United States Government Accountability Office

Report to the Chairman,
Committee on Natural Resources,
House of Representatives

June 2015

# RENEWABLE ENERGY

# BLM Has Limited Assurance That Wind and Solar Projects Are Adequately Bonded

GAO-15-520

June 2015

# RENEWABLE ENERGY

## BLM Has Limited Assurance That Wind and Solar Projects Are Adequately Bonded

GAO Highlights

Highlights of GAO-15-520, a report to the Chairman, Committee on Natural Resources, House of Representatives

## Why GAO Did This Study

Renewable energy projects can affect thousands of acres of federal land and involve significant infrastructure. BLM directs renewable energy developers to obtain bonds to cover the costs of returning the land to its pre-developed condition when the project terminates, a process called reclamation. Reclamation can cost millions and take years to complete.

GAO was asked to review the bonding policies for renewable energy projects on federal land. This report examines (1) BLM's policies for the bonding of wind and solar projects on federal land; (2) the amount and types of bonds held by BLM for the reclamation of these projects, and how BLM tracks the bonds; and (3) the extent to which BLM ensures that bonds for wind and solar rights-of-way are adequate to cover reclamation costs. GAO conducted a file review of all 45 wind and solar development project rights-of-way with a bond as of April 15, 2014; analyzed data from BLM data systems; reviewed relevant federal laws, regulations, and BLM policies and procedures; and interviewed agency officials.

## What GAO Recommends

GAO recommends, among other things, that BLM develop policies on documenting bonding decisions, the proper handling and storage of bonds, and timely data entry. GAO also recommends that BLM take steps to ensure projects are periodically reviewed to ensure bond adequacy. Interior generally concurred with GAO's recommendations.

View GAO-15-520. For more information, contact Anne-Marie Fennell at (202) 512-3841 or fennella@gao.gov.

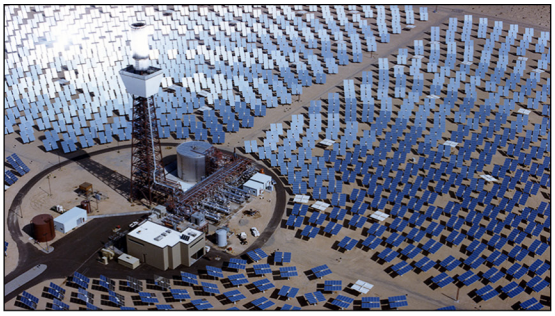
## What GAO Found

The Department of the Interior's Bureau of Land Management (BLM) has different policies for the bonding of wind and solar projects on federal land. For example, BLM's 2008 wind policy established minimum bond amounts, but BLM's 2010 solar policy set no minimum. However, the agency has issued a proposed rule that would establish consistent requirements for the bonding of the two types of projects in several areas, including minimum bond amounts.

BLM has about $100 million in bonds for the reclamation of wind and solar projects on federal land. These bonds are primarily letters of credit and surety bonds. BLM has two data systems for tracking bonds, but GAO found that neither system is reliable for this purpose. Specifically, GAO found instances in both systems where information was missing or inaccurate, or had not been updated. The agency does not have a timeliness standard for wind and solar data entry, contrary to having such a standard for its mining program. Without accurate or complete information, BLM has limited assurance that its data systems are reliable for tracking wind and solar bonds to ensure that bonding policies are being followed and that projects have the required bonds.

BLM has limited assurance that bonds for wind and solar rights-of-way will cover reclamation costs, leaving the federal government potentially at financial risk if developers do not complete reclamation. GAO found about one-third of the wind and solar rights-of-way were underbonded by as much as $15 million in total. Also, BLM did not clearly document how it made its bond decisions, contrary to government standards that call for documentation of significant events. Specifically, GAO found that for about two-thirds of the wind rights-of-way, there was little or no documentation to support the bond amount. In addition, BLM does not adequately ensure that wind and solar bond instruments are properly secured, handled, and stored and does not have policies related to this. In one BLM field office, a staff member told GAO that someone mistakenly shredded several bonds. BLM also does not consistently adhere to its policies calling for periodic review of wind and solar bond amounts to verify their adequacy. GAO found about half of the bonds were at least 4 months overdue for review. BLM officials acknowledged that automatic notifications could be established in their data system as to when reviews are due. Without policies to document decisions and properly secure bonds, and steps to ensure bond adequacy reviews, BLM has limited assurance that bonds in place will be adequate to cover reclamation.

**Examples of Wind and Solar Projects**



Source: National Renewable Energy Laboratory. | GAO-15-520

# Contents



Tables



Figures

## Abbreviations

| | |
|---|---|
| BLM | Bureau of Land Management |
| Interior | Department of the Interior |
| LR2000 | Legacy Rehost 2000 System |

U.S. GOVERNMENT ACCOUNTABILITY OFFICE
441 G St. N.W.
Washington, DC 20548

June 5, 2015

The Honorable Rob Bishop
Chairman
Committee on Natural Resources
House of Representatives

Dear Mr. Chairman:

The Department of the Interior's (Interior) Bureau of Land Management (BLM) manages more federal land than any other agency—more than 245 million surface acres—and these lands are increasingly being tapped to meet the nation's growing demand for energy. BLM plays a key role in managing energy produced on these lands, including energy from renewable resources. Through the Energy Policy Act of 2005, Congress encouraged the Secretary of the Interior to approve non-hydropower renewable energy projects, including wind and solar projects, with a total combined capacity to generate at least 10,000 megawatts of electricity on federal lands by 2015. In 2012, BLM met this goal by approving projects with a total combined capacity to generate more than 12,000 megawatts of renewable energy.[1] In June 2013, the President proposed an expansion in renewable energy construction projects and set a new goal for Interior to approve a renewable energy capacity of at least 20,000 megawatts of electricity from projects on federal land. That would be enough capacity to power more than 6 million homes by 2020.

Projects to produce energy from renewable resources can affect thousands of acres of federal land and involve significant infrastructure. For example, one solar project on federal land in California covers approximately 3,500 acres and requires buildings, access roads, wastewater treatment facilities, perimeter fencing, and power lines. The projects may require developers to alter the land's topography or remove vegetation, physically or through the use of herbicides, and these actions may affect the site itself or have potential downstream or off-site effects. As a condition of BLM's authorization for renewable energy projects, the

[1]We discussed BLM's efforts to meet this goal in GAO, *Renewable Energy: Agencies Have Taken Steps Aimed at Improving the Permitting Process for Development on Federal Lands,* GAO-13-189 (Washington, D.C.: Jan. 18, 2013).

developer must agree to remove infrastructure elements and return the land to its pre-developed condition when the project terminates, a process called reclamation. Reclamation can cost millions and take years to complete. For example, the current estimate for the reclamation of federal land involved in the California solar project mentioned earlier is approximately $30 million. According to BLM officials, as of April 2014, BLM has not had to reclaim any wind or solar energy development projects.

To ensure compliance with applicable requirements, including requirements to reclaim project sites, BLM requires operators of wind and solar energy projects on federal lands to obtain bonds. For the purposes of this report, all financial instruments used to cover reclamation costs will be referred to as bonds.[2] If an operator fails to return the land to its pre-developed state, the bond can be used to cover any reclamation costs the federal government may incur. If the bonds are inadequate to cover reclamation costs and the federal government is unable to recover additional costs from the developer, the federal government may have to pay the reclamation costs. Concerns have been raised about whether bonds held by the federal government are sufficient to cover estimated reclamation costs. In particular, a 2012 report by Interior's Office of Inspector General found that wind projects were not always bonded as required, and some projects either had no bonds in place or an insufficient bond for the authorized operation.[3]

You asked us to examine BLM's bonding of wind and solar projects on federal land. This report examines (1) BLM's policies for the bonding of wind and solar projects on federal land; (2) the amount and types of bonds held by BLM for the reclamation of wind and solar projects, and how BLM tracks these bonds; and (3) the extent to which BLM ensures that bonds for wind and solar rights-of-way are adequate to cover reclamation costs.

[2]Financial instruments include irrevocable letters of credit, surety bonds, personal bonds, and treasury securities, among others.

[3]Department of the Interior, Office of Inspector General, *Bureau of Land Management's Renewable Energy Program: A Critical Point in Renewable Energy Development,* CR-EV-BLM-0004-2010 (Washington, D.C.: June 12, 2012).

To determine BLM's policies for bonding wind and solar projects, we reviewed the agency's policies regarding bonding, the reclamation activities that the bonds are to cover, and the frequency with which bonds are to be reviewed. We compared bonding provisions, such as minimum bond amounts, acceptable bond instruments, and the basis for determining bonds, in the wind and solar policies. We also reviewed BLM's Notice of Proposed Rulemaking—issued in September 2014—that would revise and codify the agency's current bonding policies for wind and solar projects. We interviewed BLM officials on the agency's efforts to revise and codify its bonding policies for wind and solar energy projects and the rationale behind the change.

To determine the amount and types of bonds held by BLM, we obtained wind and solar project data as of April 15, 2014, from BLM's Legacy Rehost 2000 System (LR2000) and its Bond and Surety System, which are data systems used to capture information on wind and solar projects in addition to information on other types of BLM land and mineral use authorizations. We worked with BLM officials to resolve data discrepancies between the two systems and then analyzed the data to identify the bond amounts and types for each right-of-way.[4] To determine how BLM tracks these bonds, we interviewed officials in BLM headquarters, and all 9 state and 11 field offices with wind or solar energy development projects to understand how LR2000 and the Bond and Surety System are used, the frequency of updates, and the reliability of the data in each system.

To determine the extent to which BLM ensures that bonds for wind and solar rights-of-way are adequate to cover reclamation costs, we conducted an in-depth file review of all wind and solar energy development projects—45 in total—for which BLM held a bond on April 15, 2014, and interviewed BLM officials and other stakeholders. We compared the bond held with what is specified in BLM's wind and solar policies, as well as reclamation cost estimates in the project files, and determined the extent to which documentation of the bond decision is consistent with government standards for internal controls. Specifically, we reviewed key project documents, such as plans of operation or

[4]A "right-of-way" in this report's context is defined as an authorization to a qualified individual, business, or government entity to use a specific area of federal land for a specific amount of time for a certain purpose and with certain restrictions.

decommissioning and site reclamation plans.[5] We also spoke with BLM officials to determine compliance with existing BLM policies, the depth and detail of reclamation cost estimates, the extent of documentation supporting bond amounts, and the types of staff involved in determining bond amounts. In addition, we analyzed whether BLM was conducting reviews to ensure that bonds are in place, as is called for in BLM policies. We also obtained and analyzed data from LR2000 and the Bond and Surety System to identify bond amounts for comparison with bond amounts listed in the project files and the number of wind projects bonded at the minimum amount set by BLM policy, among other factors. Appendix I contains more detailed information on the objectives, scope, and methodology of our review.

We conducted this performance audit from January 2014 through May 2015 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

## Background

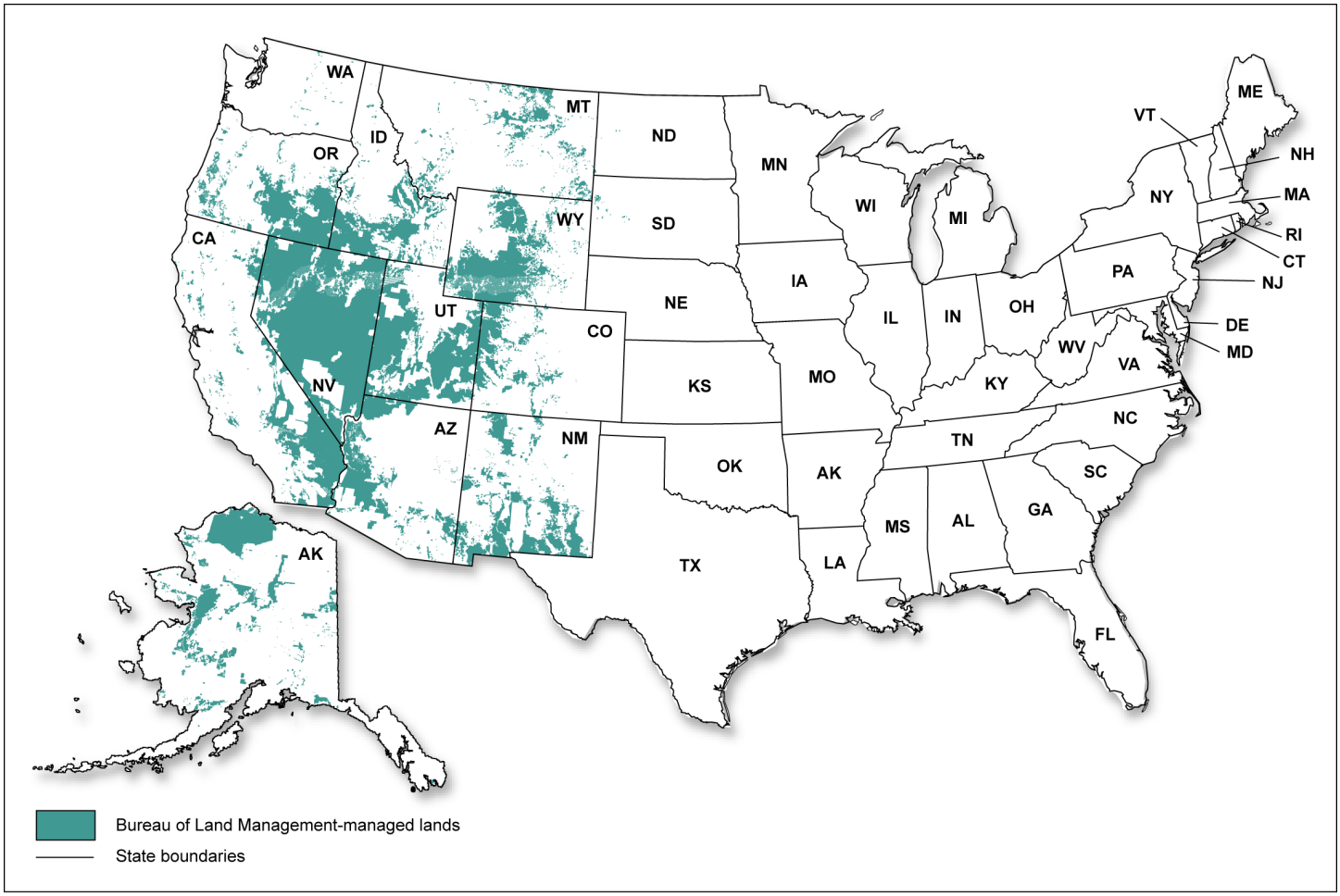
Renewable energy technologies generate electricity, fuels, or heat through the use of resources that are continually replenished, such as wind and sunlight. Electricity generation using wind or solar technology can range from small-scale production—for example, rooftop solar panels on a home—to utility-scale production of hundreds of megawatts of electricity, enough to power tens of thousands of homes.[6] Development of utility-scale renewable energy projects on federal land occurs primarily on lands managed by BLM. Several utility-scale wind projects have been operating on BLM-managed lands since the early 1980s, primarily in California. In May 2012, the first utility-scale solar power plant began operating on BLM-managed land. Currently, about 1 percent of the nation's electricity generated from wind and solar energy comes from

[5]A decommissioning and site reclamation plan defines the reclamation, revegetation, restoration, and soil stabilization requirements for the project area.

[6]For wind projects, the U.S. Department of Energy defines utility-scale as projects that generate 1.5 megawatts or greater and for solar projects, the BLM defines utility-scale as generating 20 megawatts or greater.

resources on federal lands. Figure 1 shows the federal lands managed by BLM.

**Figure 1: Bureau of Land Management-Managed Lands**




Source: BLM. | GAO-15-520

## Types of Wind and Solar Technologies Used for Wind and Solar Energy Development

The most common technologies for utility-scale wind and solar development include the following:

- **Wind energy.** Wind farms consist of a number of turbines built close together to produce utility-scale wind power. Horizontal-axis turbines, the most common, constitute nearly all utility-scale wind turbines in the United States.[7] (See fig. 2.) To generate electricity, horizontal-axis turbines capture the wind's energy with two or three propeller-like blades mounted on a rotor sitting atop a tower. A smaller utility-scale wind farm may have 6 turbines on 100 acres and generate about 3 megawatts, and a larger wind farm may have more than 100 turbines on about 10,000 acres, and generate approximately 300 megawatts.

[7]The other type of wind turbine is a vertical-axis turbine, which resembles an eggbeater.

**Figure 2: Horizontal-Axis Wind Turbines**

Source: National Renewable Energy Laboratory. | GAO-15-520

Horizontal-axis turbines capture the wind's energy with two or three propeller-like blades mounted on a rotor sitting atop a tower.

- **Solar energy.** Multiple technologies exist for utility-scale solar power, such as photovoltaic and concentrating solar power technologies. Solar photovoltaic technologies convert energy from sunlight directly into electricity, using arrays of solar panels. (See fig. 3.)

**Figure 3: Solar Photovoltaic Technology**

Source: National Renewable Energy Laboratory. | GAO-15-520

Solar photovoltaic technologies convert energy from sunlight directly into electricity, using arrays of solar panels.

Concentrating solar technologies use two types of mirrors with tracking systems, either curved (parabolic) or flat, to focus the sun's energy onto a small area. The concentrated light is then used to heat water or other fluids that create the steam to power a conventional turbine generator and produce electricity. Examples of concentrating solar power technologies include parabolic trough and power tower. Parabolic trough technology collects energy from the sun using parabolic mirrors that concentrate heat onto solar thermal equipment, often a tube filled with fluid that runs the length of the trough at its focal point; the heated transfer fluid then powers solar steam turbine generators. (See fig. 4.)

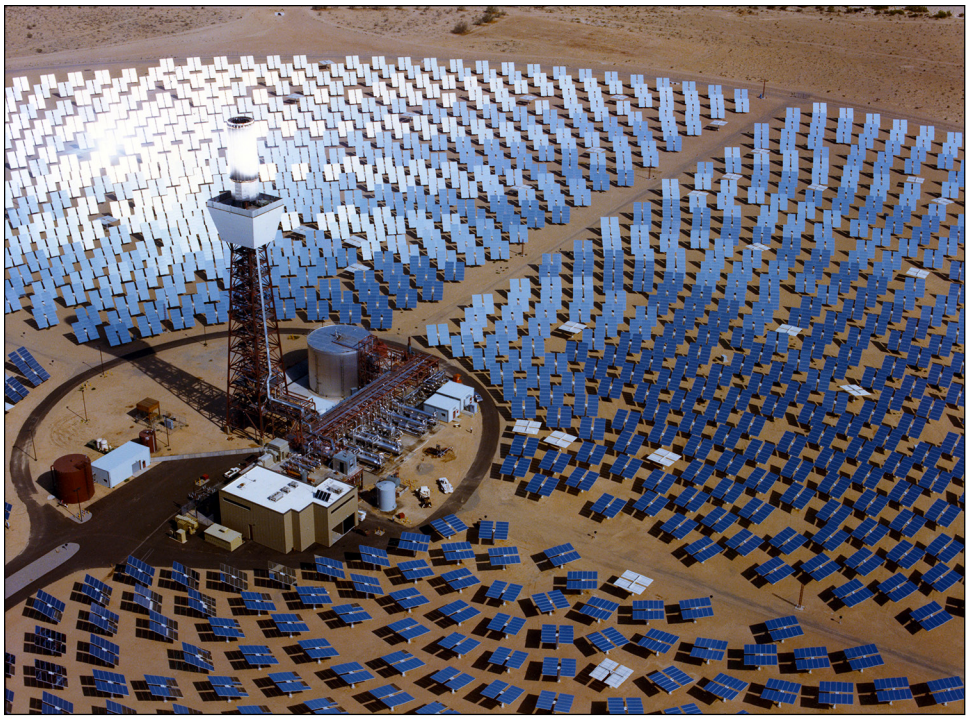
**Figure 4: Solar Parabolic Trough Technology**

Source: National Renewable Energy Laboratory. | GAO-15-520

Parabolic trough technology collects energy from the sun using parabolic mirrors that concentrate heat onto solar thermal equipment, often a tube filled with fluid that runs the length of the trough at its focal point; the heated transfer fluid then powers solar steam turbine generators.

A power tower system consists of an array of dual-axis tracking mirrors that concentrate sunlight on a central receiver atop a tower. The working fluid in the receiver is heated to 500-800 ºC and then used as a heat source for a power generation or energy storage system. (See fig. 5.)

**Figure 5: Solar Power Tower Technology**



Source: National Renewable Energy Laboratory. | GAO-15-520

A power tower system consists of an array of dual-axis tracking mirrors that concentrate sunlight on a central receiver atop a tower.

An average solar plant, whether photovoltaic or concentrating, requires about 3 to 8 acres for every megawatt of generating capacity. For example, a small utility-scale solar plant occupying about 600 acres may generate 50 megawatts, and a large facility occupying about 4,000 acres may generate 550 megawatts.

However it is generated, electricity from utility-scale wind and solar energy development is sold to utilities and conveyed to consumers through transmission lines, the same as electricity generated by more conventional sources such as coal- or gas-fired power plants.

Developing wind and solar energy projects on a scale large enough to generate substantial electric power can affect the environment in both the immediate vicinity and across hundreds, or even thousands, of acres of land depending on the energy source. For example, the turning rotors of a wind turbine may injure or kill birds and bats, and wind farms may fragment wildlife habitat and plant communities. In addition, solar

installations can affect habitat needed by various species, including those listed as threatened or endangered under the Endangered Species Act, such as the desert tortoise. Also, the water used in some solar technologies may diminish scarce groundwater in the arid Southwest.

## Federal Laws, Regulations, and BLM Policy for Wind and Solar Energy Projects

Wind and solar projects on BLM land are subject to federal laws and regulations as well as BLM policy. The Federal Land Policy and Management Act of 1976 authorizes BLM to issue rights-of-way on federal lands for a variety of purposes, including systems for generating, transmitting, and distributing electric energy. For purposes of this report, a right-of-way is an authorization to a qualified individual, business, or government entity to use a specific area of federal land for a specific amount of time for a certain purpose and with specific terms, conditions, and stipulations that, among other things, are intended to protect the environment, federal property and economic interests, and the public interest.[8] Right-of-way holders are required to restore, revegetate, and stabilize the land disturbed by wind and solar projects within a reasonable time, to a condition satisfactory to BLM, as approved by BLM in their Plan of Development.[9] For projects that may have a significant impact on the environment, the act requires applicants to submit a plan of construction, operation, and rehabilitation for the right-of-way that complies with applicable laws and regulations and the agency's stipulations. By accepting the right-of-way, the holder agrees to comply with all terms, conditions, and stipulations of the right-of-way. Federal regulations authorize BLM to require a right-of-way holder to provide a bond to secure the obligations imposed by the right-of-way. According to BLM policy, a bond is required for each wind and solar facility on federal land. BLM may require an increase or decrease in the value of an existing bond at any time during the term of the right-of-way, according to federal regulations.[10]

[8]Wind and solar projects can be comprised of multiple rights-of-way.

[9]A Plan of Development is a detailed construction, operation, rehabilitation, and environmental protection plan.

[10]43 C.F.R. § 2805.12(g) (2014).

## BLM's Management and Oversight of Wind and Solar Projects

BLM manages and oversees wind and solar projects as well as its other programs primarily through its headquarters, 12 state offices, 44 district offices, and 119 field offices. BLM's National Renewable Energy Coordination Office oversees wind and solar development on federal land.[11] The office also develops renewable energy policies and legislation, among other things. Realty specialists—located at the state, district, and field office level—administer the wind and solar rights-of-way, among other things.

BLM's process for authorizing a right-of-way begins with pre-application meetings between BLM and the prospective right-of-way applicant. Subsequently, the prospective applicant completes an application that includes a statement of technical and financial capability and a project description, and, for solar projects, a decommissioning and site reclamation plan.[12] BLM then reviews and evaluates the application, including associated environmental reviews under the National Environmental Policy Act.[13] Once BLM approves the application, BLM authorizes the right-of-way.[14] However, before the holder of the right-of-way can begin construction and land disturbance activities, BLM establishes the required bond amount—known as a bond determination—and notifies the right-of-way holder. Once the right-of-way holder obtains a bond and BLM determines that the bond is acceptable, BLM issues a notice to proceed.[15]

There are four different types of right-of-way authorizations for wind and solar energy projects on BLM land, including:

[11]The National Renewable Energy Coordination Office, within the Energy, Minerals, and Realty Management Directorate, was established in 2011. See Bureau of Land Management, Information Bulleting No. 2011-072, *Establishment of the National Renewable Energy Coordination Office* (June 27, 2011).

[12]A decommissioning and site reclamation plan defines the reclamation, revegetation, restoration, and soil stabilization requirements for the project area.

[13]National Environmental Policy Act, 42 U.S.C. §§ 4321-4347 (2015). Under the act, federal agencies are to evaluate the likely environmental effects of projects they are proposing.

[14]The right-of-way applicant becomes the right-of-way holder once BLM authorizes the right-of-way.

[15]This is a simplified description of the right-of-way authorization process. The process can vary, with multiple actions occurring simultaneously, depending on the complexity of the individual project.

- **Wind site-specific testing.** A site-specific right-of-way for individual meteorological towers and instrumentation facilities with a term that is limited to 3 years.[16]
- **Wind project area testing.** A project area right-of-way for a larger site testing and monitoring area, with a term of 3 years that may be renewed.[17]
- **Wind energy development.** A right-of-way to develop wind energy facilities generally for a term of 30 years that may be renewed. Facilities include wind turbines, as well as on-site access roads, electrical and distribution facilities, and other support.
- **Solar energy development.** A right-of-way to develop solar energy facilities for a term not to exceed 30 years that may be renewed.

BLM manages and oversees wind and solar projects in part by maintaining data on each project electronically in two data systems—LR2000 and the Bond and Surety System. LR2000 is BLM's electronic case recordation system that is used to capture information on the agency's land and mineral projects. In the case of wind and solar projects, BLM captures information such as the date the right-of-way was issued, acres authorized, project location, case status (e.g., authorized, expired, or closed), and the actions that have taken place. The system also contains bond information for wind and solar projects, including bond numbers, amounts, and bond actions, such as the date when a bond was filed, accepted, or returned. For wind projects, LR2000 contains the number of authorized turbines and towers. The Bond and Surety System contains bond information, such as the type and amount of bond, as well as actions taken, including the date when a bond was filed, accepted, or

[16]Meteorological towers—usually no taller than 60 meters—are mounted with guy lines for support and, in some cases, mounted to a cement foundation. Instrumentation facilities include, among other technologies, radar units that are generally mounted on trailers and towed in by light truck. The towers and instrumentation facilities have a relatively low environmental impact.

[17]Both wind site-specific testing and wind project area testing rights-of-way are used to determine whether a site's wind energy resources meet the potential for energy development.

returned.[18] BLM staff enter data about wind and solar projects into LR2000 as well as information about bonds into the Bond and Surety System.

## BLM Has Different Policies for Bonding Wind and Solar Projects, but a Proposed Rule Would Establish Consistent Requirements

BLM has different policies for the development of wind and solar energy on federal land, and each policy contains provisions related to bonding. The wind and solar bonding provisions differ in a number of ways, such as minimum bond amounts and acceptable bond instruments. However, the agency has issued a proposed rule that would, among other things, establish consistent requirements for the bonding of the two types of projects.

### BLM Has Different Bonding Policies for Wind and Solar Projects, but Similar Annual Certification Policies

In 2008, BLM issued a wind energy development policy that includes provisions for bonding wind energy projects on federal land.[19] Specifically, the policy established a minimum bond amount of $2,000 per meteorological tower for site-specific and project area testing rights-of-way and $10,000 per wind turbine for wind energy development rights-of-way. BLM is to determine the bond amount for all wind energy development projects during the right-of-way authorization process "on the basis of site-specific and project-specific factors," but the policy provides no further details on these factors or how to calculate the costs. BLM can consider the salvage value of the turbines and towers—the estimated resale value of the structures, equipment, or material at the time of removal—when setting bonds for development projects. The policy identifies the types of bond instruments that BLM will accept from the applicant, including cash, cashier's check or certified check, certificate of book entry deposits, negotiable U.S. Treasury bonds, or surety bonds.

[18]A bond is considered filed when BLM receives the bond instrument from the right-of-way holder. A bond is considered accepted once BLM reviews the bond, determines that it has been executed properly, and notifies the right-of-way holder of the bond's acceptance. A bond is considered returned when BLM returns the bond to the right-of-way holder after the holder has successfully completed reclamation, at which time a bond is no longer necessary.

[19]See Bureau of Land Management, IM 2009-043, *Wind Energy Development Policy* (Dec. 19, 2008).

However, BLM will not accept a letter of credit. BLM is to review all bonds for wind development rights-of-way at least once every 5 years to ensure that the bond amount is adequate.[20] Finally, the policy states that, for a wind energy site testing case, BLM staff are required to enter into the remarks section of LR2000 the number of meteorological towers authorized and located on federal land; for a wind energy development case, staff are required to enter the number of turbines and total megawatt capacity authorized and located on federal land.[21]

In 2010, BLM issued a solar energy development policy that includes provisions for bonding solar energy projects on federal land that differ from the bonding provisions of the wind policy.[22] Specifically, in contrast to the wind policy, the solar policy sets no minimum bond amount for solar energy development rights-of-way. Rather, the policy states that BLM is to base the bond amount on a reclamation cost estimate provided by the right-of-way applicant that consists of three components: (1) environmental liabilities; (2) decommissioning, removal, and disposal of improvements and facilities; and (3) reclamation, revegetation, restoration, and soil stabilization. A reclamation cost estimate is an estimate of what it would cost a third party to reclaim the site.[23] According to agency officials, the required bond can be higher, but never lower than the reclamation cost estimate. The policy states that the applicant is to submit the estimate as part of the decommissioning and site reclamation plan—which defines the reclamation, revegetation, restoration, and soil stabilization requirements for the project area—and the overall Plan of Development.

Unlike the wind policy, the solar policy states that BLM can use the agency's guidance for mining operations on federal land—guidance that includes detailed information about the process for determining appropriate bond amounts—to assist in calculating the bond amount for

[20]A bond adequacy review is a review to determine whether the bond amount is sufficient to cover the cost of reclamation.

[21]The remarks section of LR 2000 is a field used to record information associated with an LR2000 action code.

[22]IM 2011-003, *Solar Energy Development Policy* (Oct. 7, 2010).

[23]BLM's policy for mining operations on public lands, which is a reference tool for BLM's solar energy development policy, states that a bond must be sufficient to allow BLM to contract with a third party to reclaim the operations.

solar projects.[24] In addition to the acceptable bond instruments named in the wind policy, the solar policy allows BLM to accept irrevocable letters of credit payable to the agency and insurance policies for which the agency is named a beneficiary.[25] The appropriate Regional Solicitor for the Department of the Interior is to review each bond instrument prior to its acceptance by BLM. In addition, in contrast to the wind policy, BLM staff are to review annually all bonds for solar development rights-of-way to ensure that the bond amount is adequate to ensure compliance with the right-of-way authorization, including requirements to reclaim the disturbed land. BLM staff are also to review the bond at the time of any right-of-way assignment, amendment, or renewal. BLM may increase or decrease the bond amount at any time during the term of the right-of-way, consistent with the regulations.[26]

Table 1 summarizes the differences among the provisions contained in BLM's wind and solar bonding policies.

[24]For BLM's mining guidance, see Bureau of Land Management, IM 2009-153, *Financial Guarantees for Notices and Plans of Operation* (June 19, 2009).

[25]An irrevocable letter of credit is a written guarantee from a financial institution to pay BLM a specified sum of money if the right-of-way holder does not comply with the terms, conditions, and stipulations of the right-of-way. It cannot be changed or cancelled by the issuing financial institution without the approval of BLM.

[26]See 43 C.F.R. § 2805.12(g) (2014).

**Table 1: Differences between Provisions Contained in the Bureau of Land Management's Wind and Solar Bonding Policies**

| Policy provision | Wind | Solar |
|---|---|---|
| Minimum bond amount | $2,000 per meteorological tower; $10,000 per wind turbine. | None. |
| Basis for determining bond amount | For wind energy development, BLM is to consider "site-specific and project-specific factors," but no details on these factors are provided. BLM can consider salvage value of turbines and towers.[a] For wind site-specific and project area testing, bond amount may include potential reclamation and administrative costs to BLM. | BLM is to determine the bond amount based on a reclamation cost estimate that consists of three components, including (1) environmental liabilities; (2) decommissioning, removal, and disposal of improvements and facilities; and (3) reclamation, revegetation, restoration, and soil stabilization. |
| Reclamation cost estimate[b] | None required of the right-of-way applicant. | Required of the right-of-way applicant. |
| Calculation of bond amount | No guidance provided. | BLM guidance for mining operations can be used. |
| Acceptable bond instruments | Excludes letters of credit.[c] | Includes irrevocable letters of credit and insurance policies.[d] |
| Frequency of bond adequacy review[e] | At least once every 5 years. | Annually. |

Source: GAO analysis of BLM's wind and solar policies. | GAO-15-520

[a]Salvage value means the estimated resale value of the towers' and turbines' structures, equipment, and material.

[b]A reclamation cost estimate is an estimate of what it would cost a third party to reclaim the site.

[c]A letter of credit is a written guarantee from a financial institution to pay BLM a specified sum of money if the terms, conditions, and stipulations of the right-of-way are not met.

[d]An irrevocable letter of credit cannot be changed or cancelled by the issuing financial institution without the approval of BLM.

[e]A bond adequacy review is a review to determine whether the bond amount is sufficient to cover the cost of reclamation.

To help ensure compliance with provisions of the wind and solar bonding policies, BLM has two additional policies that direct BLM state directors to certify annually that all wind and solar energy rights-of-way within their respective states have the required bonds and that the bond data are entered into the Bond and Surety System.[27] This certification does not assess whether the amount of the bond would be sufficient to cover expected reclamation costs. Rather, the annual certification is intended to ensure that a bond has been provided or requested for each wind and

[27]See Bureau of Land Management, IM 2011-096, *Certification of Bonding—Wind Energy Site Testing and Wind Energy Development Authorization*s (Apr. 7, 2011), and IM 2013-034, *Oversight and Implementation Plan—Renewable Energy Coordination Office* (Dec. 20, 2012).

solar right-of-way. The certification is to be submitted to BLM headquarters within 30 days after the end of the fiscal year. If a right-of-way is missing a bond, BLM is to issue a letter of noncompliance to the holder, which includes the time frame in which to provide the bond. In addition, field office staff are to enter all bonds received for renewable energy projects into LR2000 and the Bonds and Surety System.[28]

## BLM Has Proposed a Rule That Would Establish Consistent Requirements for Wind and Solar Bonding

In September 2014, BLM issued a Notice of Proposed Rulemaking related to wind and solar development on federal lands and requested public comment.[29] The proposed rule would revise and codify existing policies and establish consistent requirements for the bonding of solar and wind energy projects. Specifically, the proposed rule would require bonds, set standard or minimum bond amounts, and establish procedures for determining those bond amounts. Requirements would differ based on whether projects were located in certain preferred areas—called designated leasing areas.

Specifically, for projects outside designated leasing areas, the proposed rule would establish a minimum bond amount per turbine of $20,000 for wind energy development projects—a doubling of the minimum amount currently set in BLM policy—and establish a minimum bond amount of $10,000 per acre for solar energy development projects. The minimum bond amount for wind energy site-specific or project area testing projects would remain at the amount currently set in BLM policy, that is, $2,000 per meteorological tower. The proposed rule would require both wind and solar right-of-way applicants to submit a reclamation cost estimate to help BLM to determine the bond amount, and would outline specific bond components that must be addressed when determining the estimated costs. These components are those outlined in BLM's 2010 solar energy development policy, including (1) environmental liabilities; (2) decommissioning, removal, and disposal of improvements and facilities; and (3) interim and final reclamation, revegetation, recontouring, and soil stabilization. The reclamation cost estimate is to also include the cost for

[28]IM 2013-034, Attachment 1, *Oversight and Implementation Plan, Solar and Wind Energy Policies*.

[29]Competitive Processes, Terms, and Conditions for Leasing Public Lands for Solar and Wind Energy Development and Technical Changes and Corrections, 79 Fed. Reg. 59,022 (Sept. 30, 2014) (to be codified at 43 C.F.R. pts. 2800 and 2880).

BLM to administer a reclamation contract. The proposed rule would require BLM to review a bond for adequacy when a replacement bond is filed. However, it would not require BLM to conduct periodic reviews to assess whether the bonds remain adequate to cover potential reclamation costs, as is specified in the current wind and solar policies. According to a BLM official, BLM plans to issue policies that would address adequacy reviews once the proposed rule is finalized. Under the proposed rule, acceptable bond instruments for both wind and solar projects would include cash, cashiers or certified check, certificate or book entry deposits, negotiable U.S. Treasury securities, surety bonds from an approved list of sureties, and irrevocable letters of credit, which would be a new option for wind projects. Insurance policies may also qualify as acceptable bond instruments.

For wind and solar development projects inside designated leasing areas, the proposed rule would establish a standard bond amount for wind energy development of $20,000 per turbine and $2,000 per meteorological tower, and a standard bond amount for solar energy development of $10,000 per acre. BLM proposed a standard bond amount for solar or wind energy development inside designated leasing areas because these areas would be identified by BLM as areas with lesser and fewer environmental and cultural resource conflicts. According to BLM officials, when a project terminates inside a designated leasing area, the agency would potentially reoffer the site for new wind or solar energy development. As a result, these sites would require less reclamation than if they needed to be fully reclaimed to their pre-developed condition. For this reason, the bond amount required would be lower than it would outside designated leasing areas, according to BLM officials. Under the proposed rule, right-of-way holders would not be required to submit a reclamation cost estimate, and the bond amounts would not be adjusted unless there is a change in use. For example, the removal of a wind turbine and subsequent reclamation could result in a decreased bond amount. The standard bond amounts would be subject to an adjustment every 10 years based on inflation. However, the proposed rule would not require BLM to conduct periodic reviews to assess whether the standard bond amounts remain adequate or whether they need to be adjusted based on factors other than inflation.

A BLM official told us that the agency expects the proposed rule to be finalized by the end of 2015. Once finalized, the official said BLM plans to rescind the current wind and solar policies and replace them with policies that would address, among other things, the bonding process and adequacy reviews not covered in the proposed rule.

## BLM Has About $100 Million in Bonds for Wind and Solar Projects, but the Systems for Tracking These Bonds Are Not Reliable

BLM has about $100 million in bonds—primarily in the form of letters of credit and surety bonds—for the reclamation of wind and solar rights-of-way on federal land. BLM tracks bonds through LR2000 and the Bond and Surety System, but we found that neither system was reliable for managing bonds.

### About $100 Million in Letters of Credit and Surety Bonds Secure Most Wind and Solar Energy Rights-of-Way

As of April 15, 2014, BLM held bonds valued at approximately $100 million to cover reclamation costs associated with 12 solar rights-of-way and 108 wind rights-of-way on federal land in 9 western states, according to our analysis of BLM data.[30] As shown in table 2, solar development bonds accounted for about 82 percent of the total value, with wind development bonds accounting for about 17 percent. Wind project area and site-specific testing projects accounted for less than 1 percent.

**Table 2: Value of Bonds Held by the Bureau of Land Management for Wind and Solar Projects, by Project Type and Amount, as of April 15, 2014**

| Project type | Amount | Percentage |
|---|---|---|
| Solar development | $82,615,899 | 82.2 |
| Wind development | $17,106,164 | 17.0 |
| Wind project area testing | $720,216 | 0.7 |
| Wind site-specific testing | $36,000 | <0.1 |
| **Total** | **$100,478,279** | **99.9** |

Source: GAO analysis of BLM bonding data. | GAO-15-520

Note: Percentage does not equal 100 because of rounding.

Of the approximately $100 million in bonds held by BLM for wind and solar rights-of-way, 48.9 percent were backed by letters of credit—and 39.2 percent by surety bonds. Personal bonds, including cash; Treasury

[30]We worked closely with BLM and obtained additional documentation to verify the data we used in our analyses. For more information on our methodology, see appendix I.

securities; guaranteed remittances; and time deposits accounted for the remaining bonds. See table 3.

**Table 3: Types of Bonds Held by the Bureau of Land Management for Wind and Solar Projects as of April 15, 2014**

| Bond type | Amount | Percentage |
|---|---|---|
| Letter of credit | $49,177,596 | 48.9 |
| Surety | $39,361,443 | 39.2 |
| Personal, including cash | $10,839,677 | 10.8 |
| Treasury security | $900,000 | 0.9 |
| Guaranteed remittance | $139,963 | 0.1 |
| Undetermined[a] | $47,600 | <0.1 |
| Time deposit | $12,000 | <0.1 |
| **Total** | **$100,478,279** | **99.9** |

Source: GAO analysis of BLM bonding data. | GAO-15-520

Notes: Percentage does not equal 100 because of rounding.

[a]"Undetermined" means that BLM could not provide the bond type.

## Information in LR2000 and the Bond and Surety System Is Not Reliable for Tracking Bonds

BLM tracks bonds through LR2000 and the Bond and Surety System, but we found that neither system was reliable for this purpose. Specifically, we found multiple instances in each system where information was missing, inaccurate, or had not been updated.

- **Missing information.** BLM's oversight and implementation plan for solar and wind energy policies directs field offices to enter all bonds received for renewable energy projects into LR2000 and the Bond and Surety System,[31] but we found instances where bonds had been entered into LR2000, but not into the Bond and Surety System. We also found instances where staff did not always enter in the remarks section of LR2000 the number of wind turbines or meteorological towers authorized and located on federal land, as directed by BLM's wind policy.

[31]IM 2013-034, Attachment 1, *Oversight and Implementation Plan; Solar and Wind Energy Policies*.

- **Inaccurate information.** We found instances in LR2000 and the Bond and Surety System where the type of right-of-way entered for the project was incorrect. For example, one wind development project's right-of-way had been incorrectly entered in both systems as a road right-of-way.[32] As a result, the bond had not been included in the annual state bond certification. When BLM reviewed the bond, the agency determined that the bond amount was approximately $90,000 less than the minimum set by BLM's wind policy.
- **Information had not been updated.** We found instances where a bond's status or amount had not been updated in one or both systems. In some cases, the data were several years out of date. Examples include:
  - In one case, LR2000 showed that a bond had been accepted for $40,000 in 1994 and an additional bond for the same right-of-way had been accepted for $160,000 in 2011, for a total bond amount of $200,000. However, BLM had not updated the Bond and Surety System to show that the $160,000 bond had been accepted, and the system contained no information on the $40,000 bond.
  - In another case, the Bond and Surety System showed a bond in the amount of approximately $150,000. However, LR2000 showed four additional payments totaling more than $500,000, bringing the total bond amount posted for this project to more than $650,000.
  - In a third case, both the Bond and Surety System and LR2000 showed that a bond in the amount of $110,000 had been filed with BLM in 2011, but BLM had not updated the bond status in either system to reflect that BLM had accepted the bond. However, the bond acceptance letter showed that the bond was accepted in 2012.

The LR2000 data standards for BLM's mining program state that all data must be routinely entered within 5 business days of each action taking place.[33] However, there is no such standard for entering wind and solar project data into LR2000.[34] Government standards for internal control call

[32]A road right-of-way is an authorization to construct a road on a segment of BLM land.

[33]Bureau of Land Management, *H-3809-1, Surface Management* (Sept. 17, 2012).

[34]Bureau of Land Management, *LR2000 Case Recordation Data Standards for the Lands and Realty Program* (revised Apr. 10, 2013).

for control activities, such as ensuring accurate and timely recording of transactions and events, to be in place to help ensure that actions are taken to address risks.[35] Furthermore, BLM has not issued data standards for the Bond and Surety System. Because information in these two data systems was missing, inaccurate, or out of date, BLM has limited assurance that either system is reliable for tracking wind and solar bonds to ensure that bonding policies are being followed and that all projects have the required bonds.

Officials told us that staff shortages and limited access to BLM's data systems may account for some of the inaccurate and missing data. Specifically, officials in several BLM state and field offices told us that because of a shortage of land law examiners—staff trained on data systems and requirements and responsible for entering data—the data entry is being done by realty specialists, who manage the rights-of-way and may not be as well trained in data entry.[36] Further, officials at some BLM state and field offices also said not all staff have access to the Bond and Surety System, which affects their ability to ensure that the bond information for their projects is complete, accurate, and matches what is in LR2000. An official in BLM headquarters told us that because access to the Bond and Surety System is limited, the information in that system is not as frequently updated or modified as the information in LR2000. If required data are not being correctly entered into the data systems, BLM may not have accurate and complete data with which to manage wind and solar bonds to ensure that bonding policies are being followed.

Problems with data entry and management are consistent with issues we found in our past work on bonding for BLM's hardrock mining and uranium mining. For example, in a report on hardrock mining, we recommended that BLM improve the reliability and sufficiency of LR2000, which the agency has done.[37] In addition, in our report on uranium mining, we recommended that BLM develop guidance to ensure accurate

[35]GAO, *Standards for Internal Control in the Federal Government,* GAO/AIMD-00-21.3.1 (Washington, D.C.: November 1999).

[36]Realty specialists are involved in a number of land management activities that include, among other things, administering rights-of-way.

[37]GAO, *Hardrock Mining: BLM Needs to Better Manage Financial Assurances to Guarantee Coverage of Reclamation Costs*, GAO-05-377 (Washington, D.C.: June 20, 2005).

and prompt data entry in LR2000.[38] BLM also implemented this recommendation. Similar problems were found by Interior's Office of Inspector General in its 2012 review of BLM's management of the renewable energy program.[39]

BLM has taken some limited steps to improve its bonding data. Specifically, to reduce potential errors or omissions in the bonding data in LR2000 and the Bond and Surety System, BLM made changes to link certain data in the two systems. Starting in late September 2014, when an action code showing that a bond has been filed, accepted, or returned is entered into the Bond and Surety System for a particular right-of-way, the same information is automatically entered into LR2000. However, when a bond action code is entered into LR2000, the same information must still be entered manually into the Bond and Surety System. In addition, these changes only apply to data entered into the Bond and Surety System starting in September 2014, so all previously entered data will not be added to LR2000 unless manually entered.

## BLM Has Limited Assurance That Bonds for Wind and Solar Rights-of-Way Will Cover Reclamation Costs

BLM has limited assurance that bonds for wind and solar rights-of-way will cover reclamation costs. Specifically, we found that 14 wind and solar development rights-of-way were underbonded by as much as $15 million in total. In addition, we found wide variation in how BLM staff documented bond decisions for wind and solar project rights-of-way. Further, BLM does not adequately ensure that wind and solar bond instruments are properly secured, handled, and stored. BLM also inconsistently adheres to its policies for the periodic review of the amounts of wind and solar bonds to verify their adequacy.

[38]GAO, *Uranium Mining: Opportunities Exist to Improve Oversight of Financial Assurances*, GAO-12-544 (Washington, D.C.: May 17, 2012).

[39]Department of the Interior, Office of Inspector General, *Bureau of Land Management's Renewable Energy Program: A Critical Point in Renewable Energy Development,* CR-EV-BLM-0004-2010 (Washington, D.C.: June 12, 2012).

## Fourteen Wind and Solar Rights-of-Way Were Underbonded

We found that 14 out of 45 wind and solar development rights-of-way were underbonded by as much as $15 million in total—approximately $5.5 million for wind rights-of-way and as much as $9 million for solar rights-of-way—according to our review of BLM project files and data.[40] Specifically, we identified 10 wind rights-of-way where the bond amount was lower than the $10,000-per-turbine minimum established in BLM's 2008 wind policy. These 10 rights-of-way were underbonded by a total of approximately $5.5 million. Nine of those rights-of-way were authorized prior to the 2008 policy; however, for rights-of-way that were authorized before the policy took effect, BLM officials told us they directed staff to obtain bonds that meet the $10,000-per-turbine minimum. BLM officials told us that they are in the process of obtaining bonds for these 9 rights-of-way. The remaining right-of-way was reauthorized in 2012 at about $1,500 per turbine.[41] BLM's files show that the bond amount for the right-of-way was determined using salvage values of the equipment. While salvage values may be considered in estimating reclamation costs, BLM officials told us the 2008 policy does not permit salvage values to be used to reduce the bond below the $10,000-per-turbine minimum.[42] BLM officials told us they are currently developing a reclamation cost estimate for this right-of-way, which will help them develop a revised bond. Since BLM accepted a bond amount that was lower than the $10,000-per-turbine minimum, BLM officials acknowledged that BLM was put at financial risk. BLM officials could offer no explanation for why a lower bond was accepted.

In addition, we found four solar rights-of-way that may be underbonded by as much as $9 million. These rights-of-way were part of a single solar project with a total estimated reclamation cost of approximately $27.5 million.[43] This figure includes $18.5 million for decommissioning and removal of project structures and equipment and $9 million for

[40]We reviewed all BLM wind and solar energy development projects—45 in total—for which BLM held a bond as of April 15, 2014.

[41]This right-of-way was underbonded by approximately $3.9 million.

[42]BLM officials told us that they had originally sought to bond this project above the minimum, at $25,000 per turbine based on the size of the turbines, but the right-of-way holder appealed the bond determination to the Interior Board of Land Appeals. The Interior Board of Land Appeals is an appellate review body for the Department of the Interior. According to BLM officials, the board decided to remand the decision to BLM.

[43]This project consists of four rights-of-way, each with their own bond.

revegetation and restoration. However, the project is currently bonded at $18.5 million, an amount that will only cover the decommissioning and removal of structures. BLM officials explained that because the project is in California—where recycling of materials is required—the $9 million estimated for revegetation and restoration would be covered by the salvage value of project structures removed during decommissioning. While the salvage value presented in the documents we reviewed may be sufficient to cover estimated revegetation and restoration costs, the project's documentation did not indicate that BLM officials included these costs when setting the total bond amount. Moreover, the documentation indicated that BLM based the bond amount on a decommissioning plan without salvage value estimates.[44]

When wind and solar rights-of-way are underbonded, BLM is at risk of having to assume responsibility for reclamation costs not covered by a bond if the right-of-way holder does not meet its obligations.

## BLM Did Not Clearly Document How It Made Bond Decisions

We found wide variation in how BLM staff documented bond decisions for wind and solar project rights-of-way. Specifically, for 21 of the 33 wind rights-of-way we reviewed, there was little or no documentation to support the bond amount. For some of these rights-of-way, there was no documentation because BLM staff defaulted to the minimum amount set by BLM's wind policy without conducting any site- or project-specific analysis. BLM staff told us that they bonded wind rights-of-way at the minimum without knowing whether the minimums would be sufficient to cover reclamation costs. Some of these staff said that they used the minimum bond amount because they had no experience with bonding renewable energy projects and lacked training on making bond decisions.

For the remaining 12 wind rights-of-way, the project files contained documentation that BLM officials used to support their bond decisions; however, this documentation varied widely. Examples include:

[44]The project's decommissioning plan included two cost projections: one that did not factor in salvage value and one that considered a range of possible salvage values. BLM's documentation showed that the bond amounts set by BLM exactly matched the estimated costs with no salvage value.

- For one right-of-way, the holder developed a reclamation cost estimate,[45] but the estimate did not reflect the current state of the project and the estimated costs were greater than the bond that BLM required. According to agency officials, this was due to subsequent changes in the project's size that were not captured in the project files.
- For four rights-of-way, the project files included plans for specific reclamation activities, but these did not include cost estimates. For one of these, the right-of-way holder had provided a detailed decommissioning and site reclamation plan, including specific plant species for revegetation, but there was no documentation of cost estimates for any aspect of the plan.
- For six rights-of-way, the documentation outlined the cost of decommissioning and removal of structures, but it did not include cost estimates for revegetation of the project site.

We also found that BLM inconsistently documented bonding decisions for two solar rights-of-way, as follows:

- For one right-of-way, the holder did not develop a reclamation cost estimate, as directed by BLM's 2010 solar policy. This estimate is to form the basis for the bond amount. As a result, it was not clear from the project files what BLM considered in determining the amount of the bond that was in place.
- In another case, BLM allowed the right-of-way holder to provide the bond in phases as the project was constructed, but there was no documentation demonstrating how each phase's reclamation costs were estimated. Specifically, the reclamation cost estimate for the entire right-of-way is about $23 million, but the project file reflected that BLM accepted a bond for approximately $4 million for the first phase of the project. Moreover, the project file did not contain information about what the project phases are, how the $4 million was determined, or what the payment schedule and amounts of future bonds would be.

[45]BLM's wind policy does not direct applicants to develop a reclamation cost estimate for a wind project right-of-way. However, according to BLM officials, BLM may direct an individual applicant to develop a reclamation cost estimate or may develop one itself.

In addition, we found discrepancies between information in the project files and what was recorded in LR2000 or the Bond and Surety System in 13 of the 45 wind and solar rights-of way. Examples include:

- For one wind right-of-way, the files reflected the number of turbines originally planned and the bond that would have been required for that number of turbines, but LR2000 recorded a lower bond amount. In this case, BLM officials explained that the right-of-way holder decided to install fewer turbines, thereby reducing the required bond amount. However, the project files did not reflect these changes.
- For another wind right-of-way, the files indicated the applicant's initial plan to build 24 turbines, but LR2000 showed the project had 20 turbines. A BLM official told us that since the right-of-way's original authorization in the 1980s, the type and number of turbines had changed over time. However, there was no documentation of these changes in the files and the BLM official told us that, as a result of our inquiry, he had to go and physically inspect the right-of-way to confirm the type and number of turbines.
- For one solar right-of-way, the bond that BLM held—and what was reflected in LR2000—was $200,000 higher than the reclamation cost estimate in the project file. BLM officials told us that they required the right-of-way holder to provide an additional bond to mitigate potential effects on the pale kangaroo mouse, a protected species under Nevada state law.

Government standards for internal control call for transactions and other significant events to be clearly documented, and that the documentation should be readily available for examination.[46] BLM has not issued policies that direct BLM staff to document information related to bond decisions in the project files. According to BLM officials, they will develop these policies once the proposed rule is finalized. Without accurate documentation that clearly shows how the bond decision was made, officials have limited assurance that the bonds in place will be adequate to cover reclamation costs if the right-of-way holder does not meet their obligations.

[46]GAO/AIMD-00-21.3.1.

## BLM's Handling and Storing of Bond Instruments Is Inadequate

BLM does not adequately ensure that wind and solar bond instruments are properly secured, handled, and stored. BLM staff in two field offices told us bonds were stored in the files for the rights-of-way, rather than in a locked cabinet or safe. In one of these offices, a staff member told us that about 20 percent of the bond instruments were stored in the project files and the remaining bond instruments were stored in a safe. However, in that office, that staff member told us that someone had mistakenly shredded the bond instruments kept in the safe because the individual did not know what they were.

According to BLM's manual regarding records administration,[47] offices should ensure that appropriate internal controls and safeguards are in place to prevent the loss of official documentation. This includes adequate administrative, physical, and system security safeguards to protect electronic and non-electronic records against unauthorized access, modification, or destruction. In addition, the standards for internal control in government specify that an agency must establish physical control to secure and safeguard vulnerable assets, specifically citing cash and securities, which are among the types of bond instruments held in BLM field offices.[48]

BLM has general guidance on records retention and storage, and at least one office within BLM's Energy, Minerals, and Realty Management Directorate has detailed guidance on the acceptance, assessment, and storage of bond instruments.[49] However, the National Renewable Energy Coordination Office, which oversees wind and solar energy projects, does not have policies or guidance related to the proper handling and storage of bond instruments. Moreover, in one 1998 informational bulletin,[50] a BLM state office highlighted concerns that bonds and negotiable securities were being placed in case files and unlocked filing cabinets. This bulletin listed measures that BLM staff should take to address these

[47]Bureau of Land Management, *BLM Manual, MS-1270: Records Administration* (October 1992).

[48]GAO/AIMD-00-21.3.1.

[49]Bureau of Land Management, *Fluid Minerals Bond Processing User Guide* (December 1996).

[50]Bureau of Land Management, California State Office, *Information Bulletin No. CA-98-144*. Information bulletins are used to disseminate information of interest to BLM employees. They do not contain BLM policy, direction, or procedural instructions.

concerns; however, we found no indication that these measures were implemented, when we spoke to officials in that particular state or at other BLM offices. As a result, BLM cannot assure that all bonds are properly maintained and secured, leaving the federal government potentially at risk financially if reclamation costs are not covered by the right-of-way holders.

## BLM Does Not Consistently Follow Its Policy for Periodic Reviews of Bond Amounts

BLM inconsistently adheres to its policies for the periodic review of wind and solar bonds to verify their adequacy. BLM's wind and solar policies direct officials to review the adequacy of wind bonds every 5 years and solar bonds every year. Of the 45 wind and solar rights-of-way we reviewed, 23 had bonds that were at least 4 months overdue for an adequacy review. Some BLM officials responsible for these reviews told us that they were not aware that bonds were supposed to be reviewed. Others told us they were aware that bonds were to be reviewed but had not completed the reviews due to workload and staffing constraints. BLM officials told us that LR2000 contains information such as the authorization date that can be used to determine when a right-of-way is due for review. However, LR2000 does not automatically notify BLM officials that a right-of-way is due for its periodic review. Several BLM officials told us that it would be possible to set up an action code in LR2000 to provide such automatic notification. If reviews of bond amounts are not conducted in a timely manner, BLM officials cannot be sure that bonds in place are adequate to cover reclamation costs.

# Conclusions

BLM is in the process of developing regulations that would establish requirements for wind and solar bonds to cover the costs of returning the land to its original state if right-of-way holders fail to complete the required reclamation. However, we found limitations in how BLM handles and stores bonds, documents bond decisions, and tracks bonds that are in place. Specifically, BLM has no policies in place to ensure that wind and solar bond instruments are properly handled and stored, and in one office, a staff member told us that someone mistakenly shredded some bonds. By not having detailed policies to ensure that all bonds are properly maintained and secured, BLM is potentially putting the federal government at financial risk if reclamation costs are not covered by project right-of-way holders.

We found wide variation in how BLM staff documented bond decisions for wind and solar project rights-of-way. For two-thirds of the wind projects we reviewed, there was little or no documentation to support the bond

amount. When files contained documentation to support the bond decisions, the documentation varied widely in terms of capturing reclamation activities or cost estimates. The same inconsistent documentation was found in some solar rights-of-way we reviewed. BLM does not have policies that require bond decisions to be documented in the project files. Without accurate documentation that clearly shows how the bond decision was made, officials have limited assurance that the bonds in place will be adequate to cover reclamation costs if the right-of-way holder does not meet its obligations.

BLM tracks bonds through LR2000 and the Bond and Surety System, but we found that neither system was reliable for tracking wind and solar bonds. Specifically, we found instances in both systems where information was missing, inaccurate, or had not been updated. BLM has no standard for the timely entering of wind and solar project data into LR2000. However, BLM staff in the agency's mining program are directed to enter data into LR2000 within 5 business days of an action taking place. BLM also has issued no data standards for the Bond and Surety System. If needed data are not being entered correctly and in a timely manner, BLM may not have accurate and complete information with which to track wind and solar bonds to ensure that bonding policies are being followed and that all projects have bonds.

Lastly, we found that BLM inconsistently adhered to its policies for a periodic review of the amounts of wind and solar bonds to verify their adequacy, resulting in 23 overdue reviews. There is currently no code in LR2000 to notify staff when a bond adequacy review is due. Without periodic adequacy reviews, BLM cannot be sure that the bond amounts reflect a right-of-way's current status and conditions and that the bond will cover reclamation costs.

## Recommendations for Executive Action

To help ensure that bonds are adequate to cover reclamation costs for wind and solar projects on federal land, we recommend that the Secretary of the Interior direct the Director of the Bureau of Land Management to take the following five actions:

- develop detailed policies for processing wind and solar bonds to ensure bonds are properly secured, handled, and stored;
- develop policies that detail how information related to bonding decisions should be documented in project files;

- develop a policy that all data for wind and solar energy projects be entered in LR2000 and the Bond and Surety System within 10 business days;
- establish data standards for the Bond and Surety System; and
- develop an LR2000 action code to automatically notify BLM staff that a right-of-way is due for a bond adequacy review.

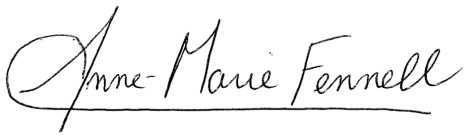
## Agency Comments and Our Evaluation

We provided a draft of this report to the Department of the Interior for review and comment. In its written comments, Interior stated that it concurred with four of the recommendations and partially concurred with the fifth. (See app. II for the comment letter from Interior.) Specifically, we recommended that BLM develop a policy that all data for wind and solar energy projects be entered into LR2000 and the Bond and Surety System within 5 business days. Interior acknowledged that BLM needs to establish a requirement for routine data entry, but said that doing so would be difficult given the shortage of adequately trained staff and said that BLM plans to require routine data entry within 10 business days when it develops new policies related to its ongoing rulemaking related to wind and solar development on federal lands. We understand the agency's concerns with regard to staff levels and believe that entering the relevant data within 10 business days comports with the spirit of the recommendation and is consistent with government standards for internal control. As a result, we have modified the recommendation accordingly by changing the number of days acceptable for timely data entry from 5 to 10 business days. Interior stated that it would be taking action on our remaining recommendations as part of the implementation of its final rule. In addition, Interior noted in its comment letter that it conducted a preliminary review of our observation that one staff member told us bonds had been mistakenly shredded. We appreciate Interior following up on this observation and for letting us know that they found that all needed bonds are now adequately documented. Interior also provided technical comments, which we incorporated as appropriate.

As agreed with your office, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the report date. At that time, we will send copies to the Secretary of the Interior, appropriate congressional committees, and other interested parties. In addition, the report will be available at no charge on the GAO website at http://www.gao.gov.

If you or your staff members have any questions about this report, please contact me at (202) 512-3841 or fennella@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix III.

Sincerely yours,



Anne-Marie Fennell
Director, Natural Resources and Environment

# Appendix I: Objectives, Scope, and Methodology

This report examines (1) the Bureau of Land Management's (BLM) policies for the bonding of wind and solar projects on federal land; (2) the amount and types of bonds held by BLM for the reclamation of wind and solar projects, and how BLM tracks these bonds; and (3) the extent to which BLM ensures that bonds for wind and solar rights-of-way are adequate to cover reclamation costs. For purposes of this report, all financial instruments used to cover reclamation costs are called bonds.

To determine BLM's policies for the bonding of wind and solar projects on federal land, we reviewed the agency's policies regarding wind and solar bonding, the reclamation activities that the bonds are to cover, and the frequency with which bonds are to be reviewed. We compared bonding provisions, such as minimum bond amounts, acceptable bond instruments, and the basis for determining bonds, in the wind and solar policies. We also reviewed BLM's Notice of Proposed Rulemaking—issued in September 2014—that would revise and codify the agency's current bonding policies for wind and solar projects. We interviewed BLM headquarters officials regarding the agency's existing bonding policies, as well as its proposed bonding requirements, the rationale behind the changes, and agency plans to implement the final rule.

To determine the amount and types of bonds held by BLM, we obtained data from BLM's Legacy Rehost 2000 System (LR2000) and its Bond and Surety System for wind and solar rights-of-way for which BLM held a bond as of April 15, 2014. To ensure that the data were sufficiently reliable for our purposes, we cross-checked the data from the two systems and identified discrepancies. To address these discrepancies, we combined the two sets of data into one dataset and asked BLM to review this dataset, provide missing data, and make corrections as needed. We followed up with BLM officials and obtained documentation to clarify and verify the information we received. To help ensure that we identified all the rights-of-way that met our criteria, we compared our dataset with lists of authorized wind and solar rights-of-way pulled from LR2000. If a right-of-way did not appear in our dataset, we obtained additional information from LR2000 and worked with BLM staff to determine whether the right-of-way met our criteria—a right-of-way for which BLM held or should have held a bond as of April 15, 2014—and should have been included in our dataset. We then analyzed the data to determine the amount and types of bonds held by BLM. To determine how BLM tracks these bonds, we interviewed officials in BLM

headquarters, and all 9 state offices[1] and 11 field offices[2] with wind or solar energy development projects to understand how LR2000 and the Bond and Surety System are used, the frequency of updates, and the reliability of the data in each system. We also interviewed BLM headquarters officials to obtain information on the agency's efforts to improve its bonding data.

To determine the extent to which BLM ensures that bonds for wind and solar rights-of-way are adequate to cover reclamation costs, we conducted an in-depth file review of all 45 wind and solar energy development project rights-of-way (33 wind and 12 solar) authorized, and for which BLM held a bond, as of April 15, 2014. We compared the bond held with what is specified in BLM's wind and solar policies as well as any reclamation cost estimates in the project files, and determined the extent to which the documentation of bond decisions was consistent with government standards for internal controls. For each project, we reviewed key project documents to determine adherence to existing BLM bonding provisions contained in wind and solar policies, the depth and detail of the reclamation cost estimates where available, and the extent of documentation supporting bond amounts. We also analyzed data from LR2000 and the Bond and Surety System to compare project bond amounts to the minimum amount set by policy and the bond amount indicated in the project files; determine projects bonded at the minimum amount; and compare information in the project files provided by BLM and data in LR2000 and the Bond and Surety System. We interviewed BLM officials and staff in all 9 state offices and 11 field offices where wind and solar rights-of-way were managed to obtain information on the types of staff involved in determining bond amounts, training they received on the bonding of rights-of-way, and their views on the challenges that BLM may face in managing the bonding of wind and solar energy development projects. We obtained and analyzed information on whether BLM was annually certifying that bonds are in place, as called for in BLM policies.

[1]We interviewed staff in the following state offices: Arizona, California, Idaho, Montana/Dakotas, New Mexico, Nevada, Oregon/Washington, Utah, and Wyoming. The Montana/Dakotas state office, located in Billings, Montana, manages BLM lands in Montana, North Dakota, and South Dakota. The Oregon/Washington state office, located in Portland, Oregon, manages BLM lands in Oregon and Washington.

[2]We interviewed staff in the following field offices: Safford (AZ); Needles (CA), Ridgecrest (CA), El Centro (CA), Palm Springs (CA), Baker (OR), Ely/Schell (NV), Las Vegas (NV), Cedar City (UT), and Rawlins (WY).

Within the universe of field offices that manage wind and solar energy rights-of-way, we visited three field offices in two states, based on the number and size of wind and solar projects. During our visits, we looked at four wind projects and three solar projects of varying sizes and types of technology. In addition, we spoke to BLM officials and staff responsible for the bonding of the projects, as well as representatives from the companies managing and operating these projects.

We conducted this performance audit from January 2014 through May 2015 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

# Appendix II: Comments from the Department of the Interior

United States Department of the Interior
BUREAU OF LAND MANAGEMENT
Washington, D.C. 20240
http://www.blm.gov

MAY 2 2 2015

Ms. Anne-Marie Fennell
Director
Natural Resources and Environment
U.S. Government Accountability Office
441 G Street NW
Washington, DC 20548

Dear Ms. Fennell:

Thank you for the opportunity to review and comment on the Government Accountability Office (GAO) draft report entitled, "RENEWABLE ENERGY: BLM Has Limited Assurance that Wind and Solar Projects Are Adequately Bonded" (GAO-15-520).

The Bureau of Land Management (BLM) is committed to ensuring appropriate bonding for energy development on public lands and has taken steps to ensure that renewable energy projects on public lands are bonded appropriately. The BLM agrees that there are additional opportunities for improvement in the processing and recordkeeping of bonds for wind and solar projects, and the agency has taken steps to address specific shortcomings, including conducting additional training for staff and updating procedures. Additionally, the BLM has issued a proposed rule that would, among other things, establish consistent requirements for bonding of these projects. The BLM intends to proceed to a final rule in the coming months and will continue to implement process improvements consistent with this report's recommendations.

The draft report expressed specific concerns regarding the belief of one BLM employee that some reclamation bonds for renewable energy projects in the Rawlins Field Office may have been removed from a safe and shredded. In response, the BLM conducted a preliminary review of the bonding status of its renewable energy projects in the Rawlins Field Office. At this time, the BLM has not found evidence of the alleged shredding incident and can confirm that all of its bonds for renewable energy projects within the field office are adequately documented.

In addition to the renewable energy arena, the BLM is also working to ensure appropriate bonding of other types of development on public lands. For example, your office previously reported that bonds covering oil and gas projects on public lands may be as much as $968

million below what reclamation would cost for those wells.[1] In response to that report, and as part of a broader conversation about oil and gas reform, the BLM has solicited public input on bonding for oil and gas projects on public lands.[2] The BLM looks forward to working with your office as we continue to address this important aspect of bonding on public lands.

The Department of the Interior concurs with four of the five recommendations identified in the current report and partially concurs with a fifth. Detailed comments on the recommendations are attached. We hope these comments will assist you in drafting the final report.

If you have any questions about this response, please contact Ray Brady, National Renewable Energy Coordination Office Manager, at 202-912-7312, or LaVanna Stevenson, BLM Audit Liaison Officer, at 202-912-7077.

Sincerely,

Steven A. Ellis
Deputy Director

Enclosures

[1] Government Accountability Office. 2010. OIL AND GAS BONDS: Bonding Requirements and BLM Expenditures to Reclaim Orphan Wells. GAO-10-245. (Reclamation costs estimated at $12,788 per well. The BLM currently holds $162 million in bonds covering 88,357 wells.)
[2] Department of the Interior, Bureau of Land Management. April 21, 2015. Oil and Gas Leasing; Royalty on Production, Rental Payments, Minimum Acceptable Bids, Bonding Requirements, and Civil Penalty Assessments. Federal Register 80 (76): 22148.

**Attachment**

**Department of the Interior**
**Comments on Draft GAO Report Entitled, RENEWABLE ENERGY: BLM Has Limited Assurance that Wind and Solar Projects Are Adequately Bonded (GAO-15-520)**

**Response to recommendations:**

**Recommendation 1:** Develop detailed policies for processing wind and solar bonds to ensure bonds are properly secured, handled, and stored.

The BLM concurs with this recommendation. The BLM is currently engaged in a rulemaking effort for a competitive solar and wind energy leasing program that will address bonding requirements for all solar and wind energy authorizations. The BLM will establish policy, as part of the implementation of the final rule, that clarifies the BLM's procedural matters for properly securing, handling and storing bond instruments. The policy will include a suite of controls such as annual certification that bonds filed with the BLM are properly processed and that each bond instrument is held in a secure location and readily available. Current bonding policies specific to solar and wind energy authorizations will be rescinded when the policy is issued.

**Recommendation 2:** Develop policies that detail how information related to bonding decisions should be documented in project files.

The BLM concurs with this recommendation. The BLM is currently engaged in a rulemaking effort for a competitive solar and wind energy leasing program that will address bonding requirements for all solar and wind energy authorizations. The BLM will establish policy, as part of the implementation of the final rule, that clearly identifies proper project file documentation to support BLM bonding decisions. Current bonding policies specific to solar and wind energy authorizations will be rescinded when the policy is issued.

**Recommendation 3:** Develop a policy that all data for wind and solar energy projects be entered into LR2000 and the Bond and Surety System within 5 business days.

The BLM partially concurs with this recommendation. The Department acknowledges that BLM needs to establish a requirement for routine data entry; however, additional time should be allowed for data entry. It was noted in the draft report that the BLM's minerals program has data standards that require all data to be routinely entered into the LR2000 within 5 business days of each action taking place. However, as noted in the draft report the BLM currently has a shortage of land law examiners with the data systems training necessary to enter data into the LR2000 and Bonds and Surety System. Even in a fully staffed environment, it would be difficult to meet the 5-day data entry requirement recommended in the draft report.

The BLM is currently engaged in a rulemaking effort for a competitive solar and wind energy leasing program that will include requirements for bonding. The BLM will establish policy, as part of the implementation of the competitive solar and wind energy leasing final rule, that will require routine data entry within 10 business days of each action taking place.

**Recommendation 4:** Establish data standards for the Bond and Surety System.

The BLM concurs with this recommendation. The BLM is currently engaged in a rulemaking effort for a competitive solar and wind energy leasing program that will include requirements for bonding. The BLM will establish policy, as part of the implementation of the final rule, that establishes standards for data entry into the Bond and Surety System. Policy will provide standards for what data is to be entered, when such data must be entered, and corresponding data that must be entered into LR2000 concurrently.

**Recommendation 5:** Develop an LR2000 action code to automatically notify BLM staff that a right-of-way is due for a bond adequacy review.

The BLM concurs with this recommendation. Currently, the BLM has an existing action code in LR2000 to identify future actions of a right-of-way. The BLM will review this action code and determine if it may be used for regular bond adequacy reviews. If the action code is unable to be used, the BLM will establish a new action code that will be used to notify BLM staff that a right-of-way is due for a bond adequacy review.

The BLM is currently engaged in a rulemaking effort for a competitive solar and wind energy leasing program that will include requirements for bonding. The BLM will modify the existing LR2000 coding or establish new coding, as part of the implementation of the final rule. Policy on the proper use of this coding will be established, facilitating the reporting of solar and wind energy bond adequacy reviews.

# Appendix III: GAO Contact and Staff Acknowledgments

## GAO Contact

Anne-Marie Fennell, (202) 512-3841 or fennella@gao.gov.

## Staff Acknowledgments

In addition to the individual named above, Elizabeth Erdmann (Assistant Director), Morgan Jones, Jessica Lewis, Susan Malone, and Jarrod West made key contributions to this report. Cheryl Arvidson, Antoinette Capaccio, Kirsten B. Lauber, and Dan Royer also made important contributions.