to the state agencies, as it would any other member of the public, upon request.

Comment EA-12: The draft EA failed to analyze the impacts of climate change and take actions to reduce it.

The rule does not authorize or cause any surface disturbing activity and therefore will not cause either the emissions of greenhouse gases (GHG), or any impacts to the climate. The EA incorporates by reference the description of the affected environment from the PEIS which reflects the current condition of resources in the area where oil shale is found, which reflects any effects to date of the climate change phenomenon. It also incorporates the generic impact analysis from Chapter 4 of the PEIS, including a discussion of the possible impacts from development of oil shale resources on air quality, as well as any GHG emissions that may result from this development. The discussion also presents potential mitigation measures that may be considered for use, if warranted, on the basis of project-specific NEPA analysis to be conducted at appropriate decision points.

The EA was modified to make it clear that information concerning climate change was incorporated by reference.

Comment EA-13: Commenter references information or analysis contained in the PEIS and alleges that the BLM has not adequately addressed the impacts of oil shale activities on various resources like climate change, wildlife, fish, and water usage, etc.

The commenter did not specify any information that was not analyzed nor any impacts attributable to the contemplated rulemaking. It is even unclear whether the commenter is referring to the analysis contained or incorporated in the EA. The analysis in and incorporated in the EA is adequate for the purpose of informing the choices in the rulemaking.

Comment EA-14: The BLM incorrectly determined to prepare an EA versus an EIS. Based on the draft EA, it is clear that oil shale development on the public lands will have a significant impact on the environment. Further environmental review is needed, otherwise the

finalization of the rule is arbitrary and capricious.

The regulations do not cause any change to the environment, but establish processes for review of proposals to lease and develop oil shale. The Secretary's authority to lease is long-standing and is not dependent upon promulgation of the regulations. Likewise, oil shale development on the public lands is separate from, and was not prior to EP Act dependent upon, the regulations. There is nothing arbitrary or capricious about the regulations or the EA.

The BLM prepared the EA in accordance with CEQ regulations implementing NEPA, and relevant Departmental guidance, in order to determine whether the proposed action of establishing a procedural framework governing a leasing program for the development of oil shale resources may result in significant effects on the quality of the human environment, and to inform the decision maker. As explained in the EA, the establishment of the rule is largely a procedural enterprise, with no environmental effects. It does not represent a decision to authorize such development and therefore such development is not an indirect effect of the action.

Accordingly, the significance of impacts of that development does not affect the finding that the rule does not have significant impacts. Even if an EIS were required, the BLM has analyzed the environmental consequences of the commercial development of oil shale on Federal lands at a programmatic level in the PEIS.

Comment EA-15: The BLM failed to consult with the FWS concerning the proposed development impacts on endangered and threatened species in the region and therefore violates the ESA.

The rule does not issue any permit or lease or approve the issuance of any plan of oil shale development. There is no proposed oil shale development associated with the rule. The BLM determined that this rule would have no effect on listed or proposed species, or on designated or proposed critical habitat, under the ESA, and therefore consultation under Section 7 of the ESA is not be required. Moreover, nothing in the rule changes existing processes and procedures that ensure the protection of listed or proposed species or designated or proposed critical habitat. Further compliance with the ESA will occur if and when applications are filed with the BLM.

Comment EA-16: The lack of knowledge of oil shale operations makes it impossible for the BLM to adequately

explain how this industry will not have a significant affect on the environment.

The commenter is confusing the nature and scope of the proposed action for the EA with oil shale industrial development. The EA does not conclude that the development of oil shale will have no significant impact on the environment. The EA, analyzes the environmental consequences of a regulatory framework, which will govern any leasing of oil shale or authorization of operations on Federal lands. However, the EA incorporates by reference Chapter 4 of the PEIS, which presents an analysis of oil shale technologies and their potential environmental and socio-economic impacts, to the extent they can be predicted, as well as potential mitigation measures that may be considered, if warranted, prior to the issuance of a lease. This informs the rulemaking decision on the nature of the effects of possible future development of these resources, if there was future commercial leasing of oil shale resources (*see* Response to Comments EA-1 and EA-2). The analyses need only consider available information and not await all the information needed to support the approval of operations. The impacts of oil shale operations will be analyzed in future NEPA documents as decisions become ripe and the necessary information becomes available. NEPA does not require that the BLM forestall promulgation of regulations until all impacts of commercial oil shale development are known with certainty.

Comment EA-17: Comments on the DPEIS were incorporated by reference to show how oil shale development could not move forward in an "environmentally sound manner."

As explained in Response to Comment EA-2, the proposed actions analyzed in the EA and the PEIS are different, and therefore, these analyses are different in scope. The commenter has not explained why these comments need to be addressed in the context of the decision to adopt this rule.

The comments on the PEIS were appropriately addressed in the Final PEIS and are located on pages 4785 to 4846, index number 52766. The EA incorporates by reference the generic analysis that is contained in the Chapter 4 of the FPEIS, as modified based on the comments received.

Regulatory Flexibility Act

Congress enacted the Regulatory Flexibility Act of 1980 (RFA), as amended, 5 U.S.C. 601-612, to ensure that Government regulations do not unnecessarily or disproportionately burden small entities. The RFA requires

a regulatory flexibility analysis if a rule would have a significant economic impact, either detrimental or beneficial, on a substantial number of small entities. The RFA establishes an analytical process for determining how public policy goals can best be achieved without erecting barriers to competition, stifling innovation, or imposing undue burdens on small entities. Executive Order 13272 reinforces executive intent that agencies give serious attention to impacts on small entities and develop regulatory alternatives to reduce the regulatory burden on small entities. To meet these requirements, the agency must either conduct a regulatory flexibility analysis or certify that the final rule will not have "a significant economic impact on a substantial number of small entities."

Section 369 of the EP Act requires the Department to establish regulations for a commercial oil shale leasing program. Although this rule would only directly affect entities that choose to explore and develop oil shale resources from land administered by the BLM, there is no way to know which firms would hold exploration licenses or leases or operate on Federal lands in the future. The extent to which the rule will have an actual impact on any firm depends on whether the firm would hold exploration licenses or leases or would operate on Federal lands.

Currently, active oil shale research and development on Federal lands is limited to a few firms. Chevron, EGL Resources, Oil Shale Exploration Company, and Shell Oil Company hold R, D and D leases and are the only companies currently conducting operations on Federal oil shale leases. Of the four companies holding R, D and D leases, two are major oil companies and two are small research and development firms.

With implementation of these regulations, technological advances, and favorable market conditions that would support oil shale development, the BLM anticipates an increase in the number of firms involved in oil shale development. However, the number of firms, large or small, involved in oil shale development on Federal lands would likely remain quite limited. Given the likely size of the industry that may eventually be involved in the leasing and development of Federal oil shale resources, it is reasonable to conclude that this rule would not significantly impact a "substantial number of small entities."

This rule provides for the leasing and management of oil shale resources on Federal lands. Provisions covered in this rule include exploration license and

competitive leasing procedures, requirements and terms, and POD and operational requirements.

To explore on Federal lands, the operator would have to have an exploration license or an oil shale lease. The process to obtain an exploration license is relatively straightforward and does not entail significant fees, e.g., \$295 nonrefundable filing fee. Commercial oil shale leases will primarily rely on a process of leasing parcels nominated by industry. The BLM may also choose to offer certain lands for lease. With the exception of R, D and D lease conversions, all leases will be offered competitively. The BLM will not collect an application or nomination fee; however, the successful high bidder will be required to pay certain costs associated with the BLM offering the tract for lease, in addition to the bonus bid. At the time of lease sale, the high bidder will be required to submit a payment of one fifth of the amount of the bonus bid. Leases are also subject to a \$2.00 per acre rental.

The terms and conditions for operating under an exploration license or commercial lease are those needed to protect the environment and resource values of the area and to ensure reclamation of the lands disturbed by the activities. Exploration and development plans must be submitted to the BLM for approval. All operations, whether under an exploration license or a commercial oil shale lease, are required to provide the BLM with a license or lease bond. In addition, operators are required to provide the government with a bond to cover the cost of site reclamation and closure.

Production from commercial oil shale leases will be subject to a Federal royalty. A royalty on the amount or value of production removed or sold from the lease applies to commercial production from these leases.

The ability to obtain an exploration license and/or to compete for a commercial oil shale lease is not affected by the size of the company. Exploration licenses require a nominal filing fee (\$295 per filing) and have no minimum acreage. Leases have no minimum tract acreage; lease processing costs are paid by the successful bidder; and bonus bids may be deferred over a 5 year period. These aspects of the licensing and leasing procedures allow small entities to better compete for Federal oil shale licenses and leases with larger, well-capitalized companies. As required by the EP Act, all royalties, rentals, bonus bids, and other payments in this rule are to encourage development of the oil shale resources while ensuring a fair return to the

government. The regulatory provisions, including filing fees, rentals, and production royalties, will not have a significant economic impact on lessees or operators, regardless of the firm's size.

Therefore, the BLM has determined that under the RFA this rule does not have a significant economic impact on a substantial number of small entities.

Several commenters suggested that there will be significant hurdles for small entities hoping to participate in the leasing and development of Federal oil shale resources. The commenter suggested that the proposed rule creates high hurdles to entry into the industry. The specific example provided is the combined effect of the minimum bid and the minimum tract size. The \$1,000 per acre minimum bid coupled with the 160 acre minimum lease size results in a very onerous sum, in the form of a minimum bonus bid, for small operators. Commenters argued the minimum lease size needs to be no more than 1–2 acres. Other provisions identified as unnecessarily creating large up-front costs included competitive bidding, front-end lease rentals, and lease bonding. A commenter suggested we created the impression that there are no costs to the applicant until the small entity becomes the successful bidder.

We agree with the commenters' suggestion that the combined effect of the minimum bid and minimum lease acreage could be a deterrent to small entities participating in the leasing and development of oil shale resources on Federal lands. Based on the comments received, we have decided to drop the minimum lease acreage requirement from the final rule. Decisions on tract size will be made as part of the tract delineation process. We do not agree with the assertion that the other identified provisions, including the bonus, rental, and bonding requirements, are significant deterrents to small entities. Clearly these are costs in obtaining and holding a Federal oil shale lease; however, they are not burdens created by the regulations, but rather by statute. As for the suggestion that we implied there are no costs except for the successful bidder; that was not our intent. It is important to understand that this is likely to be a high cost industry, including some of the regulatory and statutory requirements. We have attempted to reduce the front-loading impact of those costs.

Commenters also argued that the proposed rule allows large entities to tie up too much of the resource at little cost. They suggest that the penalties for

missing diligence milestones are so insignificant that a large operator will be able to tie up significant resources for 20 or more years at a maximum cost of \$250 per acre per year. Deferred development for at least ten years and payments in lieu of production were given as other examples of provisions that allow large, well-capitalized entities to hold large tracts of oil shale lands.

Given the technological and economic unknowns associated with oil shale development and the potential for long development timeframes, we intentionally kept the lease-hold costs down to provide an element of stability and certainty for entities, large or small, attempting to develop this vital resource. Large entities may be in a better position to take advantage of these provisions, but we do not view these provisions as a deterrent to small entities.

Unfunded Mandates Reform Act

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501 *et seq.*) the rule does not impose an unfunded mandate on state, local, or tribal governments or the private sector, in the aggregate, of \$100 million or more per year; nor does this rule have a significant or unique effect on state, local, or tribal governments. The rule imposes no requirements on any of those entities. Therefore, the BLM is not required to prepare a statement containing the information required by the Unfunded Mandates Reform Act.

Executive Order 12630, Governmental Actions and Interference With Constitutionally Protected Property Rights (Takings)

This rule is not a government action capable of interfering with constitutionally protected property rights. A takings implication assessment is not required. The rule does not authorize any specific activities that would result in any effects on private property. Therefore, the Department has determined that the rule will not cause a taking of private property or require further discussion of takings implications under this Executive Order.

Executive Order 13132, Federalism

The rule will not have a substantial direct effect on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the levels of government. It will not apply to states or local governments or state or local governmental entities. The management

of Federal oil shale leases is the responsibility of the Secretary and the BLM. This rule does not alter any lease management or revenue sharing provisions with the states, nor does it impose any costs on the states. Therefore, in accordance with Executive Order 13132, the BLM has determined that this rule does not have sufficient Federalism implications to warrant preparation of a Federalism Assessment.

Executive Order 12988, Civil Justice Reform

Under Executive Order 12988, the BLM determined that this rule would not unduly burden the judicial system and that it meets the requirements of sections 3(a) and 3(b)(2) of the Order.

Executive Order 13175, Consultation and Coordination With Indian Tribal Governments

In accordance with Executive Order 13175, we have found that this rule may include policies that have Tribal implications. The rule implements the Federal oil shale leasing and management program, which does not apply on Indian Tribal lands. At present, there are no oil shale leases or agreements on Tribal or allotted Indian lands. If tribes or allottees should ever enter into any leases or agreements with the approval of the Bureau of Indian Affairs, the BLM would then likely be responsible for the approval of any proposed operations on Indian oil shale leases and agreements. In light of this possibility, and because Tribal interests could be implicated in oil shale leasing on Federal lands, the BLM began consultation with potentially affected Tribes on the proposed oil shale regulations, and continued to consult with Tribes during the comment period on the proposed rule.

On July 21, 2008, the BLM sent consultation letters to all Indian Tribal Governments potentially affected by the proposed regulations. In the letter, the BLM offered to meet with any of the Tribal Leaders or their representatives, and offered them the opportunity to comment on the proposed rule during the public comment period. As of October 8, 2008, we received one response to our request in the form of a comment letter. The commenter concluded that the proposed regulations would not affect their Tribal traditional cultural properties or historic properties.

Information Quality Act

In developing this rule, we did not conduct or use a study, experiment or survey requiring peer review under the

Information Quality Act (Section 515 of Pub. L. 106–554).

Executive Order 13211, Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

In accordance with Executive Order 13211, the BLM has determined that this rule is not likely to have a substantial direct effect on the supply, distribution, or use of energy. Executive Order 13211 requires an agency to prepare a Statement of Energy Effects for a rule that is a significant regulatory action under Executive Order 12866 or any successor order and is likely to have a significant adverse effect on the supply, distribution, or use of energy.

As discussed earlier in this preamble, the BLM believes that the rule will likely increase energy production and will not have an adverse effect on the supply, distribution, or use of energy, and therefore has determined that the preparation of a Statement of Energy Effects is not required.

Executive Order 13352, Facilitation of Cooperative Conservation

In accordance with Executive Order 13352, the BLM has determined that this rule will not impede facilitating cooperative conservation; takes appropriate account of and considers the interests of persons with ownership or other legally recognized interests in the land or other natural resources; properly accommodates local participation in the Federal decision making process; and provides that the programs, projects, and activities are consistent with protecting public health and safety. The BLM, in coordination with the MMS, held three “listening sessions” with representatives of the governors of the states of Colorado, Utah, and Wyoming. The purpose of the “listening sessions” was to provide the governor’s representatives the opportunity to share their ideas, issues, and concerns relating to the proposed commercial oil shale leasing regulations. Section 369(e) of the EP Act requires that not later than 180 days after the publication of the final regulations, the Secretary (as delegated to the BLM), is to consult with the governors of the states with significant oil shale and tar sands resources on public lands, representatives of local governments in such states, interested Indian tribes, and other interested persons to determine the level of support and interest in the states in the development of oil shale resources. In addition, the regulations contain a section providing for comments from state governors, local governments, and

interested Indian tribes prior to offering lands for lease for oil shale. The comment period will occur prior to the BLM’s publication of a call for nominations.

Paperwork Reduction Act of 1995 (PRA)

This final rule contains new information collection requirements. As required by the Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)), OMB has reviewed and approved the information collection requirements and assigned OMB control number 1004–0201, which expires November 30, 2011.

The title of the new information collection request (ICR) is “Parts 3900–3930—Oil Shale Management—General.” This final rule establishes regulations for a commercial leasing oil shale leasing program. The BLM will collect information from individuals, corporations, and associations in order to:

- (1) Learn the extent and qualities of the public oil shale resource;
- (2) Evaluate the environmental impacts of oil shale leasing and development;
- (3) Determine the qualifications of prospective lessees to acquire and hold Federal oil shale leases;
- (4) Administer statutes applicable to oil shale mining, production, resource recovery and protection, operations under oil shale leases, and exploration under leases and licenses;
- (5) Ensure lessee compliance with applicable statutes, regulations, and lease terms and conditions; and
- (6) Ensure that accurate records are kept of all Federal oil shale produced.

Prospectively estimating the annual burden hours for the commercial oil shale program is difficult because the oil shale industry is at the research and development stage where there is a lack of available information and the future technology to be used is uncertain. The burden hour estimates in the following charts were modeled on a previous ICR completed for the Federal coal program, as the information collection associated with that program is somewhat similar to the planned oil shale leasing program. The coal burden hour estimates were adjusted to reflect the differences in the two processes. It is also difficult to make a prospective estimate of the number of annual responses; therefore, the BLM has used one response for each activity as a starting point, except for the number of applications received. We anticipate that we could receive several applications after these regulations go into effect. The BLM estimates that this ICR for the oil shale management

program will result in 23 responses totaling 1,794 burden hours (Table 1). The BLM also estimates that there will be processing/cost recovery fees in the amount of \$526,652 (Table 2).

We received one public comment that addressed the information collection aspects of the proposed rule. It mainly stated that the PRA requires the BLM to develop a final rule that maximizes the utility and the public benefit of the information collected in lease applications, and went on to say that this requirement dovetails with the requirements in the EP Act that the regulations encourage initial development and sustain diligent development throughout the life of the lease, because initiating and sustaining predictable development are prerequisites for minimizing uncertainty in state and local impact projections. The comment urged that these interconnected principles require that the BLM establish a royalty rate sufficiently low to ensure that development will be initiated and diligently pursued, citing foreign examples where royalties on tar sands were entirely forgiven and successfully encouraged development, and where a 1.8 percent royalty led to a commercially viable oil shale project. We address the royalty rate and the rationale for selecting it the preamble discussion of section 3903.52.

The comment also stated that the information collection clearance package that the BLM submitted to OMB at the time the proposed rule was published contained a premature, and thus invalid, certification that we had complied with the requirements of section 3506(c)(3) of the PRA. The comment stated that we could not make this certification until we had considered public comments submitted on the information collection, and concluded that we need to describe in the supporting material how the BLM would use the two principles discussed in the preceding paragraph that govern royalty determination to ensure that the agency will maximize the utility and public benefit of the information collected.

The certification is made by the Department as part of the routine submission of the information collection to OMB, but the certification is not effective and was never intended to be effective until it is finally approved by OMB. The certification was not premature—the proposed rule could not be submitted to OMB without the certification.

The comment concluded by urging that the OMB Terms of Clearance for the Information Collection Request should

require that the record demonstrating the BLM's compliance with the royalty principles of encouraging and sustaining diligent development be

included in the preamble of the final rule. As stated earlier, this information appears elsewhere in this preamble.

See the following tables for burden hours and processing/cost recovery fees by CFR citation:

Burden Breakdown

TABLE 1

Parts 3900–3930 burden activity	Information collected	Hour burden	Average number of annual responses	Average annual burden hours
Subpart 3904—Bonds and Trust Funds				
A prospective lessee or licensee must furnish a bond before a lease or exploration license may be issued or transferred or a POD approved.	<i>Section 3904.12</i> —File one copy of the bond form with original signatures in the proper BLM state office. Bonds must be filed on an approved BLM form. The obligor of a personal bond must sign the form. Surety bonds must have the lessee's and the acceptable surety's signature.	1	1	1
The BLM will review the bond and, if adequate as to amount and execution, will accept it in order to indemnify the United States against default on payments due or other performance obligations. The BLM may also adjust the bond amount to reflect changed conditions. The BLM will cancel the bond when all requirements are satisfied.	<i>Section 3904.14(c)(1)</i> —Prior to the approval of a POD, in those instances where a state bond will be used to cover all of the BLM's reclamation requirements, evidence verifying that the existing state bond will satisfy all the BLM reclamation bonding requirements must be filed in the proper BLM office. The BLM will use no specific form to collect this information.	1	1	1
Part 3910—Oil Shale Exploration Licenses				
For those lands where no exploration data is available, the lease applicant may apply for an exploration license to conduct exploration on unleased public lands to determine the extent and specific characteristics of the Federal oil shale resource.	<i>Section 3910.31</i> —The BLM will use no specific form to collect the information. The applicant will be required to submit the following information: (1) Name and address of applicant(s); (2) A nonrefundable filing fee of \$295; (3) A general description of the area to be drilled described by legal land description; and. (4) 3 copies of an exploration plan that includes the exact location of the affected lands, the name, address, and telephone number of the party conducting the exploration activities, a description of the proposed methods and extent of exploration, and reclamation.	24	1	24
The BLM will use the information in the application to: (1) Locate the proposed exploration site; (2) Determine if the lands are subject to entry for exploration; (3) Prepare a notice of invitation to other parties to participate in the exploration; and (4) Ensure the exploration plan is adequate to safeguard resource values, and public and worker health and safety.	<i>Section 3910.44</i> —Upon the BLM's request, the licensee must provide copies of all data obtained under the exploration license in the format requested by the BLM. The BLM will consider the data confidential and proprietary until the BLM determines that public access to the data will not damage the competitive position of the licensee or the lands involved have been leased, whichever comes first. Submit all data obtained under the exploration license to the proper BLM office.	8	1	8

TABLE 1—Continued

Parts 3900–3930 burden activity	Information collected	Hour burden	Average number of annual responses	Average annual burden hours
Subpart 3921—Pre-Sale Activities				
Corporations, associations, and individuals may submit expressions of leasing interest for specific areas to assist the applicable BLM State Director in determining whether or not to lease oil shale. The information provided will be used in the consultation with the governor of the affected state and in setting a geographic area for which a call for applications will be requested.	<i>Section 3921.30</i> —The BLM will request this information through the publication of a notice in the Federal Register and will use no specific form to collect the information. The expression of leasing interest will contain specific information consisting of name and address and area of interest described by legal land description.	4	1	4
Subpart 3922—Application Processing				
Entities interested in leasing the Federal oil shale resource must file an application in a geographic area for which the BLM has issued a “Call for Applications.” The information provided by the applicant will be used to evaluate the impacts of issuing a proposed lease on the human environment. Failure to provide the requested additional information may result in suspension or termination of processing of the application or in a decision to deny the application.	<p><i>Section 3922.20 and 3922.30</i>—Lease applications must be filed in the proper BLM state office. No specific form of application is required, but the application must include information necessary to evaluate the impacts of issuing the proposed lease on the human environment, including, but not limited to, the following:</p> <ul style="list-style-type: none"> (1) Name, address, telephone number of applicant, and a qualification statement, as required by subpart 3902; (2) A delineation of the proposed lease area or areas, the surface ownership (if other than the United States) of those areas, a description of the quality, thickness, and depth of the oil shale and of any other resources the applicant proposes to extract, and environmental data necessary to assess impacts from the proposed development; (3) A description of the proposed extraction method, including personnel requirements, production levels, and transportation methods including: <ul style="list-style-type: none"> (a) A description of the mining, retorting, or in situ mining or processing technology that the operator would use and whether the proposed development technology is substantially identical to a technology or method currently in use to produce marketable commodities from oil shale deposits; (b) An estimate of the maximum surface area of the lease area that will be disturbed or undergoing reclamation at any one time; (c) A description of the source and quantities of water to be used and of the water treatment and disposal methods necessary to meet applicable water quality standards; (d) A description of the regulated air emissions; (e) A description of the anticipated noise levels from the proposed development; (f) A description of how the proposed lease development would comply with all applicable statutes and regulations governing management of chemicals and disposal of solid waste. If the proposed lease development would include disposal of wastes on the lease site, include a description of measures to be used to prevent the contamination of soil and of surface and ground water; 	308	3	924

TABLE 1—Continued

Parts 3900–3930 burden activity	Information collected	Hour burden	Average number of annual responses	Average annual burden hours
	<p>(g) A description of how the proposed lease development would avoid, or, to the extent practicable, mitigate impacts to species or habitats protected by applicable state or Federal law or regulations, and impacts to wildlife habitat management;</p> <p>(h) A description of reasonably foreseeable social, economic, and infrastructure impacts to the surrounding communities, and to state and local governments from the proposed development;</p> <p>(i) A description of the known historical, cultural, or archeological resources within the lease area;</p> <p>(j) A description of infrastructure that would likely be required for the proposed development and alternative locations of those facilities, if applicable;</p> <p>(k) A discussion of proposed measures or plans to mitigate any adverse socio-economic or environmental impacts to local communities, services and infrastructure;</p> <p>(l) A brief description of the reclamation methods that will be used;</p> <p>(m) Any other information that shows that the application meets the requirements of this subpart or that the applicant believes would assist the BLM in analyzing the impacts of the proposed development; and</p> <p>(n) A map, or maps, showing:</p> <p>(i) The topography, physical features, and natural drainage patterns;</p> <p>(ii) Existing roads, vehicular trails, and utility systems;</p> <p>(iii) The location of any proposed exploration operations, including seismic lines and drill holes;</p> <p>(iv) To the extent known, the location of any proposed mining operations and facilities, trenches, access roads, or trails, and supporting facilities including the approximate location and extent of the areas to be used for pits, overburden, and tailings; and</p> <p>(v) The location of water sources or other resources that may be used in the proposed operations and facilities.</p> <p>At any time during processing of the application, or the environmental or similar assessments of the application, the BLM may request additional information from the applicant.</p>			
Subpart 3924—Lease Sale Procedures				
Prospective lessees will be required to submit a bid at a competitive sale in order to be issued a lease.	<p><i>Section 3924.10</i>—The BLM will request the following bid information via the notice of oil shale lease sale:</p> <p>(1) A certified check, cashier's check, bank draft, money order, personal check, or cash for one-fifth of the amount of the bonus; and</p> <p>(2) A qualifications statement signed by the bidder as described in subpart 3902.</p>	8	1	8

TABLE 1—Continued

Parts 3900–3930 burden activity	Information collected	Hour burden	Average number of annual responses	Average annual burden hours
Subpart 3926—Conversion of Preference Right for Research, Demonstration, and Development (R, D and D) Leases				
The lessee of an R, D and D lease may apply for conversion of the R, D and D lease to a commercial lease.	<p><i>Section 3926.10(c)</i>—A lessee of an R, D and D lease identified in subpart 3926 must apply for the conversion of the R, D and D lease to a commercial lease no later than 90 days after the commencement of production in commercial quantities. No specific form of application is required.</p> <p>The application for conversion must be filed in the BLM state office that issued the R, D and D lease. The conversion application must include:</p> <ul style="list-style-type: none"> (1) Documentation that there has been commercial quantities of oil shale produced from the lease, including the narrative required by section 23 of R, D and D leases; and (2) Documentation that the lessee consulted with state and local officials to develop a plan for mitigating the socioeconomic impacts of commercial development on communities and infrastructure. (3) A bonus payment equal to the FMV of the lease; and (4) Bonding to cover all costs associated with reclamation. 	308	1	308
Subpart 3930—Management of Oil Shale Exploration and Leases				
The records, logs, and samples provide information necessary to determine the nature and extent of oil shale resources on Federal lands and to monitor and adjust the extent of the oil shale reserve.	<p><i>Section 3930.11(b)</i>—The operator/lessee must retain for one year all drill and geophysical logs. The operator must also make such logs available for inspection or analysis by the BLM. The BLM may require the operator/lessee to retain representative samples of drill cores for 1 year. The BLM uses no specific form to collect the information.</p>	19	1	19
	<p><i>Section 3930.20 (b)</i>—The operator must record any new geologic information obtained during mining or in situ development operations regarding any mineral deposits on the lease. The operator must report this new information in a BLM-approved format to the proper BLM office within 90 days of obtaining the information.</p>	19	1	19
Subpart 3931—Plans of Development and Exploration Plans				
The plan of development (POD) must provide for reasonable protection and reclamation of the environment and the protection and diligent development of the oil shale resources in the lease.	<p><i>Section 3931.11</i>—The POD must contain, at a minimum, the following:</p> <ul style="list-style-type: none"> (a) Names, addresses, and telephone numbers of those responsible for operations to be conducted under the approved plan and to whom notices and orders are to be delivered, names and addresses of Federal oil shale lessees and corresponding Federal lease serial numbers, and names and addresses of surface and mineral owners of record, if other than the United States; (b) A general description of geologic conditions and mineral resources within the area where mining is to be conducted, including appropriate maps; 	308	1	308

TABLE 1—Continued

Parts 3900–3930 burden activity	Information collected	Hour burden	Average number of annual responses	Average annual burden hours
	<p>(c) A copy of a suitable map or aerial photograph showing the topography, the area covered by each lease, the name and location of major topographic and cultural features;</p> <p>(d) A statement of proposed methods of operation and development, including the following items as appropriate:</p> <p>(1) A description detailing the extraction technology to be used;</p> <p>(2) The equipment to be used in development and extraction;</p> <p>(3) The proposed access roads;</p> <p>(4) The size, location, and schematics of all structures, facilities, and lined or unlined pits to be built;</p> <p>(5) The stripping ratios, development sequence, and schedule;</p> <p>(6) The number of acres in the Federal lease(s) or license(s) to be affected;</p> <p>(7) Comprehensive well design and procedure for drilling, casing, cementing, testing, stimulation, clean-up, completion, and production, for all drilled well types, including those used for heating, freezing, and disposal;</p> <p>(8) A description of the methods and means of protecting and monitoring all aquifers;</p> <p>(9) Surveyed well location plats or project-wide well location plats;</p> <p>(10) A description of the measurement and handling of produced fluids, including the anticipated production rates and estimated recovery factors; and</p> <p>(11) A description/discussion of the controls that the operator will use to protect the public, including identification of:</p> <p>(i) Essential operations, personnel, and health and safety precautions;</p> <p>(ii) Programs and plans for noxious gas control (hydrogen sulfide, ammonia, etc.);</p> <p>(iii) Well control procedures;</p> <p>(iv) Temporary abandonment procedures; and</p> <p>(v) Plans to address spills, leaks, venting, and flaring;</p> <p>(e) An estimate of the quantity and quality of the oil shale resources;</p> <p>(f) An explanation of how MER of the resource will be achieved for each Federal lease; and</p> <p>(g) Appropriate maps and cross sections showing:</p> <p>(1) Federal lease boundaries and serial numbers;</p> <p>(2) Surface ownership and boundaries;</p> <p>(3) Locations of any existing and abandoned mines and existing oil and gas well (including well bore trajectories) and water well locations, including well bore trajectories;</p> <p>(4) Typical geological structure cross sections;</p> <p>(5) Location of shafts or mining entries, strip pits, waste dumps, retort facilities, and surface facilities;</p> <p>(6) Typical mining or in situ development sequence, with appropriate time-frames;</p>			

TABLE 1—Continued

Parts 3900–3930 burden activity	Information collected	Hour burden	Average number of annual responses	Average annual burden hours
	<p>(h) A narrative addressing the environmental aspects of the proposed mine or in situ operation, including at a minimum, the following:</p> <p>(1) An estimate of the quantity of water to be used and pollutants that may enter any receiving waters;</p> <p>(2) A design for the necessary impoundment, treatment, control, or injection of all produced water, runoff water, and drainage from workings; and</p> <p>(3) A description of measures to be taken to prevent or control fire, soil erosion, subsidence, pollution of surface and ground water, pollution of air, damage to fish or wildlife or other natural resources, and hazards to public health and safety;</p> <p>(i) A reclamation plan and schedule for all Federal lease(s) or exploration license(s) that details all reclamation activities necessary to fulfill the requirements of § 3931.20;</p> <p>(j) The method of abandonment of operations on Federal lease(s) and exploration license(s) proposed to protect the unmined recoverable reserves and other resources, including:</p> <p>(1) The method proposed to fill in, fence, or close all surface openings that are hazardous to people or animals; and</p> <p>(2) For in situ operations, a description of the method and materials to be used to plug all abandoned development or production wells; and</p> <p>(k) Any additional information that the BLM determines is necessary for analysis or approval of the POD.</p>			
<p>The BLM may, in the interest of conservation order or agree to a suspension of operations and production.</p>	<p><i>Section 3931.30</i>—An application by a lessee for suspension of operations and production must be filed in duplicate in the proper BLM office and must set forth why it is in the interest of conservation to suspend operations and production. The BLM will use no specific form to collect this information.</p>	24	1	24
<p>Except for casual use, before conducting any exploration operations on federally-leased or federally-licensed lands, the lessee must submit an exploration plan to the BLM for approval.</p>	<p><i>Section 3931.41</i>—The BLM will use no specific form to collect this information. Exploration plans must contain the following information:</p> <p>(1) The name, address, and telephone number of the applicant, and, if applicable, that of the operator or lessee of record;</p> <p>(2) The name, address, and telephone number of the representative of the applicant who will be present during, and responsible for, conducting exploration;</p> <p>(3) A description of the proposed exploration area, cross-referenced to the map required under section 3931.41, including:</p> <p>(a) Applicable Federal lease and exploration license serial numbers;</p> <p>(b) Surface topography;</p> <p>(c) Geologic, surface water, and other physical features;</p> <p>(d) Vegetative cover;</p> <p>(e) Endangered or threatened species listed under the Endangered Species Act of 1973 (16 U.S.C. 1531 <i>et seq.</i>) that may be affected by exploration operations;</p>	24	1	24

TABLE 1—Continued

Parts 3900–3930 burden activity	Information collected	Hour burden	Average number of annual responses	Average annual burden hours
	<p>(f) Districts, sites, buildings, structures, or objects listed on, or eligible for listing on, the National Register of Historic Places that may be present in the lease area; and</p> <p>(g) Known cultural or archeological resources located within the proposed exploration area;</p> <p>(4) A description of the methods to be used to conduct oil shale exploration, reclamation, and abandonment of operations, including, but not limited to:</p> <p>(a) The types, sizes, numbers, capacity, and uses of equipment for drilling and blasting and road or other access route construction;</p> <p>(b) Excavated earth-disposal or debris-disposal activities;</p> <p>(c) The proposed method for plugging drill holes; and</p> <p>(d) The estimated size and depth of drill holes, trenches, and test pits;</p> <p>(5) An estimated timetable for conducting and completing each phase of the exploration, drilling, and reclamation;</p> <p>(6) The estimated amounts of oil shale or oil shale products to be removed during exploration, a description of the method to be used to determine those amounts, and the proposed use of the oil shale removed;</p> <p>(7) A description of the measures to be used during exploration for Federal oil shale to comply with the performance standards for exploration (43 CFR 3930.10) and applicable requirements of an approved state program;</p> <p>(8) A map at a scale of 1:24,000 or larger showing the areas of land to be affected by the proposed exploration and reclamation. The map must show:</p> <p>(a) Existing roads, occupied dwellings, and pipelines;</p> <p>(b) The proposed location of trenches, roads, and other access routes and structures to be constructed;</p> <p>(c) Applicable Federal lease and exploration license boundaries;</p> <p>(d) The location of land excavations to be conducted;</p> <p>(e) Oil shale exploratory holes to be drilled or altered;</p> <p>(f) Earth-disposal or debris-disposal areas;</p> <p>(g) Existing bodies of surface water; and</p> <p>(h) Topographic and drainage features; and</p> <p>(9) The name and address of the owner of record of the surface land, if other than the United States. If the surface is owned by a person other than the applicant or if the Federal oil shale is leased to a person other than the applicant, a description of the basis upon which the applicant claims the right to enter that land for the purpose of conducting exploration and reclamation.</p>			

TABLE 1—Continued

Parts 3900–3930 burden activity	Information collected	Hour burden	Average number of annual responses	Average annual burden hours
<p>Approved exploration, mining and in situ development plans may be modified by the operator or lessee to adjust to changed conditions, new information, improved methods, and new or improved technology, or to correct an oversight.</p>	<p><i>Section 3931.50</i>—The BLM will use no specific form to collect this information. The operator or lessee may apply in writing to the BLM for modification of the approved exploration plan or POD to adjust to changed conditions, new information, improved methods, and new or improved technology, or to correct an oversight. To obtain approval of an exploration plan or POD modification, the operator or lessee must submit to the proper BLM office a written statement of the proposed modification and the justification for such modification.</p>	24	1	24
<p>Production of all oil shale products or byproducts must be reported to the BLM on a monthly basis.</p>	<p><i>Section 3931.70</i>—(1) Report production of all oil shale products or by-products to the BLM on a monthly basis. (2) Report all production and royalty information to the MMS under 30 CFR parts 210 and 216. (3) Submit production maps to the proper BLM office at the end of each royalty reporting period or on a schedule determined by the BLM. Show all excavations in each separate bed or deposit on the maps so that the production of minerals for any period can be accurately ascertained. Production maps must also show surface boundaries, lease boundaries, topography, and subsidence resulting from mining activities. (4) For in situ development operations, the lessee or operator must submit a map showing all surface installations including pipelines, meter locations, or other points of measurement necessary for production verification as part of the POD. All maps must be modified as necessary to adequately represent existing operations. (5) Within 30 days after well completion, the lessee or operator must submit to the proper BLM office 2 copies of a completed Form 3160–4, Well Completion or Re-completion Report and Log, limited to information that is applicable to oil shale operations. Well logs may be submitted electronically using a BLM approved electronic format. Describe surface and bottom-hole locations in latitude and longitude.</p>	16	1	16

TABLE 1—Continued

Parts 3900–3930 burden activity	Information collected	Hour burden	Average number of annual responses	Average annual burden hours
Within 30 days after drilling completion the operator or lessee must submit to the BLM a signed copy of records of all core or test holes made on the lands covered by the lease or exploration license.	<i>Section 3931.80</i> —Within 30 days after drilling completion, the operator or lessee must submit to the proper BLM office a signed copy of records of all core or test holes made on the lands covered by the lease or exploration license. The records must show the position and direction of the holes on a map. The records must include a log of all strata penetrated and conditions encountered, such as water, gas, or unusual conditions, and copies of analysis of all samples. Provide this information to the proper BLM office in either paper copy or in a BLM-approved electronic format. Within 30 days after creation, the operator or lessee must also submit to the proper BLM office a detailed lithologic log of each test hole and all other in-hole surveys or other logs produced. Upon the BLM's request, the operator or lessee must provide to the BLM splits of core samples and drill cuttings.	16	1	16
Subpart 3932—Lease Modifications and Readjustments				
A lessee may apply for a modification of a lease to include additional Federal lands adjoining those in the lease.	<i>Section 3932.10(b) and Section 3932.30(c)</i> —The BLM will use no specific form to collect this information. An application for modification of the lease size must: (1) Be filed with the proper BLM office; (2) Contain a legal description of the additional lands involved; (3) Contain a justification for the modification; (4) Explain why the modification would be in the best interest of the United States; (5) Include a nonrefundable processing fee that the BLM will determine under 43 CFR 3000.11; and (6) Include a signed qualifications statement consistent with subpart 3902. Before the BLM will approve a lease modification, the lessee must file a written acceptance of the conditions in the modified lease and a written consent of the surety under the bond covering the original lease as modified. The lessee must also submit evidence that the bond has been amended to cover the modified lease.	12	1	12
Subpart 3933—Assignments and Subleases				
Any lease may be assigned or subleased, and any exploration license may be assigned, in whole or in part to any person, association, or corporation that meets the qualification requirements at subpart 3902.	<i>Section 3933.31</i> —(1) The BLM will use no specific form to collect this information. File in triplicate at the proper BLM office a separate instrument of assignment for each assignment. File the assignment application within 90 days of the date of final execution of the assignment instrument and with it include: (a) Name and current address of assignee; (b) Interest held by assignor and interest to be assigned; (c) The serial number of the affected lease or license and a description of the lands to be assigned as described in the lease or license; (d) Percentage of overriding royalties retained; and (e) Date and signature of assignor.	10	2	20

TABLE 1—Continued

Parts 3900–3930 burden activity	Information collected	Hour burden	Average number of annual responses	Average annual burden hours
	(2) The assignee must provide a single copy of the request for approval of assignment which must contain a: (a) Statement of qualifications and holdings as required by subpart 3902; (b) Date and signature of assignee; and (c) Nonrefundable filing fee of \$60.			
Subpart 3934—Relinquishments, Cancellations, and Terminations				
A lease or exploration license may be surrendered in whole or in part.	<i>Section 3934.10</i> —The BLM will use no specific form to collect this information. The record title holder must file a written relinquishment, in triplicate, in the BLM state office having jurisdiction over the lands covered by the relinquishment.	18	1	18
Subpart 3935—Production and Sale Records				
Operators or lessees must maintain production and sale records which must be available for the BLM’s examination during regular business hours.	<i>Section 3935.10</i> —Operators or lessees must maintain accurate records: (1) Oil shale mined; (2) Oil shale put through the processing plant and retort;..... (3) Mineral products produced and sold; (4) Shale oil products, shale gas, and shale oil by-products sold; (5) Relevant quality analyses of oil shale mined or processed and of synthetic petroleum, shale oil or shale oil by-products sold; and (6) Shale oil products and by-products that are consumed on lease for the beneficial use of the lease.	16	1	16
Totals		23	1,794

Based on an average number of actions, we estimate the processing and cost recovery fees as follows:

TABLE 2

Estimated collections from processing and cost recovery case-by-case fees	Estimated number of actions	Processing fee per action	Estimated case-by-case cost recovery fee per action	Total estimated annual collection
Part 3910—Oil Shale Exploration Licenses	1	\$295	Not Applicable ...	\$295
Subpart 3922—Application Processing	3	Not Applicable ...	\$172,323	516,969
The case-by-case processing fee does not include any required studies or analyses that are completed by third party contractors and funded by the applicant. The regulations at 43 CFR 3000.11 provide the regulatory framework for determining the cost recovery value.				
Subpart 3925—Award of Lease	1	\$60	Not Applicable ...	60
The successful bidder must submit the necessary lease bond (see subpart 3904), the first year’s rental, and the bidder’s proportionate share of the cost of publication of the sale notice.				
Subpart 3932—Lease Size Modification	1	Not Applicable ...	\$9,208	9,208
Subpart 3933—Assignments and Subleases	2	\$60	Not Applicable ...	120
Totals	8	526,652

If you have any questions or comments on any aspect of this information collection, please contact

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Authors

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List of Subjects*43 CFR Part 3900*

Administrative practice and procedure, Environmental protection, Intergovernmental relations, Mineral royalties, Oil shale reserves, Public lands—mineral resources, Reporting and recordkeeping requirements, Surety bonds.

43 CFR Part 3910

Environmental protection, Exploration licenses, Intergovernmental relations, Oil shale reserves, Public lands—mineral resources, Reporting and recordkeeping requirements.

43 CFR Part 3920

Administrative practice and procedure, Environmental protection, Intergovernmental relations, Oil shale reserves, public lands—mineral resources, Reporting and recordkeeping requirements.

43 CFR Part 3930

Administrative practice and procedure, Environmental protection, Mineral royalties, Oil shale reserves, Public lands—mineral resources, Reporting and recordkeeping requirements, Surety bonds.

■ Accordingly, for the reasons stated in the preamble and under the authorities stated below, the BLM amends 43 CFR subtitle B Chapter II as follows:

Dated: October 31, 2008.

C. Stephen Allred,

Assistant Secretary, Land and Minerals Management.

■ 1. Add part 3900 to subchapter C to read as follows:

PART 3900—OIL SHALE MANAGEMENT—GENERAL**Subpart 3900—Oil Shale Management—Introduction**

Sec.

- 3900.2 Definitions.
- 3900.5 Information collection.
- 3900.10 Lands subject to leasing.
- 3900.20 Appealing the BLM's decision.

- 3900.30 Filing documents.
- 3900.40 Multiple use development of leased or licensed lands.
- 3900.50 Land use plans and environmental considerations.
- 3900.61 Federal minerals where the surface is owned or administered by other Federal agencies, by state agencies or charitable organizations, or by private entities.
- 3900.62 Special requirements to protect the lands and resources.

Subpart 3901—Land Descriptions and Acreage

- 3901.10 Land descriptions.
- 3901.20 Acreage limitations.
- 3901.30 Computing acreage holdings.

Subpart 3902—Qualification Requirements

- 3902.10 Who may hold leases.
- 3902.21 Filing of qualification evidence.
- 3902.22 Where to file.
- 3902.23 Individuals.
- 3902.24 Associations, including partnerships.
- 3902.25 Corporations.
- 3902.26 Guardians or trustees.
- 3902.27 Heirs and devisees.
- 3902.28 Attorneys-in-fact.
- 3902.29 Other parties in interest.

Subpart 3903—Fees, Rentals, and Royalties

- 3903.20 Forms of payment.
- 3903.30 Where to submit payments.
- 3903.40 Rentals.
- 3903.51 Minimum production and payments in lieu of production.
- 3903.52 Production royalties.
- 3903.53 Overriding royalties.
- 3903.54 Waiver, suspension, or reduction of rental or payments in lieu of production, or reduction of royalty, or waiver of royalty in the first 5 years of the lease.
- 3903.60 Late payment or underpayment charges.

Subpart 3904—Bonds and Trust Funds

- 3904.10 Bonding requirements.
- 3904.11 When to file bonds.
- 3904.12 Where to file bonds.
- 3904.13 Acceptable forms of bonds.
- 3904.14 Individual lease, exploration license, and reclamation bonds.
- 3904.15 Amount of bond.
- 3904.20 Default.
- 3904.21 Termination of the period of liability and release of bonds.
- 3904.40 Long-term water treatment trust funds.

Subpart 3905—Lease Exchanges

- 3905.10 Oil shale lease exchanges.

Authority: 30 U.S.C. 189, 359, and 241(a), 42 U.S.C. 15927, 43 U.S.C. 1732(b) and 1740.

Subpart 3900—Oil Shale Management—Introduction**§ 3900.2 Definitions.**

As used in this part and parts 3910 through 3930 of this chapter, the term: *Acquired lands* means lands which the United States obtained through purchase, gift, or condemnation, including mineral estates associated

with lands previously disposed of under the public land laws, including the mining laws.

Act means the Mineral Leasing Act of 1920, as amended and supplemented (30 U.S.C. 181 *et seq.*).

BLM means the Bureau of Land Management and includes the individual employed by the Bureau of Land Management authorized to perform the duties set forth in this part and parts 3910 through 3930.

Commercial quantities means production of shale oil quantities in accordance with the approved Plan of Development for the proposed project through the research, development, and demonstration activities conducted on the research, development, and demonstration (R, D and D) lease, based on, and at the conclusion of which, there is a reasonable expectation that the expanded operation would provide a positive return after all costs of production have been met, including the amortized costs of the capital investment.

Department means the Department of the Interior.

Diligent development means achieving or completing the prescribed milestones listed in § 3930.30 of this chapter.

Entity means a person, association, or corporation, or any subsidiary, affiliate, corporation, or association controlled by or under common control with such person, association, or corporation.

Exploration means drilling, excavating, and geological, geophysical or geochemical surveying operations designed to obtain detailed data on the physical and chemical characteristics of Federal oil shale and its environment including:

- (1) The strata below the Federal oil shale;
- (2) The overburden;
- (3) The strata immediately above the Federal oil shale; and
- (4) The hydrologic conditions associated with the Federal oil shale.

Exploration license means a license issued by the BLM that allows the licensee to explore unleased oil shale deposits to obtain geologic, environmental, and other pertinent data concerning the deposits. An exploration license confers no preference to a lease to develop oil shale.

Exploration plan means a plan prepared in sufficient detail to show the:

- (1) Location and type of exploration to be conducted;
- (2) Environmental protection procedures to be taken;
- (3) Present and proposed roads, if any; and

(4) Reclamation and abandonment procedures to be followed upon completion of operations.

Fair market value (FMV) means the monetary amount for which the oil shale deposit would be leased by a knowledgeable owner willing, but not obligated, to lease to a knowledgeable purchaser who desires, but is not obligated, to lease the oil shale deposit.

Federal lands means any lands or interests in lands, including oil shale interests underlying non-Federal surface, owned by the United States, without reference to how the lands were acquired or what Federal agency administers the lands.

Infrastructure means all support structures necessary for the production or development of shale oil, including, but not limited to:

- (1) Offices;
- (2) Shops;
- (3) Maintenance facilities;
- (4) Pipelines;
- (5) Roads;
- (6) Electrical transmission lines;
- (7) Well bores;
- (8) Storage tanks;
- (9) Ponds;
- (10) Monitoring stations;
- (11) Processing facilities—retorts; and
- (12) Production facilities.

In situ operation means the processing of oil shale in place.

Interest in a lease, application, or bid means any:

- (1) Record title interest;
- (2) Overriding royalty interest;
- (3) Working interest;
- (4) Operating rights or option or any agreement covering such an interest; or
- (5) Participation or any defined or undefined share in any increments, issues, or profits that may be derived from or that may accrue in any manner from a lease based on or under any agreement or understanding existing when an application was filed or entered into while the lease application or bid is pending.

Kerogen means the solid, organic substance in sedimentary rock that yields oil when it undergoes destructive distillation.

Lease means a Federal lease issued under the mineral leasing laws, which grants the exclusive right to explore for and extract a designated mineral.

Lease bond means the bond or equivalent security given to the Department to assure performance of all obligations associated with all lease terms and conditions.

Maximum economic recovery (MER) means the prevention of wasting of the resource by recovering the maximum amount of the resource that is technologically and economically possible.

Mining waste means all tailings, dumps, deleterious materials, or substances produced by mining, retorting, or in-situ operations.

MMS means the Minerals Management Service.

Oil shale means a fine-grained sedimentary rock containing:

(1) Organic matter which was derived chiefly from aquatic organisms or waxy spores or pollen grains, which is only slightly soluble in ordinary petroleum solvents, and of which a large proportion is distillable into synthetic petroleum; and

(2) Inorganic matter, which may contain other minerals. This term is applicable to any argillaceous, carbonate, or siliceous sedimentary rock which, through destructive distillation, will yield synthetic petroleum.

Permit means any of the required approvals that are issued by Federal, state, or local agencies.

Plan of development (POD) means the plan created for oil shale operations that complies with the requirements of the Act and that details the plans, equipment, methods, and schedules to be used in oil shale development.

Production means:

(1) The extraction of shale oil, shale gas, or shale oil by-products through surface retorting or in situ recovery methods; or

(2) The severing of oil shale rock through surface or underground mining methods.

Proper BLM office means the Bureau of Land Management office having jurisdiction over the lands under application or covered by a lease or exploration license and subject to the regulations in this part and in parts 3910 through 3930 of this chapter (see subpart 1821 of part 1820 of this chapter for a list of BLM state offices).

Public lands means lands, i.e., surface estate, mineral estate, or both, which:

- (1) Never left the ownership of the United States, including minerals reserved when the lands were patented;
- (2) Were obtained by the United States in exchange for public lands;
- (3) Have reverted to the ownership of the United States; or
- (4) Were specifically identified by Congress as part of the public domain.

Reclamation means the measures undertaken to bring about the necessary reconditioning of lands or waters affected by exploration, mining, in situ operations, onsite processing operations or waste disposal in a manner which will meet the requirements imposed by the BLM under applicable law.

Reclamation bond means the bond or equivalent security given to the BLM to assure performance of all obligations

relating to reclamation of disturbed areas under an exploration license or lease.

Secretary means the Secretary of the Interior.

Shale gas means the gaseous hydrocarbon-bearing products of surface retorting of oil shale or of in situ extraction that is not liquefied into shale oil. In addition to hydrocarbons, shale gas might include other gases such as carbon dioxide, nitrogen, helium, sulfur, other residual or specialty gases, and entrained hydrocarbon liquids.

Shale oil means synthetic petroleum derived from the destructive distillation of oil shale.

Sole party in interest means a party who alone is or will be vested with all legal and equitable rights and responsibilities under a lease, bid, or application for a lease.

Surface management agency means the Federal agency with jurisdiction over the surface of federally-owned lands containing oil shale deposits.

State Director means an employee of the Bureau of Land Management designated as the chief administrative officer of one of the BLM's 12 administrative areas administered by a state office.

Surface retort means the above-ground facility used for the extraction of kerogen by heating mined shale.

Surface retort operation means the extraction of kerogen by heating mined shale in an above-ground facility.

Synthetic petroleum means synthetic crude oil manufactured from shale oil and suitable for use as a refinery feedstock or for petrochemical production.

§ 3900.5 Information collection.

(a) OMB has approved the information collection requirements in parts 3900 through 3930 of this chapter under 44 U.S.C. 3501 *et seq.* The table in paragraph (d) of this section lists the subpart in the rule requiring the information and its title, provides the OMB control number, and summarizes the reasons for collecting the information and how the BLM uses the information.

(b) Respondents are oil shale lessees and operators. The requirement to respond to the information collections in these parts are mandated under the Energy Policy Act of 2005 (EP Act) (42 U.S.C. 15927), the Mineral Leasing Act for Acquired Lands of 1947 (30 U.S.C. 351–359), and the Federal Land Policy and Management Act (FLPMA) of 1976 (43 U.S.C. 1701 *et seq.*, including 43 U.S.C. 1732).

(c) The Paperwork Reduction Act of 1995 requires us to inform the public

that an agency may not conduct or sponsor, and you are not required to respond to, a collection of information

unless it displays a currently valid OMB control number.

(d) The BLM is collecting this information for the reasons given in the following table:

43 CFR Parts 3900–3930, General (1004–0201)	Reasons for collecting information and how used
Section 3904.12 Section 3904.14(c)(1)	Prospective lessee or licensee must furnish a bond before a lease or exploration license may be issued or transferred or a plan of development is approved. The BLM will review the bond and, if adequate as to amount and execution, will accept it in order to indemnify the United States against default on payments due or other performance obligations. The BLM may also adjust the bond amount to reflect changed conditions. The BLM will cancel the bond when all requirements are satisfied.
Section 3910.31 Section 3910.44	For those lands where no exploration data is available, the lease applicant may apply for an exploration license to conduct exploration on unleased public lands to determine the extent and specific characteristics of the Federal oil shale resource. The BLM will use the information in the application to: (1) Locate the proposed exploration site; (2) Determine if the lands are subject to entry for exploration; (3) Prepare a notice of invitation to other parties to participate in the exploration; and (4) Ensure the exploration plan is adequate to safeguard resource values, and public and worker health and safety. The BLM will use this information from a licensee to determine if it will offer the land area for lease.
Section 3921.30	Corporations, associations, and individuals may submit expressions of leasing interest for specific areas to assist the applicable BLM State Director in determining whether or not to lease oil shale. The information provided will be used in the consultation with the governor of the affected state and in setting a geographic area for which a call for applications will be requested.
Sections 3922.20 and 3922.30	Entities interested in leasing the Federal oil shale resource must file an application in a geographic area for which the BLM has issued a "Call for Applications." The information provided by the applicant will be used to evaluate the impacts of issuing a proposed lease on the human environment. Failure to provide the requested additional information may result in suspension or termination of processing of the application or in a decision to deny the application.
Section 3924.10	Prospective lessees will be required to submit a bid at a competitive sale in order to be issued a lease.
Section 3926.10(c)	The lessee of an R, D and D lease may apply for conversion of the R, D and D lease to a commercial lease.
Section 3930.11(b)	The records, logs, and samples provide information necessary to determine the nature and extent of oil shale resources on Federal lands and to monitor and adjust the extent of the oil shale reserve.
Section 3930.20(b)	
Section 3931.11	The POD must provide for reasonable protection and reclamation of the environment and the protection and diligent development of the oil shale resources in the lease.
Section 3931.30	The BLM may, in the interest of Conservation, order or agree to a suspension of operations and production.
Section 3931.41	Except for casual use, before conducting any exploration operations on federally-leased or federally-licensed lands, the lessee must submit an exploration plan to the BLM for approval.
Section 3931.50	Approved exploration, mining and in situ development plans may be modified by the operator or lessee to adjust to changed conditions, new information, improved methods, and new or improved technology, or to correct an oversight.
Section 3931.70	Production of all oil shale products or byproducts must be reported to the BLM on a monthly basis.
Section 3931.80	Within 30 days after drilling completion the operator or lessee must submit to the BLM a signed copy of records of all core or test holes made on the lands covered by the lease or exploration license.
Sections 3932.10(b) and 3932.30(c)	A lessee may apply for a modification of a lease to include additional Federal lands adjoining those in the lease.
Section 3933.31	Any lease may be assigned or subleased, and any exploration license may be assigned, in whole or in part, to any person, association, or corporation that meets the qualification requirements at subpart 3902.
Section 3934.10	A lease or exploration license may be surrendered in whole or in part.
Section 3935.10	Operators or lessees must maintain production and sale records which must be available for the BLM's examination during regular business hours.

§ 3900.10 Lands subject to leasing.

The BLM may issue oil shale leases under this part on all Federal lands except:

- (a) Those lands specifically excluded from leasing by the Act;
- (b) Lands within the boundaries of any unit of the National Park System,

except as expressly authorized by law (Glen Canyon National Recreation Area, Lake Mead National Recreation Area, and the Whiskeytown Unit of the Whiskeytown-Shasta-Trinity National Recreation Area);

- (c) Lands within incorporated cities, towns and villages; and

- (d) Any other lands withdrawn from leasing.

§ 3900.20 Appealing the BLM's decision.

Any party adversely affected by a BLM decision made under this part or parts 3910 through 3930 of this chapter may appeal the decision under part 4 of

this title. All decisions and orders by the BLM under these parts remain effective pending appeal unless the BLM decides otherwise. A petition for the stay of a decision may be filed with the Interior Board of Land Appeals (IBLA).

§ 3900.30 Filing documents.

(a) All necessary documents must be filed in the proper BLM office. A document is considered filed when the proper BLM office receives it with any required fee.

(b) All information submitted to the BLM under the regulations in this part or parts 3910 through 3930 will be available to the public unless exempt from disclosure under the Freedom of Information Act (5 U.S.C. 552), under part 2 of this title, or unless otherwise provided for by law.

§ 3900.40 Multiple use development of leased or licensed lands.

(a) The granting of an exploration license or lease for the exploration, development, or production of deposits of oil shale does not preclude the BLM from issuing other exploration licenses or leases for the same lands for deposits of other minerals. Each exploration license or lease reserves the right to allow any other uses or to allow disposal of the leased lands if it does not unreasonably interfere with the exploration and mining operations of the lessee. The lessee or the licensee must make all reasonable efforts to avoid interference with other such authorized uses.

(b) Subsequent lessee or licensee will be required to conduct operations in a manner that will not interfere with the established rights of existing lessees or licensees.

(c) When the BLM issues an oil shale lease, it will cancel all oil shale exploration licenses for the leased lands.

§ 3900.50 Land use plans and environmental considerations.

(a) Any lease or exploration license issued under this part or parts 3910 through 3930 of this chapter will be issued in conformance with the decisions, terms, and conditions of a comprehensive land use plan developed under part 1600 of this chapter.

(b) Before a lease or exploration license is issued, the BLM, or the appropriate surface management agency, must comply with the requirements of the National Environmental Policy Act of 1969 (NEPA).

(c) Before the BLM approves a POD, the BLM must comply with NEPA, in

cooperation with the surface management agency when possible, if the surface is managed by another Federal agency.

§ 3900.61 Federal minerals where the surface is owned or administered by other Federal agencies, by state agencies or charitable organizations, or by private entities.

(a) *Public lands.* Unless consent is required by law, the BLM will issue a lease or exploration license only after the BLM has consulted with the surface management agency on public lands where the surface is administered by an agency other than the BLM. The BLM will not issue a lease or an exploration license on lands to which the surface managing agency withholds consent required by statute.

(b) *Acquired lands.* The BLM will issue a lease on acquired lands only after receiving written consent from an appropriate official of the surface management agency.

(c) *Lands covered by lease or license.* If a Federal surface management agency outside of the Department has required special stipulations in the lease or license or has refused consent to issue the lease or license, an applicant may pursue the administrative remedies to challenge that decision offered by that particular surface management agency, if any. If the applicant notifies the BLM within 30 calendar days after receiving the BLM's decision that the applicant has requested the surface management agency to review or reconsider its decision, the time for filing an appeal to the IBLA under part 4 of this title is suspended until a decision is reached by such agency.

(d) The BLM will not issue a lease or exploration license on National Forest System Lands without the consent of the Forest Service.

(e) Ownership of surface overlying Federal minerals by states, charitable organizations, or private entities. Where the United States has conveyed title to the surface of lands to any state or political subdivision, agency, or instrumentality thereof, including a college or any other educational corporation or association, to a charitable or religious corporation or association, or to a private entity, the BLM will send such surface owners written notification by certified mail of the application for exploration license or lease. In the written notification, the BLM will give the surface owners a reasonable time, not to exceed 90 calendar days, within which to suggest any lease stipulations necessary for the protection of existing surface improvements or uses and to set forth

the facts supporting the necessity of the stipulations, or to file any objections it may have to the issuance of the lease or license. The BLM makes the final decision as to whether to issue the lease or license and on what terms based on a determination as to whether the interests of the United States would best be served by issuing the lease or license with the particular stipulations. This is true even in cases where the party controlling the surface opposes the issuance of a lease or license or wishes to place restrictive stipulations on the lease.

§ 3900.62 Special requirements to protect the lands and resources.

The BLM will specify stipulations in a lease or exploration license to protect the lands and their resources. This may include stipulations required by the surface management agency or recommended by the surface management agency or non-Federal surface owner and accepted by the BLM.

Subpart 3901—Land Descriptions and Acreage

§ 3901.10 Land descriptions.

(a) All lands in an oil shale lease must be described by the legal subdivisions of the public land survey system or if the lands are unsurveyed, the legal description by metes and bounds.

(b) Unsurveyed lands will be surveyed, at the cost of the lease applicant, by a surveyor approved or employed by the BLM.

§ 3901.20 Acreage limitations.

No entity may hold more than 50,000 acres of Federal oil shale leases on public lands and 50,000 acres on acquired lands in any one state. Oil shale lease acreage does not count toward acreage limitations associated with leases for other minerals.

§ 3901.30 Computing acreage holdings.

In computing the maximum acreage an entity may hold under a Federal lease, on either public lands or acquired lands, in any one state, acquired lands and public lands are counted separately. An entity may hold up to the maximum acreage of each at the same time.

Subpart 3902—Qualification Requirements

§ 3902.10 Who may hold leases.

(a) The following entities may hold leases or interests therein:

- (1) Citizens of the United States;
- (2) Associations (including partnerships and trusts) of such citizens; and

(3) Corporations organized under the laws of the United States or of any state or territory thereof.

(b) Citizens of a foreign country may only hold interest in leases through stock ownership, stock holding, or stock control in such domestic corporations. Foreign citizens may hold stock in United States corporations that hold leases if the Secretary has not determined that laws, customs, or regulations of their country deny similar privileges to citizens or corporations of the United States.

(c) A minor may not hold a lease. A legal guardian or trustee of a minor may hold a lease.

(d) An entity must be in compliance with Section 2(a)(2)(A) of the Act in order to hold a lease. If the BLM erroneously issues a lease to an entity that is in violation of Section 2(a)(2)(A) of the Act, the BLM will void the lease.

§ 3902.21 Filing of qualification evidence.

Applicants must file with the BLM a statement and evidence that the qualification requirements in this subpart are met. These may be filed separately from the lease application, but must be filed in the same office as the application. After the BLM accepts the applicant's qualifications, any additional information may be provided to the same BLM office by referring to the serial number of the record in which the evidence is filed. All changes to the qualifications statement must be in writing. The evidence provided must be current, accurate, and complete.

§ 3902.22 Where to file.

The lease application and qualification evidence must be filed in the proper BLM office (see subpart 1821 of part 1820 of this chapter).

§ 3902.23 Individuals.

Individuals who are applicants must provide to the BLM a signed statement showing:

- (a) U.S. citizenship; and
- (b) That acreage holdings do not exceed the limits in § 3901.20 of this chapter. This includes holdings through a corporation, association, or partnership in which the individual is the beneficial owner of more than 10 percent of the stock or other instruments of control.

§ 3902.24 Associations, including partnerships.

Associations that are applicants must provide to the BLM:

- (a) A signed statement that:
 - (1) Lists the names, addresses, and citizenship of all members of the association who own or control 10 percent or more of the association or

partnership, and certifies that the statement is true;

(2) Lists the names of the members authorized to act on behalf of the association; and

(3) Certifies that the association or partnership's acreage holdings and those of any member under paragraph (a)(1) of this section do not exceed the acreage limits in § 3901.20 of this chapter; and

(b) A copy of the articles of association or the partnership agreement.

§ 3902.25 Corporations.

Corporate officers or authorized attorneys-in-fact who represent applicants must provide to the BLM a signed statement that:

(a) Names the state or territory of incorporation;

(b) Lists the name and citizenship of, and percentage of stock owned, held, or controlled by, any stockholder owning, holding, or controlling more than 10 percent of the stock of the corporation, and certifies that the statement is true;

(c) Lists the names of the officers authorized to act on behalf of the corporation; and

(d) Certifies that the corporation's acreage holdings, and those of any stockholder identified under paragraph (b) of this section, do not exceed the acreage limits in § 3901.20 of this chapter.

§ 3902.26 Guardians or trustees.

Guardians or trustees for a trust, holding on behalf of a beneficiary, who are applicants must provide to the BLM:

(a) A signed statement that:

(1) Provides the beneficiary's

citizenship;

(2) Provides the guardian's or trustee's citizenship;

(3) Provides the grantor's citizenship, if the trust is revocable; and

(4) Certifies the acreage holdings of the beneficiary, the guardian, trustee, or grantor, if the trust is revocable, do not exceed the aggregate acreage limitations in § 3901.20 of this chapter; and

(b) A copy of the court order or other document authorizing or creating the trust or guardianship.

§ 3902.27 Heirs and devisees.

If an applicant or successful bidder for a lease dies before the lease is issued:

(a) The BLM will issue the lease to the heirs or devisees, or their guardian, if probate of the estate has been completed or is not required. Before the BLM will recognize the heirs or devisees or their guardian as the record title holders of the lease, they must provide to the proper BLM office:

(1) A certified copy of the will or decree of distribution, or if no will or decree exists, a statement signed by the heirs that they are the only heirs and citing the provisions of the law of the deceased's last domicile showing that no probate is required; and

(2) A statement signed by each of the heirs or devisees with reference to citizenship and holdings as required by § 3902.23 of this chapter. If the heir or devisee is a minor, the guardian or trustee must sign the statement; and

(b) The BLM will issue the lease to the executor or administrator of the estate if probate is required, but is not completed. In this case, the BLM considers the executor or administrator to be the record title holder of the lease. Before the BLM will issue the lease to the executor or administrator, the executor or administrator must provide to the proper BLM office:

(1) Evidence that the person who, as executor or administrator, submits lease and bond forms has authority to act in that capacity and to sign those forms;

(2) A certified list of the heirs or devisees of the deceased; and

(3) A statement signed by each heir or devisee concerning citizenship and holdings, as required by § 3902.23 of this chapter.

§ 3902.28 Attorneys-in-fact.

Attorneys-in-fact must provide to the proper BLM office evidence of the authority to act on behalf of the applicant and a statement of the applicant's qualifications and acreage holdings if it is also empowered to make this statement. Otherwise, the applicant must provide the BLM this information separately.

§ 3902.29 Other parties in interest.

If there is more than one party in interest in an application for a lease, include with the application the names of all other parties who hold or will hold any interest in the application or in the lease. All interested parties who wish to hold an interest in a lease must provide to the BLM the information required by this subpart to qualify to hold a lease interest.

Subpart 3903—Fees, Rentals, and Royalties

§ 3903.20 Forms of payment.

All payments must be by U.S. postal money order or negotiable instrument payable in U.S. currency. In the case of payments made to the MMS, such payments must be made by electronic funds transfer (see 30 CFR part 218 for the MMS's payment procedures).

§ 3903.30 Where to submit payments.

(a) All filing and processing fees, all first-year rentals, and all bonuses for leases issued under this part or parts 3910 through 3930 of this chapter must be paid to the BLM state office that manages the lands covered by the application, lease, or exploration license, unless the BLM designates a different state office. The first one-fifth bonus installment is paid to the appropriate BLM state office. All remaining bonus installment payments are paid to the MMS.

(b) All second-year and subsequent rentals and all other payments for leases are paid to the MMS.

(c) All royalties on producing leases and all payments under leases in their minimum production period are paid to the MMS.

§ 3903.40 Rentals.

(a) The rental rate for oil shale leases is \$2.00 per acre, or fraction thereof, payable annually on or before the anniversary date of the lease. Rentals paid for any 1 year are credited against any production royalties accruing for that year.

(b) The BLM will send a notice demanding payment of late rentals. Failure to provide payment within 30 calendar days after notification will result in the BLM taking action to cancel the lease (see § 3934.30 of this chapter).

§ 3903.51 Minimum production and payments in lieu of production.

(a) Each lease must meet its minimum annual production amount of shale oil or make a payment in lieu of production for any particular lease year, beginning with the 10th lease year.

(b) The minimum payment in lieu of annual production is established in the lease and will not be less than \$4 per acre or fraction thereof per year, payable in advance. Production royalty payments will be credited to payments in lieu of annual production for that year only.

§ 3903.52 Production royalties.

(a) The lessee must pay royalties on all products of oil shale that are sold from or transported off of the lease.

(b) The royalty rate for the products of oil shale is 5 percent of the amount or value of production for the first 5 years of commercial production. The royalty rate will increase by 1% each year starting the sixth year of commercial production to a maximum royalty rate of 12½% in the thirteenth year of commercial production.

§ 3903.53 Overriding royalties.

The lessee must file documentation of all overriding royalties (payments out of

production to an entity other than the United States) associated with the lease in the proper BLM office within 90 calendar days after execution of the assignment of the overriding royalties.

§ 3903.54 Waiver, suspension, or reduction of rental or payments in lieu of production, or reduction of royalty, or waiver of royalty in the first 5 years of the lease.

(a) In order to encourage the maximum economic recovery (MER) of the leased mineral(s), and in the interest of conservation, whenever the BLM determines it is necessary to promote development or finds that leases cannot be successfully operated under the lease terms, the BLM may waive, suspend, or reduce the rental or payment in lieu of production, reduce the rate of royalty, or in the first 5 years of the lease, waive the royalty.

(b) Applications for waivers, suspension or reduction of rentals or payment in lieu of production, reduction in royalty, or waiver of royalty for the first 5 years of the lease must contain the serial number of the lease, the name of the record title holder, the operator or sub-lessee, a description of the lands by legal subdivision, and the following information:

(1) The location of each oil shale mine or operation, and include:

(i) A map showing the extent of the mining or development operations;

(ii) A tabulated statement of the minerals mined and subject to royalty for each month covering a period of not less than 12 months immediately preceding the date of filing of the application; and

(iii) The average production per day mined for each month, and complete information as to why the minimum production was not attained;

(2) Each application must contain:

(i) A detailed statement of expenses and costs of operating the entire lease;

(ii) The income from the sale of any leased products;

(iii) All facts showing whether the mines can be successfully operated under the royalty or rental fixed in the lease; and

(iv) Where the application is for a reduction in royalty, information as to whether royalties or payments out of production are paid to anyone other than the United States, the amounts so paid, and efforts made to reduce those payments;

(3) Any overriding royalties cannot be greater in aggregate than one-half the royalties paid to the United States.

(c) Contact the proper BLM office for detailed information on submitting

copies of these applications electronically.

§ 3903.60 Late payment or underpayment charges.

Late payment or underpayment charges will be assessed under MMS regulations at 30 CFR 218.202.

Subpart 3904—Bonds and Trust Funds**§ 3904.10 Bonding requirements.**

(a) Prior to issuing a lease or exploration license, the BLM requires exploration license or lease bonds for each lease or exploration license that covers all liabilities, other than reclamation, that may arise under the lease or license. The bond must be executed by the lessee and cover all record title owners, operating rights owners, operators, and any person who conducts operations or is responsible for payments under a lease or license.

(b) Before the BLM will approve a POD, the lessee must provide to the proper BLM office a reclamation bond to cover all costs the BLM estimates will be necessary to cover reclamation.

§ 3904.11 When to file bonds.

File the lease bond before the BLM will issue the lease, file the reclamation bond before the BLM will approve the POD, and file the exploration bond before the BLM will issue the exploration license.

§ 3904.12 Where to file bonds.

File one copy of the bond form with original signatures in the proper BLM state office. Bonds must be filed on an approved BLM form. The obligor of a personal bond must sign the form. Surety bonds must have the lessee's and the acceptable surety's signatures.

§ 3904.13 Acceptable forms of bonds.

(a) The BLM will accept either a personal bond or a surety bond. Personal bonds are pledges of any of the following:

- (1) Cash;
- (2) Cashier's check;
- (3) Certified check; or

(4) Negotiable U.S. Treasury bonds equal in value to the bond amount. Treasury bonds must give the Secretary authority to sell the securities in the case of failure to comply with the conditions and obligations of the exploration license or lease.

(b) Surety bonds must be issued by qualified surety companies approved by the Department of the Treasury. A list of qualified sureties is available at any BLM state office.

§ 3904.14 Individual lease, exploration license, and reclamation bonds.

(a) The BLM will determine individual lease bond amounts on a case-by-case basis. The minimum lease bond amount is \$25,000.

(b) The BLM will determine reclamation bond and exploration license bond amounts on a case-by-case basis when it approves a POD or exploration plan. The reclamation or exploration license bond must be sufficient to cover the estimated cost of site reclamation.

(c) The BLM may enter into agreements with states to accept a state reclamation bond to cover the BLM's reclamation bonding requirements if it is adequate to cover both the Federal liabilities and all others for which it stands as security. The BLM may request additional information from the lessee or operator to determine whether the state bond will cover all of the BLM's reclamation requirements.

(1) If a state bond is to be used to satisfy the BLM bonding requirements, evidence verifying that the existing state bond will satisfy all the BLM reclamation bonding requirements must be filed in the proper BLM office.

(2) The BLM will require an additional bond if the BLM determines that the state bond is inadequate to cover all of the potential liabilities for your BLM leases.

§ 3904.15 Amount of bond.

(a) The BLM may increase or decrease the required bond amount if it determines that a change in amount is appropriate to cover the costs and obligations of complying with the requirements of the lease or license and these regulations. The BLM will not decrease the bond amount below the minimum (*see* § 3904.14(a)).

(b) The lessee or operator must submit to the BLM every three years after reclamation bond approval a revised estimate of the reclamation costs. The BLM will verify the revised estimate of the reclamation costs submitted by the lessee or operator. If the current bond does not cover the revised estimate of reclamation costs, the lessee or operator must increase the reclamation bond amount to meet or exceed the revised cost estimate.

§ 3904.20 Default.

(a) The BLM will demand payment from the lease bond to cover nonpayment of any rental or royalty owed or the reclamation or exploration license bond for any reclamation obligations that are not met. The BLM will reduce the bond amount by the

amount of the payment made to cover the default.

(b) After any default, the BLM will provide notification of the amount required to restore the bond to the required level. A new bond or an increase in the existing bond to its pre-default level must be provided to the proper BLM office within 6 months of the BLM's written notification that the bond is below its required level. The BLM may accept separate or substitute bonds for each exploration license or lease. The BLM may take action to cancel the lease or exploration license covered by the bond if sufficient additional bond is not provided within the six month time period.

§ 3904.21 Termination of the period of liability and release of bonds.

(a) The BLM will not consent to termination of the period of liability under a bond unless an acceptable replacement bond has been filed.

(b) Terminating the period of liability of a bond ends the period during which obligations continue to accrue, but does not relieve the surety of the responsibility for obligations that accrued during the period of liability.

(c) A lease bond will be released when BLM determines that all lease obligations accruing during the period of liability have been fulfilled.

(d) A reclamation bond or license bond will be released when the BLM determines that the reclamation obligations arising within the period of liability have been met and that the reclamation has succeeded to the BLM's satisfaction.

(e) The BLM will release a bond when it accepts a replacement bond in which the surety expressly assumes liability for all obligations that accrued within the period of liability of the original bond.

§ 3904.40 Long-term water treatment trust funds.

(a) The BLM may require the operator or lessee to establish a trust fund or other funding mechanism to ensure the continuation of long-term treatment to achieve water quality standards and for other long-term, post-mining maintenance requirements. The funding must be adequate to provide for the construction, long-term operation, maintenance, or replacement of any treatment facilities and infrastructure, for as long as the treatment and facilities are needed after mine closure. The BLM may identify the need for a trust fund or other funding mechanism during plan review or later.

(b) In determining whether a trust fund will be required, the BLM will consider the following factors:

(1) The anticipated post-mining obligations (PMO) that are identified in the environmental document or approved POD;

(2) Whether there is a reasonable degree of certainty that the treatment will be required based on accepted scientific evidence or models;

(3) The determination that the financial responsibility for those obligations rests with the operator; and

(4) Whether it is feasible, practical, or desirable to require separate or expanded reclamation bonds for those anticipated long-term PMOs.

Subpart 3905—Lease Exchanges**§ 3905.10 Oil shale lease exchanges.**

To facilitate the recovery of oil shale, the BLM may consider land exchanges where appropriate and feasible to consolidate land ownership and mineral interest into manageable areas. Exchanges are covered under part 2200 of this chapter.

■ 2. Add part 3910 to subchapter C to read as follows:

PART 3910—OIL SHALE EXPLORATION LICENSES**Subpart 3910—Exploration Licenses**

Sec.

3910.21 Lands subject to exploration.

3910.22 Lands managed by agencies other than the BLM.

3910.23 Requirements for conducting exploration activities.

3910.31 Filing of an application for an exploration license.

3910.32 Environmental analysis.

3910.40 Exploration license requirements.

3910.41 Issuance, modification, relinquishment, and cancellation.

3910.42 Limitations on exploration licenses.

3910.44 Collection and submission of data.

3910.50 Surface use.

Authority: 25 U.S.C. 396(d) and 2107, 30 U.S.C. 241(a), 42 U.S.C. 15927, 43 U.S.C. 1732(b) and 1740.

Subpart 3910—Exploration Licenses**§ 3910.21 Lands subject to exploration.**

The BLM may issue oil shale exploration licenses for all Federal lands subject to leasing under § 3900.10 of this chapter, except lands that are in an existing oil shale lease or in preference right leasing areas under the R, D and D program. The BLM may issue exploration licenses for lands in preference right lease areas only to the R, D and D lessee.

§ 3910.22 Lands managed by agencies other than the BLM.

(a) The consent and consultation procedures required by § 3900.61 of this

chapter also apply to exploration license applications.

(b) If exploration activities could affect the adjacent lands under the surface management of a Federal agency other than the BLM, the BLM will consult with that agency before issuing an exploration license.

§ 3910.23 Requirements for conducting exploration activities.

Exploration activities on Federal lands require an exploration license or oil shale lease. Activities on a license or lease without an approved plan of operation must be conducted pursuant to an approved exploration plan under § 3931.40 of this chapter. The licensee may not remove any oil shale for sale, but may remove a reasonable amount of oil shale for analysis and study.

§ 3910.31 Filing of an application for an exploration license.

(a) Applications for exploration licenses must be submitted to the proper BLM office.

(b) No specific form is required. Applications must include:

(1) The name and address of the applicant(s);

(2) A nonrefundable filing fee of \$295;

(3) A description of the lands covered by the application according to section, township and range in accordance with the public lands survey system or, if the lands are unsurveyed lands, the legal description by metes and bounds; and

(4) An acceptable electronic format or 3 paper copies of an exploration plan that complies with the requirements of § 3931.41 of this chapter. Contact the proper BLM office for detailed information on submitting copies electronically.

(c) An exploration license application may cover no more than 25,000 acres in a reasonably compact area and entirely within one state. An application for an exploration license covering more than 25,000 acres must include justification for an exception to the normal acreage limitation.

(d) Applicants for exploration licenses are required to invite other parties to participate in exploration under the license on a pro rata cost share basis.

(e) Using information supplied by the applicant, the BLM will prepare a notice of invitation and post the notice in the proper BLM office for 30 calendar days. The applicant will publish the BLM-approved notice once a week for 2 consecutive weeks in at least 1 newspaper of general circulation in the area where the lands covered by the exploration license application are situated. The notification must invite the public to participate in the

exploration under the license and contain the name and location of the BLM office in which the application is available for inspection.

(f) If any person wants to participate in the exploration program, the applicant and the BLM must receive written notice from that person within 30 calendar days after the end of the 30-day posting period. A person who wants to participate in the exploration program must:

(1) State in their notification that they are willing to share in the cost of the exploration on a pro-rata share basis; and

(2) Describe any modifications to the exploration program that the BLM should consider.

(g) To avoid duplication of exploration activities in an area, the BLM may:

(1) Require modification of the original exploration plan to accommodate the exploration needs of those seeking to participate; or

(2) Notify those seeking to participate that they should file a separate application for an exploration license.

§ 3910.32 Environmental analysis.

(a) Before the BLM will issue an exploration license, the BLM, in consultation with any affected surface management agency, will perform the appropriate NEPA analysis of the actions contemplated in the application.

(b) For each exploration license, the BLM will include terms and conditions needed to protect the environment and resource values of the area and to ensure reclamation of the lands disturbed by the exploration activities.

§ 3910.40 Exploration license requirements.

The licensee must comply with all applicable Federal, state, and local laws and regulations, the terms and conditions of the license, and the approved exploration plan. The operator or licensee must notify the BLM of any change of address or operator or licensee name.

§ 3910.41 Issuance, modification, relinquishment, and cancellation.

(a) The BLM may:

(1) Issue an exploration license; or

(2) Reject an application for an exploration license based on, but not limited to:

(i) The need for resource information;

(ii) The environmental analysis;

(iii) The completeness of the application; or

(iv) Any combination of these factors.

(b) An exploration license is effective on the date the BLM specifies, which is

also the date when exploration activities may begin. An exploration license is valid for a period of up to 2 years after the effective date of the license or as specified in the license.

(c) The BLM-approved exploration plan will be attached and made a part of each exploration license (see subpart 3931 of part 3930 of this chapter).

(d) After consultation with the surface management agency, the BLM may approve modification of the exploration license proposed by the licensee in writing if geologic or other conditions warrant. The BLM will not add lands to the license once it has been issued.

(e) Subject to the continued obligation of the licensee and the surety to comply with the terms and conditions of the exploration license, the exploration plan, and these regulations, a licensee may relinquish an exploration license for any or all of the lands covered by it. A relinquishment must be filed in the BLM state office in which the original application was filed.

(f) The BLM may terminate an exploration license for noncompliance with its terms and conditions and part 3900, this part, and parts 3920 and 3930 of this chapter.

§ 3910.42 Limitations on exploration licenses.

(a) The issuance of an exploration license for an area will not preclude the BLM's approval of an exploration license or issuance of a Federal oil shale lease for the same lands.

(b) If an oil shale lease is issued for an area covered by an exploration license, the BLM will terminate the exploration license on the effective date of the lease for those lands that are common to both.

§ 3910.44 Collection and submission of data.

Upon the BLM's request, the licensee must provide copies of all data obtained under the exploration license in the format requested by the BLM. To the extent authorized by the Freedom of Information Act, the BLM will consider the data confidential and proprietary until the BLM determines that public access to the data will not damage the competitive position of the licensee or the lands involved have been leased, whichever comes first. The licensee must submit to the proper BLM office all data obtained under the exploration license.

§ 3910.50 Surface use.

Operations conducted under an exploration license must:

(a) Not unreasonably interfere with or endanger any other lawful activity on the same lands;

(b) Not damage any improvements on the lands; and

(c) Comply with all applicable Federal, state, and local laws and regulations.

■ 3. Add part 3920 to subchapter C to read as follows:

PART 3920—OIL SHALE LEASING

Subpart 3921—Pre-Sale Activities

Sec.

3921.10 Special requirements related to land use planning.

3921.20 Compliance with the National Environmental Policy Act.

3921.30 Call for expression of leasing interest.

3921.40 Comments from governors, local governments, and interested Indian tribes.

3921.50 Determining the geographic area for receiving applications to lease.

3921.60 Call for applications.

Subpart 3922—Application Processing

3922.10 Application processing fee.

3922.20 Application contents.

3922.30 Application—Additional information.

3922.40 Tract delineation.

Subpart 3923—Minimum Bid

3923.10 Minimum bid.

Subpart 3924—Lease Sale Procedures

3924.5 Notice of sale.

3924.10 Lease sale procedures and receipt of bids.

Subpart 3925—Award of Lease

3925.10 Award of lease.

Subpart 3926—Conversion of Preference Right for Research, Development, and Demonstration (R, D and D) Leases

3926.10 Conversion of an R, D and D lease to a commercial lease.

Subpart 3927—Lease Terms

3927.10 Lease form.

3927.20 Lease size.

3927.30 Lease duration and notification requirement.

3927.40 Effective date of leases.

3927.50 Diligent development.

Authority: 30 U.S.C. 241(a), 42 U.S.C. 15927, 43 U.S.C. 1732(b) and 1740.

Subpart 3921—Pre-Sale Activities

§ 3921.10 Special requirements related to land use planning.

The State Director may call for expressions of leasing interest as described in § 3921.30 after areas available for leasing have been identified in a land use plan completed under part 1600 of this chapter.

§ 3921.20 Compliance with the National Environmental Policy Act.

Before the BLM will offer a tract for competitive lease sale under subpart 3924, the BLM must prepare a NEPA

analysis of the proposed lease area under 40 CFR parts 1500 through 1508 either separately or in conjunction with a land use planning action.

§ 3921.30 Call for expression of leasing interest.

The State Director may implement the provisions of §§ 3921.40 through 3921.60 after review of any responses received as a result of a call for expression of leasing interest. The BLM notice calling for expressions of leasing interest will:

(a) Be published in the **Federal Register** and in at least 1 newspaper of general circulation in each affected state for 2 consecutive weeks;

(b) Allow no less than 30 calendar days to submit expressions of interest;

(c) Request specific information including the name and address of the respondent and the legal land description of the area of interest;

(d) State that all information submitted under this subpart must be available for public inspection; and

(e) Include a statement indicating that data which is considered proprietary must not be submitted as part of an expression of leasing interest.

§ 3921.40 Comments from governors, local governments, and interested Indian tribes.

After the BLM receives responses to the call for expression of leasing interest, the BLM will notify the appropriate state governor's office, local governments, and interested Indian tribes and allow them an opportunity to provide comments regarding the responses and other issues related to oil shale leasing. The BLM will only consider those comments it receives within 60 calendar days after the notification requesting comments.

§ 3921.50 Determining the geographic area for receiving applications to lease.

After analyzing expressions of leasing interest received under § 3921.30 and complying with the procedures at § 3921.40 of this chapter, the State Director may determine a geographic area for receiving applications to lease. The BLM may also include additional geographic areas available for lease in addition to lands identified in expressions of interest to lease.

§ 3921.60 Call for applications.

If, as a result of the analysis of the expression of leasing interest, the State Director determines that there is interest in having a competitive sale, the State Director may publish a notice in the **Federal Register** requesting applications to lease. The notice will:

(a) Describe the geographic area the BLM determined is available for application under § 3921.50;

(b) Allow no less than 90 calendar days for interested parties to submit applications to the proper BLM office; and

(c) Provide that applications submitted to the BLM must meet the requirements at subpart 3922.

Subpart 3922—Application Processing

§ 3922.10 Application processing fee.

(a) An applicant nominating or applying for a tract for competitive leasing must pay a cost recovery or processing fee that the BLM will determine on a case-by-case basis as described in § 3000.11 of this chapter and as modified by the following provisions.

(b) The cost recovery process for a competitive oil shale lease is as follows:

(1) The applicant nominating the tract for competitive leasing must pay the fee before the BLM will process the application and publish a notice of competitive lease sale;

(2) The BLM will publish a sale notice no later than 30 days before the proposed sale. The BLM will include in the sale notice a statement of the total cost recovery fee paid to the BLM by the applicant, up to 30 calendar days before the sale;

(3) Before the lease is issued:

(i) The successful bidder, if someone other than the applicant, must pay to the BLM the cost recovery amount specified in the sale notice, including the cost of the NEPA analysis; and

(ii) The successful bidder must pay all processing costs the BLM incurs after the date of the sale notice;

(4) If the successful bidder is someone other than the applicant, the BLM will refund to the applicant the amount paid under paragraph (b)(1) of this section;

(5) If there is no successful bidder, the applicant is responsible for all processing fees; and

(6) If the successful bidder is someone other than the applicant, within 30 calendar days after the lease sale, the successful bidder must file an application in accordance with § 3922.20.

§ 3922.20 Application contents.

A lease application must be filed by any party seeking to obtain a lease. Lease applications must be filed in the proper BLM State Office. No specific form of application is required, but the application must include information necessary to evaluate the impacts on the human environment of issuing the proposed lease or leases. Except as

otherwise requested by the BLM, the application must include, but not be limited to, the following:

(a) Name, address, and telephone number of applicant, and a qualification statement, as required by subpart 3902 of this chapter;

(b) A delineation of the proposed lease area or areas, the surface ownership (if other than the United States) of those areas, a description of the quality, thickness, and depth of the oil shale and of any other resources the applicant proposes to extract, and environmental data necessary to assess impacts from the proposed development; and

(c) A description of the proposed extraction method, including personnel requirements, production levels, and transportation methods, including:

(1) A description of the mining, retorting, or in situ mining or processing technology that the operator would use and whether the proposed development technology is substantially identical to a technology or method currently in use to produce marketable commodities from oil shale deposits;

(2) An estimate of the maximum surface area of the lease area that will be disturbed or be undergoing reclamation at any one time;

(3) A description of the source and quantities of water to be used and of the water treatment and disposal methods necessary to meet applicable water quality standards;

(4) A description of the regulated air emissions;

(5) A description of the anticipated noise levels from the proposed development;

(6) A description of how the proposed lease development would comply with all applicable statutes and regulations governing management of chemicals and disposal of solid waste. If the proposed lease development would include disposal of wastes on the lease site, include a description of measures to be used to prevent the contamination of soil and of surface and ground water;

(7) A description of how the proposed lease development would avoid, or, to the extent practicable, mitigate impacts on species or habitats protected by applicable state or Federal law or regulations, and impacts on wildlife habitat management;

(8) A description of reasonably foreseeable social, economic, and infrastructure impacts on the surrounding communities, and on state and local governments from the proposed development;

(9) A description of the known historical, cultural, or archaeological resources within the lease area;

(10) A description of infrastructure that would likely be required for the proposed development and alternative locations of those facilities, if applicable;

(11) A discussion of proposed measures or plans to mitigate any adverse socioeconomic or environmental impacts to local communities, services and infrastructure;

(12) A brief description of the reclamation methods that will be used;

(13) Any other information that shows that the application meets the requirements of this subpart or that the applicant believes would assist the BLM in analyzing the impacts of the proposed development; and

(14) A map, or maps, showing:

(i) The topography, physical features, and natural drainage patterns;

(ii) Existing roads, vehicular trails, and utility systems;

(iii) The location of any proposed exploration operations, including seismic lines and drill holes;

(iv) To the extent known, the location of any proposed mining operations and facilities, trenches, access roads, or trails, and supporting facilities including the approximate location and extent of the areas to be used for pits, overburden, and tailings; and

(v) The location of water sources or other resources that may be used in the proposed operations and facilities.

§ 3922.30 Application—Additional information.

At any time during processing of the application, or the environmental or similar assessments of the application, the BLM may request additional information from the applicant. Failure to provide the best available and most accurate information may result in suspension or termination of processing of the application, or in a decision to deny the application.

§ 3922.40 Tract delineation.

(a) The BLM will delineate tracts for competitive sale to provide for the orderly development of the oil shale resource.

(b) The BLM may delineate more or less lands than were covered by an application for any reason the BLM determines to be in the public interest.

(c) The BLM may delineate tracts in any area acceptable for further consideration for leasing, whether or not expressions of leasing interest or applications have been received for those areas.

(d) Where the BLM receives more than 1 application covering the same lands, the BLM may delineate the lands that overlap as a separate tract.

Subpart 3923—Minimum Bid

§ 3923.10 Minimum bid.

The BLM will not accept any bid that is less than the FMV as determined under § 3924.10(d). In no case may the minimum bid be less than \$1,000 per acre.

Subpart 3924—Lease Sale Procedures

§ 3924.5 Notice of sale.

(a) After the BLM complies with subparts 3921 and 3922, the BLM may publish a notice of the lease sale in the **Federal Register** containing all information required by paragraph (b) of this section. The BLM will also publish a similar notice of lease sale that complies with this section once a week for 3 consecutive weeks, or such other time deemed appropriate by the BLM, in 1 or more newspapers of general circulation in the county or counties in which the oil shale lands are situated. The notice of the sale will be posted in the appropriate State Office at least 30 days prior to the lease sale.

(b) The notice of sale will:

(1) List the time and place of sale, the bidding method, and the legal land descriptions of the tracts being offered;

(2) Specify where a detailed statement of lease terms, conditions, and stipulations may be obtained;

(3) Specify the royalty rate and the amount of the annual rental;

(4) Specify that, prior to lease issuance, the successful bidder for a particular lease must pay the identified cost recovery amount, including the bidder's proportionate share of the total cost of the NEPA analysis and of publication of the notice; and

(5) Contain such other information as the BLM deems appropriate.

(c) The detailed statement of lease terms, conditions, and stipulations will, at a minimum, contain:

(1) A complete copy of each lease and all lease stipulations to the lease; and

(2) Resource information relevant to the tracts being offered for lease and the minimum production requirement.

§ 3924.10 Lease sale procedures and receipt of bids.

(a) The BLM will accept sealed bids only as specified in the notice of sale and will return to the bidder any sealed bid submitted after the time and date specified in the sale notice. Each sealed bid must include:

(1) A certified check, cashier's check, bank draft, money order, personal check, or cash for one-fifth of the amount of the bonus; and

(2) A qualifications statement signed by the bidder as described in subpart 3902 of this chapter.

(b) At the time specified in the sale notice, the BLM will open and read all bids and announce the highest bid. The BLM will make a record of all bids.

(c) No decision to accept or reject the high bid will be made at the time of sale.

(d) After the sale, the BLM will convene a sales panel to determine:

(1) If the high bid was submitted in compliance with the terms of the notice of sale and these regulations;

(2) If the high bid reflects the FMV of the tract; and

(3) Whether the high bidder is qualified to hold the lease.

(e) The BLM may reject any or all bids regardless of the amount offered, and will not accept any bid that is less than the FMV. The BLM will notify the high bidder whose bid has been rejected in writing and include a statement of reasons for the rejection.

(f) The BLM may offer the lease to the next highest qualified bidder if the successful bidder fails to execute the lease or for any reason is disqualified from receiving the lease.

(g) The balance of the bonus bid is due and payable to the MMS in 4 equal annual installments on each of the first 4 anniversary dates of the lease, unless otherwise specified in the lease.

Subpart 3925—Award of Lease

§ 3925.10 Award of lease.

(a) The lease will be awarded to the highest qualified bidder whose bid meets or exceeds the BLM's estimate of FMV, except as provided in § 3924.10. The BLM will provide the successful bidder 3 copies of the oil shale lease form for execution.

(b) Within 60 calendar days after receipt of the lease forms, the successful bidder must sign all copies and return them to the proper BLM office. The successful bidder must also submit the necessary lease bond (see subpart 3904 of this chapter), the first year's rental, any unpaid cost recovery fees, including costs associated with the NEPA analysis, and the bidder's proportionate share of the cost of publication of the sale notice. The BLM may, upon written request, grant an extension of time to submit the items under this paragraph.

(c) If the successful bidder does not comply with this section, the BLM will not issue the lease and the bidder forfeits the one-fifth bonus payment submitted with the bid.

(d) If the lease cannot be awarded for reasons determined by the BLM to be beyond the control of the successful bidder, the BLM will refund the deposit submitted with the bid.

(e) If the successful bidder was not an applicant under § 3922.20, the

successful bidder must submit an application and the BLM may require additional NEPA analysis of the successful bidder's proposed operations.

Subpart 3926—Conversion of Preference Right for Research, Development, and Demonstration (R, D and D) Leases

§ 3926.10 Conversion of an R, D and D lease to a commercial lease.

(a) Applications to convert R, D and D leases, including preference right areas, into commercial leases, are subject to the regulations at parts 3900 and 3910, this part, and part 3930, except for lease sale procedures at subparts 3921 and 3924 and § 3922.40.

(b) A lessee of an R, D and D lease must apply for the conversion of the R, D and D lease to a commercial lease no later than 90 calendar days after the commencement of production in commercial quantities. No specific form of application is required. The application for conversion must be filed in the BLM state office that issued the R, D and D lease. The conversion application must include:

(1) Documentation that there have been commercial quantities of oil shale produced from the lease, including the narrative required by the R, D and D leases;

(2) Documentation that the lessee consulted with state and local officials to develop a plan for mitigating the socioeconomic impacts of commercial development on communities and infrastructure;

(3) A bid payment no less than specified in § 3923.10 and equal to the FMV of the lease; and

(4) Bonding as required by § 3904.14 of this chapter.

(c) The lessee of an R, D and D lease has the exclusive right to acquire any and all portions of the preference right area designated in the R, D and D lease up to a total of 5,120 acres in the lease. The BLM will approve the conversion application, in whole or in part, if it determines that:

(1) There have been commercial quantities of shale oil produced from the lease;

(2) The bid payment for the lease met FMV;

(3) The lessee consulted with state and local officials to develop a plan for mitigating the socioeconomic impacts of commercial development on communities and infrastructure;

(4) The bond is consistent with § 3904.14 of this chapter; and

(5) Commercial scale operations can be conducted, subject to mitigation measures to be specified in stipulations

or regulations, in a manner that complies with applicable law and regulation.

(d) The commercial lease must contain terms consistent with the regulations in parts 3900 and 3910 of this chapter, this part, and part 3930 of this chapter, and stipulations developed through appropriate NEPA analysis.

Subpart 3927—Lease Terms

§ 3927.10 Lease form.

Leases are issued on a BLM approved standard form. The BLM may modify those provisions of the standard form that are not required by statute or regulations and may add such additional stipulations and conditions, as appropriate, with notice to bidders in the notice of sale.

§ 3927.20 Lease size.

The maximum size of an oil shale lease is 5,760 acres.

§ 3927.30 Lease duration and notification requirement.

Leases issue for a period of 20 years and continue as long as there is annual minimum production or as long as there are payments in lieu of production (see § 3903.51 of this chapter). The BLM may initiate procedures to cancel a lease under subpart 3934 of this chapter for not maintaining annual minimum production, for not making the payment in lieu of production, or for not complying with the lease terms, including the diligent development milestones (see § 3930.30 of this chapter). The operator or lessee must notify the BLM of any change of address or operator or lessee name.

§ 3927.40 Effective date of leases.

Leases are dated and effective the first day of the month following the date the BLM signs it. However, upon receiving a prior written request, the BLM may make the effective date of the lease the first day of the month in which the BLM signs it.

§ 3927.50 Diligent development.

Oil shale lessees must meet:

(a) Diligent development milestones;

(b) Annual minimum production requirements or payments in lieu of production starting the 10th lease year, except when the BLM determines that operations under the lease are interrupted by strikes, the elements, or causes not attributable to the lessee. Market conditions are not considered a valid reason to waive or suspend the requirements for annual minimum production. The BLM will determine the annual production requirements based on the extraction technology to be

used and on the BLM's estimate of the recoverable resources on the lease, expected life of the operation, and other factors.

■ 4. Add part 3930 to subchapter C to read as follows:

PART 3930—MANAGEMENT OF OIL SHALE EXPLORATION AND LEASES

Subpart 3930—Management of Oil Shale Exploration Licenses and Leases

Sec.

- 3930.10 General performance standards.
- 3930.11 Performance standards for exploration and in situ operations.
- 3930.12 Performance standards for underground mining.
- 3930.13 Performance standards for surface mines.
- 3930.20 Operations.
- 3930.30 Diligent development milestones.
- 3930.40 Assessments for missing diligence milestones.

Subpart 3931—Plans of Development and Exploration Plans

- 3931.10 Exploration plans and plans of development for mining and in situ operations.
- 3931.11 Content of plan of development.
- 3931.20 Reclamation.
- 3931.30 Suspension of operations and production.
- 3931.40 Exploration.
- 3931.41 Content of exploration plan.
- 3931.50 Exploration plan and plan of development modifications.
- 3931.60 Maps of underground and surface mine workings and in situ surface operations.
- 3931.70 Production maps and production reports.
- 3931.80 Core or test hole samples and cuttings.
- 3931.100 Boundary pillars and buffer zones.

Subpart 3932—Lease Modifications and Readjustments

- 3932.10 Lease size modification.
- 3932.20 Lease modification land availability criteria.
- 3932.30 Terms and conditions of a modified lease.
- 3932.40 Readjustment of lease terms.

Subpart 3933—Assignments and Subleases

- 3933.10 Leases or licenses subject to assignment or sublease.
- 3933.20 Filing fees.
- 3933.31 Record title assignments.
- 3933.32 Overriding royalty interests.
- 3933.40 Account status.
- 3933.51 Bond coverage.
- 3933.52 Continuing responsibility under assignment and sublease.
- 3933.60 Effective date.
- 3933.70 Extensions.

Subpart 3934—Relinquishment, Cancellations, and Terminations

- 3934.10 Relinquishments.
- 3934.21 Written notice of default.
- 3934.22 Causes and procedures for lease cancellation.

- 3934.30 License terminations.
- 3934.40 Payments due.
- 3934.50 Bona fide purchasers.

Subpart 3935—Production and Sale Records

- 3935.10 Accounting records.

Subpart 3936—Inspection and Enforcement

- 3936.10 Inspection of underground and surface operations and facilities.
- 3936.20 Issuance of notices of noncompliance and orders.
- 3936.30 Enforcement of notices of noncompliance and orders.
- 3936.40 Appeals.

Authority: 25 U.S.C. 396d and 2107, 30 U.S.C. 241(a), 42 U.S.C. 15927, 43 U.S.C. 1732(b), 1733, and 1740.

Subpart 3930—Management of Oil Shale Exploration Licenses and Leases

§ 3930.10 General performance standards.

The operator/lessee must comply with the following performance standards concerning exploration, development, and production:

(a) All operations must be conducted to achieve MER;

(b) Operations must be conducted under an approved POD or exploration plan;

(c) The operator/lessee must diligently develop the lease and must comply with the diligent development milestones and production requirements at § 3930.30;

(d) The operator/lessee must notify the BLM promptly if operations encounter unexpected wells or drill holes that could adversely affect the recovery of shale oil or other minerals producible under an oil shale lease during mining operations, and must not take any action that would disturb such wells or drill holes without the BLM's prior approval;

(e) The operator/lessee must conduct operations to:

(1) Prevent waste and conserve the recoverable oil shale reserves and other resources;

(2) Prevent damage to or degradation of oil shale formations;

(3) Ensure that other resources are protected upon abandonment of operations; and

(f) The operator must save topsoil for use in final reclamation after the reshaping of disturbed areas has been completed.

§ 3930.11 Performance standards for exploration and in situ operations.

The operator/lessee must adhere to the following standards for all exploration and in situ drilling operations:

(a) At the end of exploration operations, all drill holes must be

capped with at least 5 feet of cement and plugged with a permanent plugging material that is unaffected by water and hydrocarbon gases and will prevent the migration of gases and water in the drill hole under normal hole pressures. For holes drilled deeper than stripping limits, the operator/lessee, using cement or other suitable plugging material the BLM approves in advance, must plug the hole through the thickness of the oil shale bed(s) or mineral deposit(s) and through aquifers for a distance of at least 50 feet above and below the oil shale bed(s) or mineral deposit(s) and aquifers, or to the bottom of the drill hole. The BLM may approve a lesser cap or plug. Capping and plugging must be managed to prevent water pollution and the mixing of ground and surface waters and to ensure the safety of people, livestock, and wildlife;

(b) The operator/lessee must retain for 1 year all drill and geophysical logs. The operator must also make such logs available for inspection or analysis by the BLM. The BLM may require the operator/lessee to retain representative samples of drill cores for 1 year;

(c) The operator/lessee may, after the BLM's written approval, use drill holes as surveillance wells for the purpose of monitoring the effects of subsequent operations on the quantity, quality, or pressure of ground water or mine gases; and

(d) The operator/lessee may, after written approval from the BLM and the surface owner, convert drill holes to water wells. When granting such approvals, the BLM will include a transfer to the surface owner of responsibility for any liability, including eventual plugging, reclamation, and abandonment.

§ 3930.12 Performance standards for underground mining.

(a) Underground mining operations must be conducted in a manner to prevent the waste of oil shale, to conserve recoverable oil shale reserves, and to protect other resources. The BLM must approve in writing permanent abandonment and operations that render oil shale inaccessible.

(b) The operator/lessee must adopt mining methods that ensure the proper recovery of recoverable oil shale reserves.

(c) Operators/lessees must adopt measures consistent with known technology to prevent or, where the mining method used requires subsidence, control subsidence, maximize mine stability, and maintain the value and use of surface lands. If the POD indicates that pillars will not be removed and controlled subsidence is

not part of the POD, the POD must show that pillars of adequate dimensions will be left for surface stability, considering the thickness and strength of the oil shale beds and the strata above and immediately below the mined interval.

(d) The lessee/operator must have the BLM's approval to temporarily abandon a mine or portions thereof.

(e) The operator/lessee must have the BLM's prior approval to mine any recoverable oil shale reserves or drive any underground workings within 50 feet of any of the outer boundary lines of the federally-leased or federally-licensed land. The BLM may approve operations closer to the boundary after taking into consideration state and Federal environmental laws and regulations.

(f) The lessee/operator must have the BLM's prior approval before drilling any lateral holes within 50 feet of any outside boundary.

(g) Either the operator/lessee or the BLM may initiate the proposal to mine oil shale in a barrier pillar if the oil shale in adjoining lands has been mined out. The lessee/operator of the Federal oil shale must enter into an agreement with the owner of the oil shale in those adjacent lands prior to mining the oil shale remaining in the Federal barrier pillars (which otherwise may be lost).

(h) The BLM must approve final abandonment of a mining area.

§ 3930.13 Performance standards for surface mines.

(a) Pit widths for each oil shale seam must be engineered and designed to eliminate or minimize the amount of oil shale fender to be left as a permanent pillar on the spoil side of the pit.

(b) Considering mine economics and oil shale quality, the amount of oil shale wasted in each pit must be minimal.

(c) The BLM must approve the final abandonment of a mining area.

(d) The BLM must approve the conditions under which surface mines, or portions thereof, will be temporarily abandoned, under the regulations in this part.

(e) The operator/lessee may, in the interest of conservation, mine oil shale up to the Federal lease or license boundary line, provided that the mining:

(1) Complies with existing state and Federal mining, environmental, reclamation, and safety laws and rules; and

(2) Does not conflict with the rights of adjacent surface owners.

(f) The operator must save topsoil for final application after the reshaping of disturbed areas has been completed.

§ 3930.20 Operations.

(a) *Maximum Economic Recovery (MER)*. All mining and in situ development and production operations must be conducted in a manner to yield the MER of the oil shale deposits, consistent with the protection and use of other natural resources, the protection and preservation of the environment, including, land, water, and air, and with due regard for the safety of miners and the public. All shafts, main exits, and passageways, and overlying beds or mineral deposits that at a future date may be of economic importance must be protected by adequate pillars in the deposit being worked or by such other means as the BLM approves.

(b) *New geologic information*. The operator must record any new geologic information obtained during mining or in situ development operations regarding any mineral deposits on the lease. The operator must report this new information in a BLM-approved format to the proper BLM office within 90 calendar days after obtaining the information.

(c) *Statutory compliance*. Operators must comply with applicable Federal and state law, including, but not limited to the following:

(1) Clean Air Act (42 U.S.C. 1857 *et seq.*);

(2) Federal Water Pollution Control Act, as amended (30 U.S.C. 1151 *et seq.*);

(3) Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act (42 U.S.C. 6901 *et seq.*);

(4) National Historic Preservation Act, as amended (16 U.S.C. 470 *et seq.*);

(5) Archaeological and Historical Preservation Act, as amended (16 U.S.C. 469 *et seq.*);

(6) Archaeological Resources Protection Act, as amended (16 U.S.C. 470aa *et seq.*); and

(7) Native American Graves Protection and Repatriation Act, as amended (25 U.S.C. 3001 *et seq.*).

(d) Resource protection. The following additional resource protection provisions apply to oil shale operations:

(1) Operators must comply with applicable Federal and state standards for the disposal and treatment of solid wastes. All garbage, refuse, or waste must either be removed from the affected lands' or disposed of or treated to minimize, so far as is practicable, their impact on the lands, water, air, and biological resources;

(2) Operators must conduct operations in a manner to prevent adverse impacts to threatened or endangered species and

any of their habitat that may be affected by operations.

(3) If the operator encounters any scientifically important paleontological remains or any historical or archaeological site, structure, building, or object on Federal lands, it must immediately notify the BLM. Operators must not, without prior BLM approval, knowingly disturb, alter, damage, or destroy any scientifically important paleontological remains or any historical or archaeological site, structure, building, or object on Federal lands.

§ 3930.30 Diligent development milestones.

(a) Operators must diligently develop the oil shale resources consistent with the terms and conditions of the lease, POD, and these regulations. If the operator does not maintain or comply with diligent development milestones, the BLM may initiate lease cancellation. In order to be considered diligently developing the lease, the lessee/operator must comply with the following diligence milestones:

(1) Milestone 1. Within 2 years of the lease issuance date, submit to the proper BLM office an initial POD that meets the requirements of subpart 3931. The operator must revise the POD following subpart 3931, if the BLM determines that the initial POD is unacceptable;

(2) Milestone 2. Within 3 years of the lease issuance date, submit a final POD. The BLM may, based on circumstances beyond the control of the lessee or operator, or on the complexity of the POD, grant a 1 year extension to the lessee or operator to submit a complete POD;

(3) Milestone 3. Within 2 years after the BLM approves the final POD, apply for all required Federal and state permits and licenses;

(4) Milestone 4. Before the end of the 7th year after lease issuance, begin permitted infrastructure installation, as required by the BLM approved POD; and

(5) Milestone 5. Before the end of the 10th year after lease issuance, begin oil shale production.

(b) Operators may apply for additional time to complete a milestone. The BLM may grant additional time for completing a milestone if the operator provides documentation that shows to the BLM's satisfaction that achieving the milestone by the deadline is not possible for reasons that are beyond the control of the operator. Allowable time extensions to meet milestone 4 will extend the requirement to begin production in the 10th lease year by an amount of time equal to the extension

granted for milestone 4. This extension also extends the requirements for payments in lieu of production and minimum production under paragraphs (c), (d), and (e) of this section.

(c) Operators must maintain minimum annual production every year after the 10th lease year or pay in lieu of production according to the lease terms.

(d) Each lease will provide for minimum production. The minimum production requirement stated in the lease must be met by the end of the 10th lease year and will be based on the BLM's estimate of the extraction technology to be used, the recoverable resources on the lease, expected life of the operation, and other factors the BLM considers.

(e) Each lease will provide for payment in lieu of the minimum production for any particular year starting in the 10th lease year. Payments in lieu of production in year 10 of the lease satisfies Milestone 5 in paragraph (a)(5) of this section.

§ 3930.40 Assessments for missing diligence milestones.

The BLM will assess \$50 for each acre in the lease for each missed diligence milestone each year, prorated on a daily basis, until the operator or lessee complies with § 3930.30(a). For example: If the operator does not submit the required POD within the required 2 years after lease issuance (the first milestone), the BLM will assess the operator \$50 per acre per year until the milestone is met. If the operator does not meet the second milestone, the BLM will assess the operator an additional \$50 per acre per year, resulting in a total assessment of \$100 per acre per year. If the operator does not begin production by the end of the initial lease term, or make payments in lieu thereof, the BLM may initiate lease cancellation procedures (see §§ 3934.21 and 3934.22).

Subpart 3931—Plans of Development and Exploration Plans

§ 3931.10 Exploration plans and plans of development for mining and in situ operations.

(a) The POD must provide for reasonable protection and reclamation of the environment and the protection and diligent development of the oil shale resources in the lease.

(b) The operator must submit to the proper BLM office an exploration plan or POD describing in detail the proposed exploration, testing, development, or mining operations to be conducted. Exploration plans or PODs must be consistent with the

requirements of the lease or exploration license and protect nonmineral resources and provide for the reclamation of the lands affected by the operations on Federal lease(s) or exploration license(s). All PODs and exploration plans must be submitted to the proper BLM office.

(c) The lessee or operator must submit 3 copies of the POD to the proper BLM office or submit it in an acceptable electronic format. Contact the proper BLM office for detailed information on submitting copies electronically (see § 3931.40 for submission of exploration plans).

(d) The BLM will consult with any other Federal, state, or local agencies involved and review the plan. The BLM may require additional information or changes in the plan before approving it. If the BLM denies the plan, it will set forth why it was denied.

(e) All development and exploration activities must comply with the BLM-approved POD or exploration plan.

(f) Activities under §§ 3931.11 and 3931.40, other than casual use, may not begin until appropriate NEPA analysis is completed and the BLM approves an exploration plan or POD.

§ 3931.11 Content of plan of development.

The POD must contain, at a minimum, the following:

(a) Names, addresses, and telephone numbers of those responsible for operations to be conducted under the approved plan and to whom notices and orders are to be delivered, names and addresses of Federal oil shale lessees and corresponding Federal lease serial numbers, and names and addresses of surface and mineral owners of record, if other than the United States;

(b) A general description of geologic conditions and mineral resources within the area where mining is to be conducted, including appropriate maps;

(c) A copy of a suitable map or aerial photograph showing the topography, the area covered by each lease, the name and location of major topographic and cultural features;

(d) A statement of proposed methods of operation and development, including the following items as appropriate:

(1) A description detailing the extraction technology to be used;

(2) The equipment to be used in development and extraction;

(3) The proposed access roads;

(4) The size, location, and schematics of all structures, facilities, and lined or unlined pits to be built;

(5) The stripping ratios, development sequence, and schedule;

(6) The number of acres in the Federal lease(s) or license(s) to be affected;

(7) Comprehensive well design and procedure for drilling, casing, cementing, testing, stimulation, clean-up, completion, and production, for all drilled well types, including those used for heating, freezing, and disposal;

(8) A description of the methods and means to protect and monitor all aquifers;

(9) Surveyed well location plats or project-wide well location plats;

(10) A description of the measurement and handling of produced fluids, including the anticipated production rates and estimated recovery factors;

(11) A description of the methods used to dispose of and control mining waste; and

(12) A description/discussion of the controls that the operator will use to protect the public, including identification of:

(i) Essential operations, personnel, and health and safety precautions;

(ii) Programs and plans for noxious gas control (hydrogen sulfide, ammonia, etc.);

(iii) Well control procedures;

(iv) Temporary abandonment procedures; and

(v) Plans to address spills, leaks, venting, and flaring;

(e) An estimate of the quantity and quality of the oil shale resources;

(f) An explanation of how MER of the resource will be achieved for each Federal lease;

(g) Appropriate maps and cross sections showing:

(1) Federal lease boundaries and serial numbers;

(2) Surface ownership and boundaries;

(3) Locations of any existing and abandoned mines and existing oil and gas well (including well bore trajectories) and water well locations, including well bore trajectories;

(4) Typical geological structure cross sections;

(5) Location of shafts or mining entries, strip pits, waste dumps, retort facilities, and surface facilities;

(6) Typical mining or in situ development sequence, with appropriate time-frames;

(h) A narrative addressing the environmental aspects of the proposed mine or in situ operation, including at a minimum, the following:

(1) An estimate of the quantity of water to be used and pollutants that may enter any receiving waters;

(2) A design for the necessary impoundment, treatment, control, or injection of all produced water, runoff water, and drainage from workings; and

(3) A description of measures to be taken to prevent or control fire, soil

erosion, subsidence, pollution of surface and ground water, pollution of air, damage to fish or wildlife or other natural resources, and hazards to public health and safety;

(i) A reclamation plan and schedule for all Federal lease(s) or exploration license(s) that details all reclamation activities necessary to fulfill the requirements of § 3931.20;

(j) The method of abandonment of operations on Federal lease(s) and exploration license(s) proposed to protect the unmined recoverable reserves and other resources, including:

(1) The method proposed to fill in, fence, or close all surface openings that are hazardous to people or animals; and

(2) For in situ operations, a description of the method and materials to be used to plug all abandoned development or production wells; and

(k) Any additional information that the BLM determines is necessary for analysis or approval of the POD.

§ 3931.20 Reclamation.

(a) The operator or lessee must restore the disturbed lands to their pre-mining or pre-exploration use or to a higher use agreed to by the BLM and the lessee.

(b) The operator must reclaim the area disturbed by taking reasonable measures to prevent or control onsite and offsite damage to lands and resources.

(c) Reclamation includes, but is not limited to:

(1) Measures to control erosion, landslides, and water runoff;

(2) Measures to isolate, remove, or control toxic materials;

(3) Reshaping the area disturbed, application of the topsoil, and re-vegetation of disturbed areas, where reasonably practicable; and

(4) Rehabilitation of fisheries and wildlife habitat.

(d) The operator or lessee must substantially fill in, fence, protect, or close all surface openings, subsidence holes, surface excavations, or workings which are a hazard to people or animals. These protected areas must be maintained in a secure condition during the term of the lease or exploration license. During reclamation, but before abandonment of operations, all openings, including water discharge points, must be closed to the BLM's satisfaction. For in situ operations, all drilled holes must be plugged and abandoned, as required by the approved plan.

(e) The operator or lessee must reclaim or protect surface areas no longer needed for operations as contemporaneously as possible as required by the approved plan.

§ 3931.30 Suspension of operations and production.

(a) The BLM may, in the interest of conservation, agree to a suspension of lease operations and production. Applications by lessees for suspensions of operations and production must be filed in duplicate in the proper BLM office and must explain why it is in the interest of conservation to suspend operations and production.

(b) The BLM may order a suspension of operations and production if the suspension is necessary to protect the resource or the environment:

(1) While the BLM performs necessary environmental studies or analysis;

(2) To ensure that necessary environmental remediation or cleanup is being performed as a result of activity or inactivity on the part of the operator; or

(3) While necessary environmental remediation or cleanup is being performed as a result of unwarranted or unexpected actions.

(c) The term of any lease will be extended by adding thereto any period of suspension of operations and production during such term.

(d) A suspension will take effect on the date the BLM specifies. Rental, upcoming diligent development milestones, and minimum annual production will be suspended:

(1) During any period of suspension of operations and production beginning with the first day of the lease month on which the suspension of operations and production is effective; or

(2) If the suspension of operations and production is effective on any date other than the first day of a lease month, beginning with the first day of the lease month following such effective date.

(e) The suspension of rental and minimum annual production will end on the first day of the lease month in which the suspension ends.

(f) The minimum annual production requirements of a lease will be proportionately reduced for that portion of a lease year for which a suspension of operations and production is directed or granted by the BLM, as would any payments in lieu of production.

§ 3931.40 Exploration.

To conduct exploration operations under an exploration license or on a lease after lease issuance, but prior to approval of the POD, the following rules apply:

(a) Except for casual use, before conducting any exploration operations on federally-leased or federally-licensed lands, the operator or lessee must submit to the proper BLM office for approval 3 copies of the exploration

plan or a copy of the plan in an acceptable electronic format. Contact the proper BLM office for detailed information on submitting copies electronically. As used in this paragraph, casual use means activities that do not cause appreciable surface disturbance or damage to lands or other resources and improvements. Casual use does not include use of heavy equipment, explosives, or vehicular movement off established roads and trails.

(b) The exploration activities must be consistent with the requirements of the underlying Federal lease or exploration license, and address protection of recoverable oil shale reserves and other resources and reclamation of the surface of the lands affected by the exploration operations. The exploration plan must meet the requirements of § 3931.20 and must show how reclamation will be an integral part of the proposed operations and that reclamation will progress as contemporaneously as practicable with operations.

§ 3931.41 Content of exploration plan.

Exploration plans must contain the following:

(a) The name, address, and telephone number of the applicant, and, if applicable, that of the operator or lessee of record;

(b) The name, address, and telephone number of the representative of the applicant who will be present during, and responsible for, conducting exploration;

(c) A description of the proposed exploration area, cross-referenced to the map required under paragraph (h) of this section, including:

(1) Applicable Federal lease and exploration license serial numbers;

(2) Surface topography;

(3) Geologic, surface water, and other physical features;

(4) Vegetative cover;

(5) Endangered or threatened species listed under the Endangered Species Act of 1973 (16 U.S.C. 1531 *et seq.*) that may be affected by exploration operations;

(6) Districts, sites, buildings, structures, or objects listed on, or eligible for listing on, the National Register of Historic Places that may be present in the lease area; and

(7) Known cultural or archaeological resources located within the proposed exploration area;

(d) A description of the methods to be used to conduct oil shale exploration, reclamation, and abandonment of operations including, but not limited to:

(1) The types, sizes, numbers, capacity, and uses of equipment for drilling and blasting, and road or other access route construction;

(2) Excavated earth-disposal or debris-disposal activities;

(3) The proposed method for plugging drill holes; and

(4) The estimated size and depth of drill holes, trenches, and test pits;

(e) An estimated timetable for conducting and completing each phase of the exploration, drilling, and reclamation;

(f) The estimated amounts of oil shale or oil shale products to be removed during exploration, a description of the method to be used to determine those amounts, and the proposed use of the oil shale or oil shale products removed;

(g) A description of the measures to be used during exploration for Federal oil shale to comply with the performance standards for exploration (§§ 3930.10 and 3930.11);

(h) A map at a scale of 1:24,000 or larger showing the areas of land to be affected by the proposed exploration and reclamation. The map must show:

(1) Existing roads, occupied dwellings, and pipelines;

(2) The proposed location of trenches, roads, and other access routes and structures to be constructed;

(3) Applicable Federal lease and exploration license boundaries;

(4) The location of land excavations to be conducted;

(5) Oil shale exploratory holes to be drilled or altered;

(6) Earth-disposal or debris-disposal areas;

(7) Existing bodies of surface water; and

(8) Topographic and drainage features; and

(i) The name and address of the owner of record of the surface land, if other than the United States. If the surface is owned by a person other than the applicant or if the Federal oil shale is leased to a person other than the applicant, include evidence of authority to enter that land for the purpose of conducting exploration and reclamation.

§ 3931.50 Exploration plan and plan of development modifications.

(a) The operator or lessee may apply in writing to the BLM for modification of the approved exploration plan or POD to adjust to changed conditions, new information, improved methods, and new or improved technology or to correct an oversight. To obtain approval of an exploration plan or POD modification, the operator or lessee must submit to the proper BLM office a written statement of the proposed modification and the justification for such modification.

(b) The BLM may require a modification of the approved exploration plan or POD.

(c) The BLM may approve a partial exploration plan or POD, if circumstances warrant, or if development of an exploration or POD for the entire operation is dependent upon unknown factors that cannot or will not be determined until operations progress. The operator or lessee must not, however, perform any operation not covered in a BLM-approved plan.

§ 3931.60 Maps of underground and surface mine workings and in situ surface operations.

Maps of underground workings and surface operations must be to a scale of 1:24,000 or larger if the BLM requests it. All maps must be appropriately marked with reference to government land marks or lines and elevations with reference to sea level. When required by the BLM, include vertical projections and cross sections in plan views. Maps must be based on accurate surveys and certified by a professional engineer, professional land surveyor, or other professionally qualified person. Accurate copies of such maps must be furnished by the operator to the BLM when and as required. All maps submitted must be in a format acceptable to the BLM. Contact the proper BLM office for information on what is the acceptable format to submit maps.

§ 3931.70 Production maps and production reports.

(a) Report production of all oil shale products or by-products to the BLM on a quarterly basis no later than 30 calendar days after the end of the reporting period.

(b) Report all production and royalty information to the MMS under 30 CFR parts 210 and 216.

(c) Submit production maps to the proper BLM office no later than 30 calendar days after the end of each royalty reporting period or on a schedule determined by the BLM. Show all excavations in each separate bed or deposit on the maps so that the production of minerals for any period can be accurately ascertained. Production maps must also show surface boundaries, lease boundaries, topography, and subsidence resulting from mining activities.

(d) If the lessee or operator does not provide the BLM the maps required by this section, the BLM will employ a licensed mine surveyor to make a survey and maps of the mine, and the cost will be charged to the operator or lessee.

(e) If the BLM believes any map submitted by an operator or lessee is incorrect, the BLM may have a survey performed, and if the survey shows the map submitted by the operator or lessee to be substantially incorrect in whole or in part, the cost of performing the survey and preparing the map will be charged to the operator or lessee.

(f) For in situ development operations, the lessee or operator must submit a map showing all surface installations, including pipelines, meter locations, or other points of measurement necessary for production verification as part of the POD. All maps must be modified as necessary for adequate representation of existing operations.

(g) Within 30 calendar days after well completion, the lessee or operator must submit to the proper BLM office 2 copies of a completed Form 3160-4, Well Completion or Recompletion Report and Log, limited to information that is applicable to oil shale operations. Well logs may be submitted electronically using a BLM-approved electronic format. Describe surface and bottom-hole locations in latitude and longitude.

§ 3931.80 Core or test hole samples and cuttings.

(a) Within 90 calendar days after drilling completion, the operator or lessee must submit to the proper BLM office a signed copy of records of all core or test holes made on the lands covered by the lease or exploration license. The records must show the position and direction of the holes on a map. The records must include a log of all strata penetrated and conditions encountered, such as water, gas, or unusual conditions, and copies of analysis of all samples. Provide this information to the proper BLM office in either paper copy or in a BLM-approved electronic format. Contact the proper BLM office for information on submitting copies electronically. Within 30 calendar days after its creation, the operator or lessee must also submit to the proper BLM office a detailed lithologic log of each test hole and all other in-hole surveys or other logs produced. Upon the BLM's request, the operator or lessee must provide to the BLM splits of core samples and drill cuttings.

(b) The lessee or operator must abandon surface exploration drill holes for development or holes for exploration to the BLM's satisfaction by cementing or casing or by other methods approved in advance by the BLM. Abandonment must be conducted in a manner to protect the surface and not endanger

any present or future underground or surface operation or any deposit of oil, gas, other mineral substances, or ground water.

(c) Operators may convert drill holes to surveillance wells for the purpose of determining the effect of subsequent operations upon the quantity, quality, or pressure of ground water or mine gases. The BLM may require such conversion or the operator may request that the BLM approve such conversion. Prior to lease or exploration license termination, all surveillance wells must be plugged and abandoned and reclaimed, unless the surface owner assumes responsibility for reclamation of such surveillance wells. The transfer of liability for reclamation will not be considered complete until the BLM approves it in writing.

(d) Drilling equipment must be equipped with blowout control devices suitable for the pressures encountered and acceptable to the BLM.

§ 3931.100 Boundary pillars and buffer zones.

(a) For underground mining operations, all boundary pillars must be at least 50 feet thick, unless otherwise specified in writing by the BLM. Boundary and other main pillars may be mined only with the BLM's prior written consent or on the BLM's order. For in-situ operations, a 50-foot buffer zone from the Federal lease line is required.

(b) If the oil shale on adjacent Federal lands has been worked out beyond any boundary pillar and no hazards exist, the operator or lessee must, on the BLM's written order, mine out and remove all available oil shale in such boundary pillar, both in the lands covered by the lease and in the adjacent Federal lands, when the BLM determines that such oil shale can be mined safely without undue hardship to the operator or lessee.

(c) If the mining rights in adjacent lands are privately owned or controlled, the lessee must have an agreement with the owners of such interests for the extraction of the oil shale in the boundary pillars.

Subpart 3932—Lease Modifications and Readjustments

§ 3932.10 Lease size modification.

(a) A lessee may apply for a modification of a lease to include Federal lands adjacent to those in the lease. The total area of the lease, including the acreage in the modification application and any previously authorized modification, must not exceed the maximum lease size (see § 3927.20).

(b) An application for modification of the lease size must:

(1) Be filed with the proper BLM office;

(2) Contain a legal land description of the additional lands involved;

(3) Contain an explanation of how the modification would meet the criteria in § 3932.20(a) that qualify the lease for modification;

(4) Explain why the modification would be in the best interest of the United States;

(5) Include a nonrefundable processing fee that the BLM will determine under § 3000.11 of this chapter; and

(6) Include a signed qualifications statement consistent with subpart 3902 of this chapter.

§ 3932.20 Lease modification land availability criteria.

(a) The BLM may grant a lease modification if:

(1) There is no competitive interest in the lands covered by the modification application;

(2) The lands covered by the modification application cannot be reasonably developed as part of another independent federally-approved operation;

(3) The modification would be in the public interest; and

(4) The modification does not cause a violation of lease size limitations under § 3927.20 of this chapter or acreage limitations under § 3901.20 of this chapter.

(b) The BLM may approve adding lands covered by the modification application to the existing lease without competitive bidding, but before the BLM will approve adding lands to the lease, the applicant must pay in advance the FMV for the interests to be conveyed.

(c) Before modifying a lease, the BLM will prepare any necessary NEPA analysis covering the proposed lease area under 40 CFR parts 1500 through 1508 and recover the cost of such analysis from the applicant.

§ 3932.30 Terms and conditions of a modified lease.

(a) The terms and conditions of a lease modified under this subpart will be made consistent with the laws, regulations, and land use plans applicable at the time the lands are added by the modification.

(b) The royalty rate for the lands in the modification is the same as for the lease.

(c) Before the BLM will approve a lease modification, the lessee must file a written acceptance of the conditions in the modified lease and a written

consent of the surety under the bond covering the original lease as modified. The lessee must also submit evidence that the bond has been amended to cover the modified lease and pay BLM processing costs.

§ 3932.40 Readjustment of lease terms.

(a) Except as provided in paragraph (b) of this section, all leases are subject to readjustment of lease terms, conditions, and stipulations at the end of the first 20-year period (the primary term of the lease) and at the end of each 10-year period thereafter.

(b) Royalty rates will be subject to readjustment at the end of the primary term and every 20 years thereafter.

(c) At least 30 days prior to the expiration of the readjustment period, the BLM will notify the lessee by written decision if any readjustment is to be made and of the proposed readjusted lease terms, including any revised royalty rate.

(d) Readjustments may be appealed. In the case of an appeal, unless the readjustment is stayed by the IBLA or the courts, the lessee must comply with the revised lease terms, including any revised royalty rate, pending the outcome of the appeal.

Subpart 3933—Assignments and Subleases

§ 3933.10 Leases or licenses subject to assignment or sublease.

Any lease may be assigned or subleased and any exploration license may be assigned in whole or in part to any person, association, or corporation that meets the qualification requirements in subpart 3902 of this chapter. The BLM may approve or disapprove assignments and subleases. A licensee proposing to transfer or assign a license must first offer, in writing, to all other participating parties in the license, the opportunity to acquire the license (the right of first refusal).

§ 3933.20 Filing fees.

Each application for assignment or sublease of record title or overriding royalty must include a nonrefundable filing fee of \$60. The BLM will not accept any assignment that does not include the filing fee.

§ 3933.31 Record title assignments.

(a) File in triplicate at the proper BLM office a separate instrument of assignment for each assignment. File the assignment application within 90 calendar days after the date of final execution of the assignment instrument and with it include the:

(1) Name and current address of assignee;

(2) Interest held by assignor and interest to be assigned;

(3) Serial number of the affected lease or license and a description of the lands to be assigned as described in the lease or license;

(4) Percentage of overriding royalties retained; and

(5) Dated signature of assignor.

(b) The assignee must provide a single copy of the request for approval of assignment which must contain a:

(1) Statement of qualifications and holdings as required by subpart 3902 of this chapter;

(2) Date and the signature of the assignee; and

(3) Nonrefundable filing fee of \$60.

(c) The approval of an assignment of all interests in a specific portion of the lands in a lease or license will create a separate lease or license, which will be given a new serial number.

§ 3933.32 Overriding royalty interests.

File at the proper BLM office, for record purposes only, all overriding royalty interest assignments within 90 calendar days after the date of execution of the assignment.

§ 3933.40 Account status.

The BLM will not approve an assignment unless the lease or license account is in good standing.

§ 3933.51 Bond coverage.

Before the BLM will approve an assignment, the assignee must submit to the proper BLM office a new bond in an amount to be determined by the BLM, or, in lieu thereof, documentation of consent of the surety on the present bond to the substitution of the assignee as principal (see subpart 3904 of this chapter).

§ 3933.52 Continuing responsibility under assignment and sublease.

(a) The assignor and its surety are responsible for the performance of any obligation under the lease or license that accrues prior to the effective date of the BLM's approval of the assignment. After the effective date of the BLM's approval of the assignment, the assignee and its surety are responsible for the performance of all lease or license obligations that accrue after the effective date of the BLM's approval of the assignment, notwithstanding any terms in the assignment to the contrary. If the BLM does not approve the assignment, the purported assignor's obligation to the United States continues as though no assignment had been filed.

(b) After the effective date of approval of a sublease, the sublessor and

sublessee are jointly and severally liable for the performance of all lease obligations, notwithstanding any terms in the sublease to the contrary.

§ 3933.60 Effective date.

An assignment or sublease takes effect, so far as the United States is concerned, on the first day of the month following the BLM's final approval, or if the assignee requests it in advance, the first day of the month of the approval.

§ 3933.70 Extensions.

The BLM's approval of an assignment or sublease does not extend the term or the readjustment period of the lease (see § 3932.40) or the term of the exploration license.

Subpart 3934—Relinquishments, Cancellations, and Terminations

§ 3934.10 Relinquishments.

(a) A lease or exploration license or any legal subdivision thereof may be surrendered by the record title holder by filing a written relinquishment, in triplicate, in the BLM State Office having jurisdiction over the lands covered by the relinquishment.

(b) To be relinquished, the lease account must be in good standing and the relinquishment must be considered to be in the public interest.

(c) A relinquishment will take effect on the date the BLM approves it, subject to the:

(1) Continued obligation of the lessee or licensee and surety to make payments of all accrued rentals and royalties;

(2) The proper rehabilitation of the lands to be relinquished to a condition acceptable to the BLM under these regulations;

(3) Terms of the lease or license; and

(4) Approved exploration plan or development plan.

(d) Prior to relinquishment of an exploration license, the licensee must give any other parties participating in activities under the exploration license the opportunity to take over operations under the exploration license. The licensee must provide to the BLM written evidence that the offer was made to all other parties participating in the exploration license.

§ 3934.21 Written notice of default.

The BLM will provide the lessee or licensee written notice of any default, breach, or cause of forfeiture, and provide a time period of 30 calendar days to correct the default, to request an extension of time in which to correct the default, or to submit evidence showing why the BLM is in error and why the lease should not be canceled or exploration license terminated.

§ 3934.22 Causes and procedures for lease cancellation.

(a) The BLM will take appropriate steps in a United States District Court of competent jurisdiction to institute proceedings for the cancellation of the lease if the lessee:

(1) Does not comply with the provisions of the Act as amended and other relevant statutes;

(2) Does not comply with any applicable regulations; or

(3) Defaults in the performance of any of the terms, covenants, and stipulations of the lease, and the BLM does not formally waive the default, breach, or cause of forfeiture.

(b) A waiver of any particular default, breach, or cause of forfeiture will not prevent the cancellation and forfeiture of the lease for any other default, breach, or cause of forfeiture, or for the same cause occurring at any other time.

§ 3934.30 License terminations.

The BLM may terminate an exploration license if:

(a) The BLM issued it in violation of any law or regulation, or if there are substantive factual errors, such as a lack of title;

(b) The licensee does not comply with the terms and conditions of the exploration license; or

(c) The licensee does not comply with the approved exploration plan.

§ 3934.40 Payments due.

If a lease is canceled or relinquished for any reason, all bonus, rentals, royalties, and minimum royalties paid will be forfeited, and any amounts not paid will be immediately payable to the United States.

§ 3934.50 Bona fide purchasers.

The BLM will not cancel a lease or an interest in a lease of a purchaser if at the time of purchase the purchaser was not aware and could not have reasonably determined from the BLM records the existence of a violation of any of the following:

(a) Federal regulatory requirements;

(b) The Act, as amended; or

(c) Lease terms and conditions.

Subpart 3935—Production and Sale Records

§ 3935.10 Accounting records.

(a) Operators or lessees must maintain records that provide an accurate account of, or include all:

(1) Oil shale mined;

(2) Oil shale put through the processing plant and retort;

(3) Mineral products produced and sold;

(4) Shale oil products, shale gas, and shale oil by-products sold; and

(5) Shale oil products and by-products that are consumed on-lease for the beneficial use of the lease.

(b) The records must include relevant quality analyses of oil shale mined or processed and of all products including synthetic petroleum, shale oil, shale gas, and shale oil by-products sold.

(c) Production and sale records must be made available for the BLM's examination during regular business hours.

Subpart 3936—Inspection and Enforcement

§ 3936.10 Inspection of underground and surface operations and facilities.

Operators, licensees, or lessees must allow the BLM, at any time, either day or night, to inspect or investigate underground and surface mining, in situ, or exploration operations to determine compliance with lease or license terms and conditions, compliance with the approved exploration or development plans, and to verify production.

§ 3936.20 Issuance of notices of noncompliance and orders.

(a) If the BLM determines that an operator, licensee, or lessee has not complied with established requirements, the BLM will issue to the operator, licensee, or lessee a notice of noncompliance.

(b) If operations threaten immediate, serious, or irreparable damage to the environment, the mine or deposit being mined, or other valuable mineral deposits or other resources, the BLM

will order the cessation of operations and will require the operator, licensee, or lessee to revise the POD or exploration plan.

(c) The operator, licensee, or lessee will be considered to have received all orders or notices of noncompliance and orders that the operator, licensee, or lessee receives by personal delivery or certified mail. The BLM will consider service of any notice of noncompliance or order to have occurred 7 business days after the date the notice or order is mailed. Verbal orders and notices may be given to officials at the mine or exploration site, but the BLM will confirm them in writing within 10 business days.

§ 3936.30 Enforcement of notices of noncompliance and orders.

(a) If the operator, licensee, or lessee does not take action in accordance with the notice of noncompliance, the BLM may issue an order to suspend or cease operations or initiate legal proceedings to cancel the lease or terminate the license under subpart 3934 .

(1) A notice of noncompliance will state how the operator, licensee, or lessee has not complied with established requirements, and will specify the action which must be taken to correct the noncompliance and the time limits within which such action must be taken. The operator, licensee, or lessee must notify the BLM when noncompliance items have been corrected.

(2) If the operator, licensee, or lessee does not comply with the notice of

noncompliance or order within the specified time frame, the operator, licensee, or lessee may be ordered to pay an assessment of \$500 per day for each incident of noncompliance that is not corrected until the noncompliance is corrected to the BLM's satisfaction.

(3) Noncompliance with the approved exploration or development plan that results in wasted resource may result in the lessee or licensee being assessed royalty at the market value, in addition to the noncompliance assessment.

(b) If the BLM determines that the failure to comply with the exploration or development plan threatens health or human safety or immediate, serious, or irreparable damage to the environment, the mine or the deposit being mined or explored, or other valuable mineral deposits or other resources, the BLM may, either in writing or verbally followed with written confirmation within 5 business days, order the cessation of operations or exploration without prior notice.

§ 3936.40 Appeals.

Notices of noncompliance and orders or decisions issued under the regulations in this part may be appealed as provided in part 4 of this title. All decisions and orders by the BLM under this part remain effective pending appeal unless the BLM decides otherwise. A petition for the stay of a decision may be filed with the IBLA.

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