Cloud Peak Energy Inc. hereby offers additional comment on the Office of Natural Resource Revenue's (ONRR) Proposed Consolidated Federal Oil and Gas and Federal and Indian Coal Valuation Reform, 80 Fed. Reg. 608 (January 6, 2015) (the Proposed Rule).

Executive Summary:

There is no justification for the Proposed Rule. The Secretary of the Interior misleadingly asserted to Congress that reports by the Government Accounting Office (GAO) and Inspector General (IG) of the Department of the Interior had presented evidence of underpayment of federal coal royalties through coal producer sales to affiliated companies or made recommendation for changes to coal royalty valuation rules. They do not. ONRR has claimed in press statements that the Proposed Rule is necessary because current rules allow for royalty underpayment or evasion by coal producers selling to affiliates in non-arm's length sales. However, data readily available to the Department of the Interior from the federal government's Energy Information Administration absolutely contradicts this assertion.

According to the EIA's *2015 Coal Report*, data disclosed for 84% of all coal sold subject to federal royalties shows that the average reported sales prices for "captive sales", those to which the Proposed Rule would apply, are higher than the average sales prices for open market sales to third parties. Information publicly available from the Secretary of Energy categorically contradicts the assertions of ONRR. There is no evidence of royalty underpayment and no justification for the proposed rule. The effect of the "default provision" of the Proposed Rule would be such uncertainty and financial hardship that it would likely end captive sales, which the government's own data shows deliver higher royalty revenue than open market sales.

This impact would cost the treasury an immediate $17.1 million in royalty revenue (based on EIA 2013 data) from only two coal producing states. Half of this royalty revenue would have gone to the states. The projected impact on coal exports would cost $133.5 million in royalty revenue by conservative estimates, with nearly $70 million per year lost to the states in disbursements. A rule change ONRR said is needed to capture more royalty would, according to the government's own data, result in a considerable decrease in revenues.

The Proposed Rule is, at best, the poorly written result of a hostile and ineffective process of consultation and development, overreach exemplified, and a solution in search of a problem. Quite possibly, it is an *ultra vires* effort by the Department of the Interior to circumvent Congressional oversight and improperly use royalty administration authority granted to the Department of the Interior by the *Minerals Leasing Act* (1920) to write energy policy and inhibit coal mining on federal leases.

Cloud Peak Energy respectfully requests that, in view of the complete lack of any evidence justifying changes to existing rules, rules that clearly work well and deliver higher revenue yields on captive coal sales than on open market sales, and in view of the misleading claims by ONRR that the Proposed Rule would not have a negative impact on royalty revenue, ONRR immediately withdraw the Proposed Rule from further consideration.

Evidence Contradicting the Stated Need for the Proposed Rule

We attach the Energy Information Administration's *2015 Coal Report*. This report contradicts ONRR claims of royalty underpayment on non-arm's length transactions and is evidence that the existing rules for coal royalty valuation work.

According to the EIA's *2015 Coal Report* data, average 2013 sales prices are provided for 84% of the volume of coal sales subject to federal royalties. EIA does not disclose data for average sales prices in Montana and Utah. EIA shows no captive sales for Alabama. Wyoming and Colorado however account for 84% of all coal subject to federal royalties.

The Proposed Rule would change the way royalty valuation is done for non-arm's length sales of coal. ONRR claims this is necessary because in making non-arm's length sales to affiliates, there is insufficient transparency and these sales allow coal producers to undervalue such sales, thereby costing the taxpayer royalty revenue. This assertion is false. EIA receives a report via *EIA Form 7A* in which every sale is classified either as an "Open Market", "Captive" or "Export" sale.

- "Open Market Sales" are sales to third parties at or near the mine.
- "Captive" sales are defined by EIA as "all coal used by the producing company or sold to affiliated or parent companies; excludes exports".
- "Exports" are those sold to entities outside the jurisdiction of the United States.

The federal government has access to information on the value/sales price of every sale of coal from a federal lease and the type of transaction in which it was sold, according to EIA classification. In the event that captive sales are made at lower sales prices yielding lower royalty payments than comparable open market sales, that information is readily available to ONRR, allowing an immediate investigation and, in the event of wrong-doing, redress, full payment, and the levying of fines and penalties. ONRR already possesses the full authority and responsibility to investigate alleged royalty evasion and levy fines and punishment in the event that wrong-doing is found.

We respectfully request that ONRR respond by informing us why they are unable to access the same information that the Energy Information Administration is able to access or that Cloud Peak Energy was able to access via the Internet? We further request that ONRR explain why, when this information is available to ONRR, it insists on the so-called "default provision" which would allow the Secretary to use entirely discretionary criteria to set a supposed value of coal? We respectfully request that ONRR explain exactly how the existing investigative and punitive tools that it possesses are insufficient and examples of cases where ONRR has been unable to investigate wrong doing and recoup royalty underpayments?

According to the 2015 Coal Report, 2013 coal sales prices in Colorado by producers to affiliates, also known as non-arm's length sales, or captive sales as they are referred to by EIA, were, on average, $9.16 higher per ton than were open market sales or sales to third parties. Royalty yields on captive sales in Colorado were 25% higher than the yields on third party sales.[1] This fact completely contradicts the unsubstantiated claims of ONRR and the anti-fossil fuel groups to whom they are responding.

According to the 2015 Coal Report, in Wyoming in 2013, captive sales yielded a more modest premium than in Colorado, but the average sales price for sales to coal producer affiliates was $0.35 higher than the open market price, yielding a more than 2% higher royalty payment.[2] Again, while ONRR claims the new rules are required to close loopholes that allow coal producers to dodge royalties by selling the coal to themselves cheaper than on the open market, the facts tell completely the opposite story. Captive sales are priced higher than open market sales and yield higher royalty revenue than open market sales.

We respectfully request that ONRR respond to these facts and, in view of the patently false claims made by ONRR to justify the Proposed Rule, it withdraw the Proposed Rule immediately.

Rule Lacks Any Evidentiary Basis or Justification

In a press release announcing the Proposed Rule, in subsequent press statements by ONRR staff, and in Congressional testimony (Senate Interior Appropriations Committee, February 4, 2015, and House Natural Resources Committee, March 6, 2015) by Secretary Jewell, Department of the Interior personnel have repeatedly made utterly unsubstantiated claims that the rules change is required because current rules allow coal companies to “exploit loopholes,” “game the system” and “avoid royalty payments by selling through affiliates.”[3] These claims, utterly unsubstantiated in each case, are false. Either the Department has been lied to by the anti-fossil fuel pressure groups that drafted these rules for ONRR, or the Department is willingly misleading the American public.

In testimony to the U.S. Senate Interior Appropriations Committee on February 4, 2015, Secretary Jewell stated that the Proposed Rule was necessary because “We have been criticized from a number of different sectors for not getting a fair return for tax -- for taxpayers on coal.” Given that there is no evidence of royalty underpayments and years of data demonstrating that the current rules yield higher royalty revenue on affiliate sales than on sales to third parties, what is the basis of this criticism? Criticism by whom? Is criticism of fossil fuels by anti-fossil fuel pressure groups now the basis on which the Department of the Interior writes rules?

On March 6, 2015 in hearings before the U.S. House Natural Resources Committee, the Secretary again cited unspecified “criticism and suspicion” as the basis for the Proposed Rule and stated that the rule was based on the findings and recommendations of the “GAO and IG reports”. The GAO and IG reports to which the Secretary was referring are GAO 14-140 Dec 2013: “Coal Leasing: BLM Could Enhance Appraisal Process, More Explicitly Consider Coal Exports, and Provide More Public Information” and Inspector General of the Department of the

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[1] Table 33. Average Sales Price of U.S. Coal by State and Disposition, 2013. “EIA 2015 Coal Report”
[2] IBID
[3] http://www.blm.gov/wo/st/en/info/newsroom/2014/december/nr_12_19_2014.html

Interior "Final Evaluation Report - Coal Management Program." In fact, during the March 6th hearings, U.S. Representative Ryan Zinke of Montana asked that the "GAO Report" be read into the record. He subsequently requested GAO confirm whether the report referenced made any findings of coal royalty underpayments using existing valuation rules and whether it made any recommendations for changes to coal royalty valuation rules (letter dated April 6, 2015). According to comments filed with ONRR by Congressman Zinke dated May 6, 2015, the GAO confirmed in a briefing that the report in question made no findings of royalty underpayment or abuse of existing rules and made no recommendations for changes to existing coal royalty valuation rules. We note that the IG report that the Secretary also suggested provided a basis for the Proposed Rule equally made no such findings, nor any such recommendations.

We attach both the GAO and IG reports which the Secretary claimed made findings of royalty underpayment and abuse and recommended changes to the existing coal royalty valuation rules. We respectfully request that the ONRR identify where, in either report, any such findings and recommendations were made, or confirm that both reports are devoid of information relevant to the Proposed Rule.

In the interests of transparency, we respectfully request that the ONRR identify the sources of the "criticism and suspicion" that the Secretary has repeatedly cited as the sole basis for the Proposed Rule.

We would submit that in the absence of any findings of wrongdoing or any evidence that American people are not receiving a fair yield in royalty revenues, there can be no justification whatsoever for changing royalty valuation rules that have worked effectively for 25 years and continue to deliver excellent value for the depletion of federal coal reserves.

Rule Would Diminish Federal Coal Royalties and Improperly Uses ONRR Administrative Authority Under the Minerals Leasing Act (1920).

We wish to further address the question of revenue neutrality asserted by ONRR with regards to the rule. On page 125 of the Proposed Rule, ONRR asserts that the revenue impact of the rule will be "neutral" or, at worst, "nominal". This assertion is absurd. If, as ONRR claims without any substantiating evidence and in the face of clearly contradictory information from EIA, there is wrong-doing and captive sales are priced below open market sales, thereby yielding lower royalty payments, then closing the "loopholes" ONRR claims exist must necessarily either result in substantially more revenue when the imaginary "loopholes" are closed or substantially less revenue when the "wrongful" sales cease. It is simply mathematically impossible that if, as ONRR asserts, there is some form of undervaluation of non-arm's length sales, and the Proposed Rule would rectify the situation, the impact of the rule would be revenue neutral.

The Proposed Rule's "default provision" that would allow the Secretary to set a value for coal at his or her discretion with no requirement to use objective criteria to determine value is unnecessary and unjustified, as demonstrated by sales data for 84% of the volume of coal subject to federal royalties. This "default provision" and would however create such uncertainty, administrative burden, and financial hardship as to cause an absolute and certain decrease in sales via affiliate logistics companies and a substantial loss in royalty revenue. Given the open hostility towards coal producers evidenced by the misleading statements on this issue made by the Secretary and representatives of the ONRR, it is impossible to suggest that this “default provision” is not intended as simply a mechanism by which the Secretary of the Interior can disrupt and inhibit coal sales. The “default provision” is a black box and ONRR is asking those that would subject to it to simply trust that this highly discretionary and punitive mechanism would not be abused by an entity that is openly hostile to the entities it regulates.

Coal royalty payment audits for Powder River Basin leases in Wyoming and Montana currently take place some 6- 8 years after the sale and royalty payments are made. This is, in and of itself, an intolerable and inexplicable inefficiency that greatly complicates resolution of any issues that may arise from audit. But with the “default provision,” producers would have to make payments based on an extremely vague and highly-contentious netback methodology in year x and then wait 6 – 8 years to find out whether the Secretary chose to invoke the “default provision” and revalue the coal for royalty purposes based on entirely unknown criteria. Since no criteria are given, this could range from indexing coal value to the price of tea in China to imposing a “carbon tax” of some description as a basis for valuation. Asking coal producers to “trust” ONRR that any valuation will be fair and reasonable, given its open hostility to coal producers, is impossible. Coal producers would have to make financial provisions each year for an unknown possible change in valuation and royalty payments, plus penalties and interest, 6 – 8 years in the future.

If we take EIA’s 2013 figure stating that 50% of sales in Wyoming would be subject to the Proposed Rule and its “default provision,” that was 131 million tons of coal. According to EIA, the average sale price for coal sold via “captive sales” and subject to the Proposed Rule, was $14.25 per ton ($0.35 higher than “open market” sales) yielding $1.78 per ton in federal royalties. In order to adequately provide for the wild uncertainty posed by a “default provision,” companies may need to set aside an at least amount equal to their annual payments on such sales each year. The default rule would require that producers in Wyoming make annual provisions of $233 million dollars, based on 2013 average prices, and do so every year for at least six years before they would know whether they would be subject to the whims of the “default provision.” This Proposed Rule could require of Wyoming coal producers that they accumulate $1.4 billion or more in provisions over six years before they know whether or not they owe any of that. Given that Cloud Peak’s adjusted EBITDA in 2013 was $219 million, the Proposed Rule cannot be viewed as anything other than an *ultra vires* mechanism to end coal mining on federal lease land.

The alternative, as the Proposed Rule’s proponents glibly assert, is for coal producers to simply “give up” these captive sales. We attach for ONRR’s review a study conducted by Dr. Tim Considine of the University of Wyoming: “A Significant Threat to Coal Exports from the Powder River Basin: The Proposed Default Provision for Federal Coal Royalties” (April 2015). In his study, Dr. Considine notes that the effect of the uncertainty and financial hardship imposed by the “default provision” would likely be that Wyoming coal producers would have to end vertical integration and sales to affiliated companies, despite these sales delivering higher royalty yields than open market sales. In many cases, export sales are conducted via coal producer logistics affiliates. Cloud Peak Energy does so to enhance transparency and ensure that costs and profits from its logistics business are reported separately from its mining business. Ending affiliate sales would likely mean also giving up option payments on coal export terminals under development on the West Coast of the United States.

There is approximately 100-million tons of coal terminal capacity under development on the West Coast. As the Proposed Rule would likely remove the major customers for those terminals, those terminals would likely not be developed. Loss of export terminal capacity would, if filled entirely by coal subject to federal royalties, cost up to $267 million annually in federal royalty revenue alone (based on 2013 Wyoming captive sales prices). If only half of that volume were coal subject to federal royalties, the Proposed Rule would cost $133.5 million in annual federal royalties. We respectfully request that ONRR comment on whether $133.5 in lost annual revenue is "neutral" or "nominal."

And this takes us to the salient point. The "default provision" is completely unjustifiable in terms of its imposition of regulatory uncertainty and financial hardship and, as demonstrated above, completely unnecessary. We believe that this provision would eventually be struck down by the courts. So, why would ONRR propose something that it cannot reasonably expect would withstand court challenge? We submit that the objective of the default provision is not to "close loopholes" and stop royalty evasion. There are no "loopholes" and there is no evidence of tax evasion. As EIA's data clearly demonstrates, captive sales are valued higher than open market sales and deliver higher royalty yields. The "default provision" of the Proposed Rule is designed to achieve the outcome projected in the Considine study: to end coal exports from federal leases. The "default provision" is an *ultra vires* attempt to kill West Coast coal export terminals.

Using the same Report, in 2013, 131 million tons of coal were sold in captive sales at an average sales price $0.35 higher than comparable open market sales. The higher sales price for captive sales yielded $0.04 per ton more in royalty payments than comparable open market sales. Therefore, given the consequences outlined in the Considine study, the Proposed Rule could immediately cost $5.2 million per year in royalty revenue, nearly half of which would have gone to Wyoming.

Based on the EIA data and information in the Considine study, the cost of the rule could be between $17.1 million and $150.6 million per annum. This is neither "neutral" nor "nominal."

We respectfully request that ONRR explain why "default provision" and a net back calculation from the first arm's length sale are necessary when the government's own data shows that captive sales are valued higher than open market sales and deliver more royalty revenue per ton than open market sales? We respectfully request that ONRR ask the GAO to study this matter and review the EIA data vs the claims of royalty underpayment on captive sales and of revenue neutrality or nominal impact from the Proposed Rule.

Summary:

The Secretary of the Interior and ONRR officials have made misleading statements to Congress and the American people. The investigations and reports that the Secretary claims to have found royalty evasion and underpayment do no such thing. And, as the government's own data clearly shows, average sales prices for those captive sales that ONRR asserts are undervalued, are higher than comparable open market sales and deliver more royalty yield per ton of coal than do open market sales. The only evidence available to the American people clearly demonstrates that as a percentage of each ton sold they earn more money on coal producer sales to affiliates than on sales to third-parties at the mine. There are no "loopholes". The only "criticism and suspicion" that ONRR is responding to is the criticism by anti-fossil fuel pressure groups that they are not doing enough to inhibit coal mining and the suspicion that the current rules are fair and effective.

The Proposed Rule appears to be an *ultra vires* mechanism to circumvent Congressional oversight and improperly use royalty administration authority granted to the Department of the Interior by Congress under the *Minerals Leasing Act* (1920) to write energy policy and inhibit coal mining on federal leases. ONRR has presented no evidence of royalty underpayment or evasion to justify the changes to coal royalty valuation rules in the Proposed Rule. Given that there is clear evidence from EIA contradicting the claims made by ONRR and the Secretary as necessitating the Proposed Rule, we respectfully request that the rule be withdrawn immediately from further consideration.

Policy Brief

A Significant Threat to Coal Exports from the Powder River Basin: The Proposed Default Provision for Federal Coal Royalties

by

Timothy J. Considine, Ph.D.

April 28, 2015

This study was funded under a consulting agreement with Cloud Peak Energy. The author is also a Distinguished Professor of Energy Economics at the University of Wyoming. The analysis, findings, and conclusions in this paper are solely those of the author and do not necessarily reflect the views of Cloud Peak Energy or the University of Wyoming.

Executive Summary

How should coal on federal lands be valued? Are taxpayers getting a reasonable return on America's natural resources? The Office of Natural Resource Revenue (ONRR) in the U.S. Department of the Interior is re-visiting these questions with proposed changes to the rules for determining royalties collected from mining coal on federal lands.

This study finds that the proposed changes would make exports of coal mined from federal lands unprofitable, because a provision buried within the proposed rule would extend unparalleled and unrestricted power to the Secretary of the Interior. Under this 'default provision,' the Secretary would be granted unrestricted authority to assign a "reasonable" value to coal mined on federal lands for determining royalty payments. Instead of benefiting from this proposed change, American taxpayers would likely receive less in royalty revenue because production to support coal exports would likely not occur under this provision.

Most federal coal comes from the Powder River Basin (PRB) in Wyoming and Montana. With the prospect of declining domestic coal consumption, many PRB coal producers are hoping to export this coal to U.S. allies in East Asia such as South Korea, Japan, and Taiwan. The proposed rule changes, however, will likely dash these expectations and cost the federal government, Wyoming, and Montana significant royalty revenue.

The reason is that the proposed rules create a great deal of uncertainty and, thereby, a significant increase in the transaction costs associated with producing and marketing coal. The source of this uncertainty is the proposed default provision that would allow ONRR the discretion to set federal coal royalties on a case-by-case basis using a variety of discretionary factors rather than using standard valuation methods.

A variety of studies, reviewed in this paper, argue that federal coal royalties are too low--either because transportation costs should be disallowed or that carbon fees should be imposed. Since the default provision provides essentially an open door for these arguments to be used to revalue federal coal, coal companies would be required to set aside funds between the time coal export sales occur and when royalties are audited, often a lag of some six to eight years. As a result, the proposed default provision would raise coal transaction costs and, thereby, impose a risk premium on investments to build new coal export capacity.

While future demand projections suggest long-term profitability, coal exports from the PRB are currently not profitable due to low international coal prices. The proposed rule changes, therefore, make a tough situation even more challenging as, additional transaction costs arising from the uncertainty created by the default provision are incurred.

The proposed rule changes would most likely eliminate any profit margin on PRB coal exports to Asia. An illustration of the possible effects and uncertainties associated the proposed rule changes on profits for coal export sales are provided in Figure ES1. Under the proposed netback policy, profits on coal exports are -$0.04, or essentially zero.

Any recovery of international coal prices would likely restore the profitably of coal exports and revive incentives to export PRB coal. The proposed rule changes, however, make this prospect less likely. For instance, if a 50% transport cost cap is implemented, profits on coal exports from the PRB sink to -$4.14. If a carbon fee were erroneously assessed, profits on coal export sales would be -$26 per ton, which would clearly render any coal exports from the PRB uneconomic. The criteria for setting coal royalties under the default provision, however, are not defined and, therefore, expected profits from future PRB coal exports would not be known under the proposed default provision. This uncertainty entails real financial costs that firms must bear in the interim between infrastructure development and future coal export sales. These additional transaction costs arising from uncertainty would reduce these expected profits even further from those estimated below.

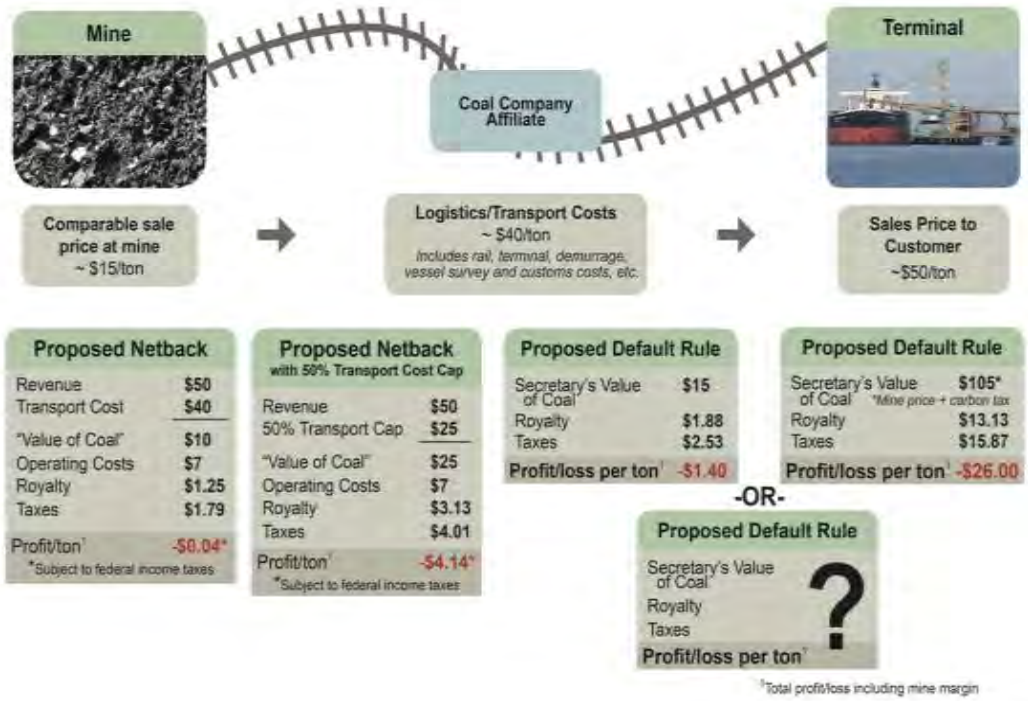

Figure ES1: Possible Impacts on Coal Export Profitability

The proposed default provision would force coal companies to carry significant financial liabilities to protect their shareholders from unilateral royalty re-valuation by ONRR. These transactions costs would likely force firms to re-organize their operations to spin-off coal marketing affiliates and to abandon efforts reaching existing or new customers abroad for PRB coal. The proposed default provision, therefore, is a bad idea and should not be adopted.

If enacted, the default provision would likely shutdown efforts to export PRB coal and eventually lead to a loss of over $200 million in federal coal royalties. If federal coal royalties need reform, they should be pegged to well-known price indices for PRB coal.

I. Introduction

The Obama Administration recently proposed changing regulations that determine royalty payments by coal companies to the federal government for mining coal on federal and Indian lands. Coal supplies roughly 40-percent of the electricity supply in the U.S. and coal mined on federal lands, primarily from the Powder River Basin (PRB) in Wyoming and Montana, provides about half of the nation's coal. If implemented, these regulatory changes could significantly raise the cost of western coal, hasten the decline of domestic coal consumption, stop exports of PRB coal, and strand investments made by Wyoming and other states to stimulate the demand for U.S. coal abroad.

To understand the rationale for these proposed changes, the next section provides a brief overview and critique of several recent studies on federal coal royalty policies. Section three discusses the Department of the Interior's proposed rules for setting coal royalties with a specific focus on the default provision, which would likely provide a vehicle for arbitrarily increasing the price of PRB coal. Economic issues arising from the proposed valuation methods and the default provision are discussed in the subsequent two sections. The likely effects of the proposed rule changes on prospects for PRB coal exports are examined in section six. This policy brief ends with a short summary of the main findings and recommendations.

II. Policy Background

There has been a series of reports and studies examining the system for leasing and setting royalties on federal coal. Some of the studies create a misleading impression of a broken system, alleging that coal-marketing affiliates are reaping excess profits at the expense of federal taxpayers. For example, Thakar and Madowitz (2014) argue that PRB coal is under-valued, claiming a lack of competition in coal leasing, and arguing this lack of competition explains why PRB coal sells for less than half the price of Appalachian coal. In contrast, studies in the peer-reviewed literature, such as Considine (2013) and Gerking and Hamilton (2008) show that very low extraction costs due to technological innovations and economies of scale are the main reasons for relatively low prices for PRB coal. Moreover, Considine and Larson (2006) show that low-sulfur coal, such as PRB coal, reduces the cost of meeting SO_2 emission control standards.

A royalty in principle is a payment to an owner of a natural resource for ***depletion*** as the resource is extracted. The federal coal royalty rate is 12.5% for surface mines and 8.5% for underground mines. Royalty payments are determined by multiplying this royalty rate by the gross revenues on coal sales at or near the mine, which are equal to the product of the market price and tonnage produced. Thakar and Madowitz (2014), however, argue that mine-mouth prices should not be used to determine the basis for royalty payments. Instead, they suggest that end use prices, which include transportation and marketing costs, should be used as a basis to determine federal coal royalties. This would mean, therefore, that railroads and logistics coordinators would pay federal royalties in addition to mining companies. Since railroads and logistics coordinators do not mine coal, such a royalty valuation scheme would amount to imposing a resource depletion tax on transportation and logistic services. In this case, a royalty that includes these downstream services would run contrary to the principle of depletion based royalty payments. Indeed, the Department of the Interior (2015) asked for comments on a proposal to include 50% of coal transportation costs in federal coal royalties.

Thakar and Madowitz (2014) also argue that federal coal royalties should include a carbon fee to compensate American taxpayers for the environmental costs of burning coal and to prevent exports of coal that could offset any emission reductions achieved by the Obama Administration's Clean Power Plan. Krupnick et. al (2015) find that the Department of Interior could have legal authority to impose such a fee but it would likely be litigated. They point out, however, that there are serious economic flaws with including a carbon fee in federal coal royalty rates. Mid-range estimates for the social cost of carbon from the Interagency Working Group (2013) of $46 per ton of carbon emissions would translate to a fee of more than $90 per ton on PRB coal. Krupnick et al. (2015) suggest that such a fee could shutdown PRB coal production.

The Krupnick et al. (2015) study also points out that assessing carbon fees on federal coal would create market distortions, such as encouraging production of coal on private lands and increasing the demand for coal imports. Considine and Larson (2006) demonstrate that PRB coal in particular has been instrumental in meeting stringent SO_2 emission controls. Moreover, PRB coal reduces the cost of meeting new emission controls on air toxics, such as mercury.

Internationally, if foreign consumers of U.S. coal have carbon emission control policies, any higher emissions from consuming U.S. coal would have to be offset with emission reductions elsewhere. Hence, the carbon leakage problem would be mitigated by the lack of carbon emission controls abroad. Moreover, PRB coal has considerably less SO_2 and mercury content than many foreign coals. Limiting PRB coal exports, therefore, would encourage the consumption of coals abroad with relatively greater emissions of criteria pollutants contributing to considerably higher environmental costs that are more certain than environmental costs associated with greenhouse gas emissions.

These insights imply that a single-minded focus on controlling greenhouse gas emissions through carbon fees attached to federal coal royalties would have several adverse unintended consequences. So why are these considerations relevant for the seemingly innocuous changes proposed by the Department of Interior for royalty determination? The next section demonstrates that the default provision proposed by the Department of Interior provides an open door to implement the aforementioned attempts to raise the cost of federal coal.

III. The Proposed Regulations

The U.S. Department of Interior's (2015) recently proposed changes to the rules for determining coal royalty payments. The proposed rules would revise the methods used to value coal to assess royalties. Given the vertically integrated nature of the coal industry as described by Joskow (1985), a significant amount of coal from the Powder River Basin is sold at transfer prices between coal mining companies and their marketing affiliates. The alternative is to rely on contracts between mining companies and coal marketers. Designing these contracts or renegotiating them as market conditions change can incur substantial litigation costs. Hence, vertical integration is a way to reduce or minimize these transaction costs.

Under the current rules, these transfer prices are determined based upon prices reached by arm's length or non-affiliate transactions for coal with similar quality and locational characteristics in the same time. ONRR is now proposing a royalty value for coal at the affiliate resale price if a lessee sells coal using a transfer price. For mine-mouth power plants, ONRR proposes to value coal at the mine mouth using a net back from the price of electricity.

Under the current system of royalties, companies and the Department of Interior can renegotiate royalty valuations if circumstances change or if underpayment of royalties is alleged. In contrast, ONRR is now proposing a "default provision," that would allow them to elect not to apply regulatory valuation standards for coal but to instead unilaterally establish a "reasonable" royalty value on a case-by-case basis using a variety of discretionary factors.

IV. Coal Valuation

There are a number of economic issues raised by these proposed regulatory changes. The idea of extending the regulatory reach forward through the supply chain to end-use markets could prove to be administratively unworkable, difficult, and contentious, and likely prone to litigation. Markets are efficient in determining mineral asset values. If a coal deposit on private land, for example, has low thermal value, high ash content, and is far away from consumers, then coal companies would discount this property relative to coal reserves with high energy content, low ash, and close proximity to end-users. Hence, the market price for coal leases would reflect this underlying value. In other words, coal and energy markets already operate efficiently to value coal leases and royalties by taking into account the myriad of factors that determine the value of coal reserves.

The long history of policies to regulate energy production on the basis of cost demonstrates that departures from market based pricing are fraught with problems. Such intervention either proves administratively too complex or creates serious market distortions that lead to shortages and price increases to consumers. The only justification for not using market prices to value coal leases is the existence of imperfect competition. Coal companies, however, operate in very competitive markets and are unlikely, therefore, to exercise any monopoly or buying power to artificially suppress prices for coal leases.

Even if such policies were administratively feasible, basing coal valuation on downstream market prices for delivered coal or electricity makes little economic sense. A coal lease is a long-term contract between a coal company as the lessee and the federal government as the lessor. The federal government owns the coal and provides the lessee with access to extract that coal under the terms of the lease. In addition to leasing fees, the producer then also pays a resource depletion tax, or royalty, on each ton of coal extracted. Hence, the price of the coal lease is the price of access or the value of coal in the ground, while the royalty pays for the depletion of that resource. This results in great benefit to the government and taxpayers for what would be a stranded asset while the lessee incurs the significant majority of risk.

When this coal is sold either to a third party or a marketing affiliate, these firms add value to the coal by arranging transportation and delivery. An electric power generation company then buys this coal and adds additional value by producing electricity. Marketing and electric generation companies currently pay income taxes on these earnings. Including downstream services in coal royalty valuations would be double taxation. Hence, coal producers would be forced to abandon transfer pricing and instead rely on independent third parties for coal marketing and logistics services.

This would change the structure of the coal industry in America, leading to the break-up of the vertically integrated organization of the industry that has efficiently reduced transaction costs to a minimum. An illustration of the existing industry structure and the likely re-organization of the industry from the proposed rule changes are presented in Figure 1. Under approximated current market conditions, coal exports from the Montana portion of the PRB are not profitable since the mine profit of $3.60 per ton are more than offset by a negative profit on coal logistics of roughly $5 per ton (see Figure 1).

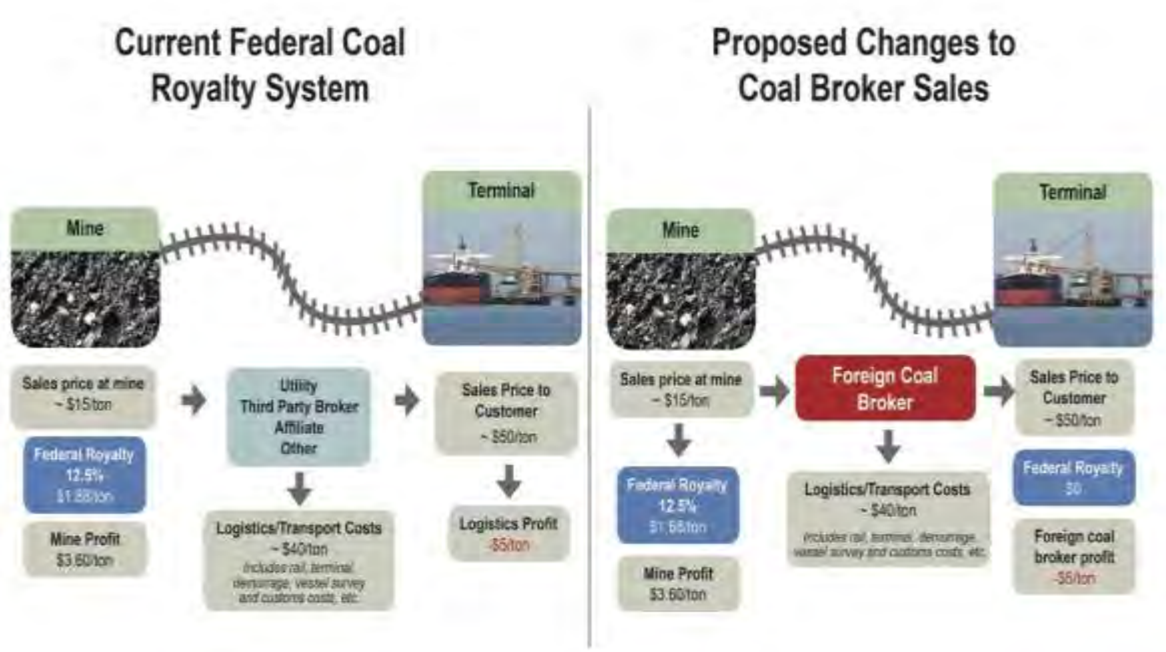

Figure 1: Industry Structure Before and After Proposed Rule Changes

The proposed rule changes on industry structure are illustrated in the right panel of Figure 1 in which marketing affiliates are shut-down by U.S. coal companies and replaced by foreign coal brokers for coal export sales. Under this new industry structure, once international coal prices recover any profits earned by brokers would be transferred abroad to these foreign entities. The proposed ONRR rule would not impose any royalty on the logistics and transport services of foreign coal brokers, only on the logistics and marketing arms of U.S. producers. As a result, state and federal governments would fail to generate any additional revenue versus the current rules while punishing U.S. coal producers and potentially sending profits from coal brokering on export sales overseas. This situation is exacerbated by the default provision, which is now discussed.

V. The Default Provision

The default provision, however, is potentially the most damaging provision for PRB coal because it is open ended and would create a great deal of uncertainty. The "default provision" in the draft rule would allow ONRR to set at their own discretion, the value for coal sales and royalty valuation purposes if, in their view and without any reference to objective criteria, the sale price was 10% or more below what they deem to be "fair market value." No process for determining "fair market value" is presented in the rule, unlike current benchmarks used for over twenty years. What is a reasonable royalty valuation? Should it be based upon downstream coal resale prices? Or should the value be based upon the price of electricity? Should the value include a carbon fee?

Even if it is rarely exercised as the Department of Interior claims, the very presence of the default provision creates considerable risk and, therefore, imposes significant transactions costs. All federal coal royalty payments are subject to audits that often take place 6-8 years after a coal sale. Unlike oil royalties that are allowed to be determined on the basis of published price indices and ONRR's proposal that gas should also be afforded reference to such indices, the coal royalty valuation proposed by ONRR is based upon an ill-defined "net back" concept. This method takes the gross proceeds of the first arm's length sale of coal and then asks the seller to deduct "transportation costs" in order to arrive at the mine mouth value of the coal. The rule only allows for deduction of undefined "transport costs" and does not specify deductions for other costs incurred in getting the coal to its first arm's length sale in a marketable condition.

Coal companies have responsibilities to their shareholders. The possibility that the default provision would be invoked, allowing the Secretary of the Interior to set any value upon which the 12.5 percent royalty would be due, would require coal companies to set aside funds to cover any discrepancy between their understanding of the royalty "net back" calculation and the ONRR estimate of "fair market" value for the royalty. In addition, firms would need to set aside additional funds to cover possible penalties and interest. As written, the rule would allow the Secretary to set a valuation of $1000 per ton for coal that may have sold for $50 per ton. Thus, $125 per ton would be due.

Financial prudence would demand a conservative approach and, therefore, substantial contingency funds would be required to be held for several years until royalty payments are audited. Using current export terminal capacity under development, PRB producers may have access to roughly 100 million tons export opportunities. Given the uncertainty created by the "default provision" and the contingencies that producers might be required to carry to meet subsequent valuation discrepancies, at a $10 per ton provision, the rule could require PRB producers to accrue up to $1 billion per year.

VI. Impacts on PRB Coal Export Prospects

Establishing these royalty contingency funds is unlikely to be financially feasible given the small profit margins and limited cash flow of coal companies. As a result, the proposed rules would likely render uneconomic any new investments in additional coal production and delivery capacity. Domestic coal shipments are likely to be significantly lower under the Obama Administration's proposed Clean Power Plan and other regulations. Hence, the only prospect for offsetting these losses is higher coal exports, which is placed in considerable jeopardy by the proposed royalty rule changes.

To understand how the proposed rule changes would affect the prospects for coal exports from the PRB, a few salient features of international coal markets must be understood. Coal is the number one growth fuel in the world economy over the past decade, supplying the world with more than 1.4 billion tons of additional oil equivalent energy compared with 742 million tons of oil equivalent from natural gas (see Figure 2). The third largest contributor was oil with 544 million tons. New hydroelectric supplies were the fourth largest source of growth followed by renewable power sources, such as wind and solar, with 218 million tons of oil equivalent. Nuclear power's contribution actually decreased during from 2003 to 2013.

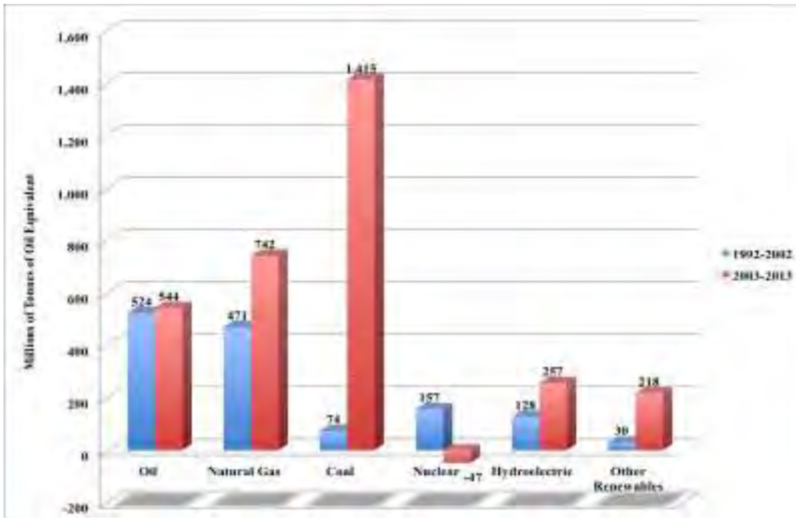

Figure 2: Average Incremental Changes in World Energy Consumption

So despite what the current Administration tries to do to limit domestic coal consumption and exports, the world will adopt the least cost option for generating electric power, which is most often coal in many regions around the world. While this consumption raises greenhouse gas emissions, the social benefits from bringing electricity to millions of impoverished people around the world are considerable. Moreover, limiting PRB coal exports would simply encourage the substitution of coal with higher sulfur and mercury content with significantly negative impacts on human health and the environment.

If the United States does not export coal to meet these global needs for energy, other coal producers abroad will. Total world coal exports rose 69% from 835.1 million tons in 2003 to 1.41 billion tons in 2013. The top ten coal exporters, displayed in Figure 3, accounted for 97.6% of total world coal exports in 2012. Indonesia and Australia are the dominant coal exporters with 422 and 332 million tons respectively, which together account for 58% of world coal exports. The United States is in third place with 116 million tons of exports, much of which is exported from the Appalachian basins through east coast facilitates. Russia, Columbia, and South Africa are also significant exporters. Most of these exports are shipped to Europe and Asia.

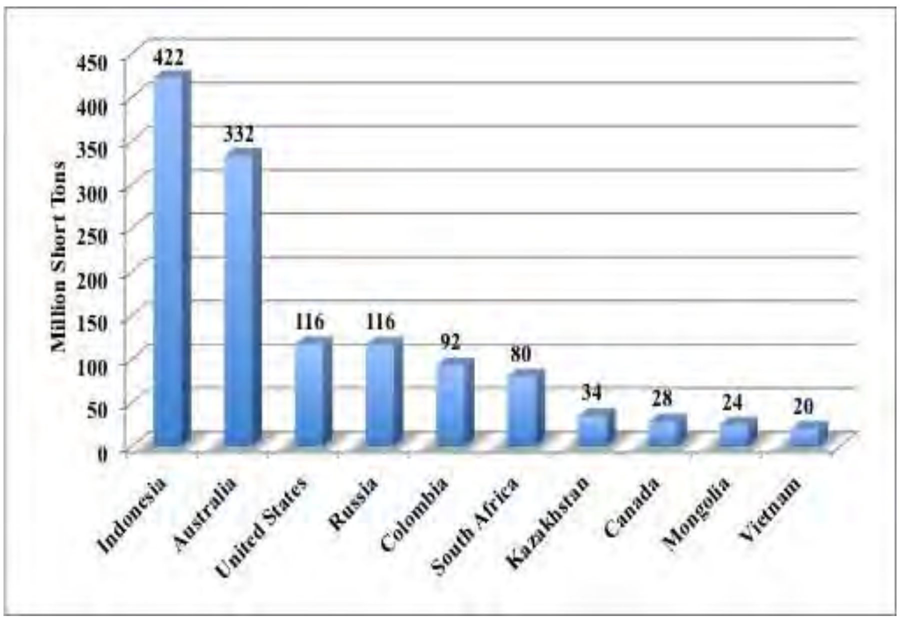

Figure 3: Top Ten Coal Exporting Nations

Most U.S. exports are metallurgical grade coal, also known as coking coal, used to make coke for iron making in the steel industry. The U.S. exported 70 million tons of metallurgical grade coal during 2011 and 2012, up considerably from 37 million tons during 2009 (see Figure 4). The world steel industry consumed over 700 million tons of coking coal in recent years.

Wyoming does not produce metallurgical grade coal. U.S. exports of steam coal used in electric power generation increased from 22 million tons in 2009 to 56 million tons in 2012 but then dropped to 52 million tons during 2013 due to lower export demand and lower coal export prices (see Figure 4). Also included in Figure 3 are exports of petroleum coke, which is produced by petroleum refineries and used primarily as a fuel in electric power and cement production. Prior to 2011, U.S. petroleum coke exports often exceeded steam coal exports. Coal exports declined during 2013 in part due to lower coal export prices (see Figure 5).

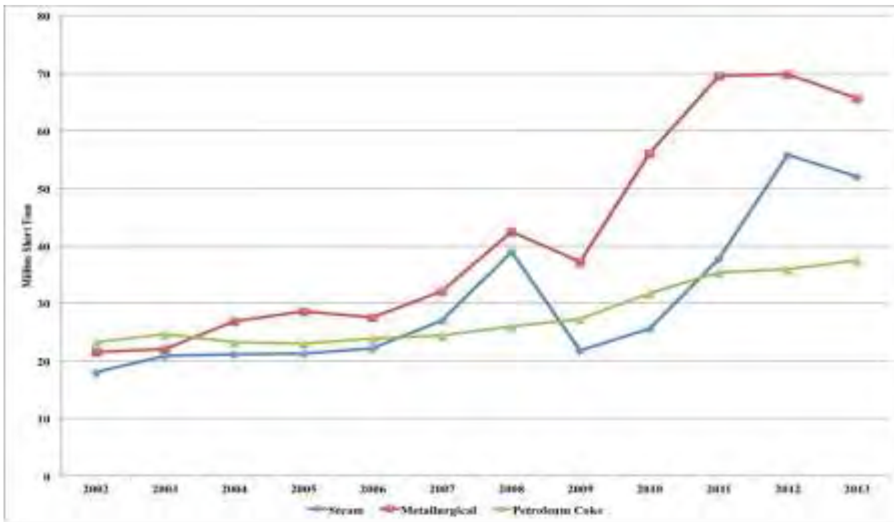

Figure 4: U.S. Coal and Petroleum Coke Exports, 2002-2012

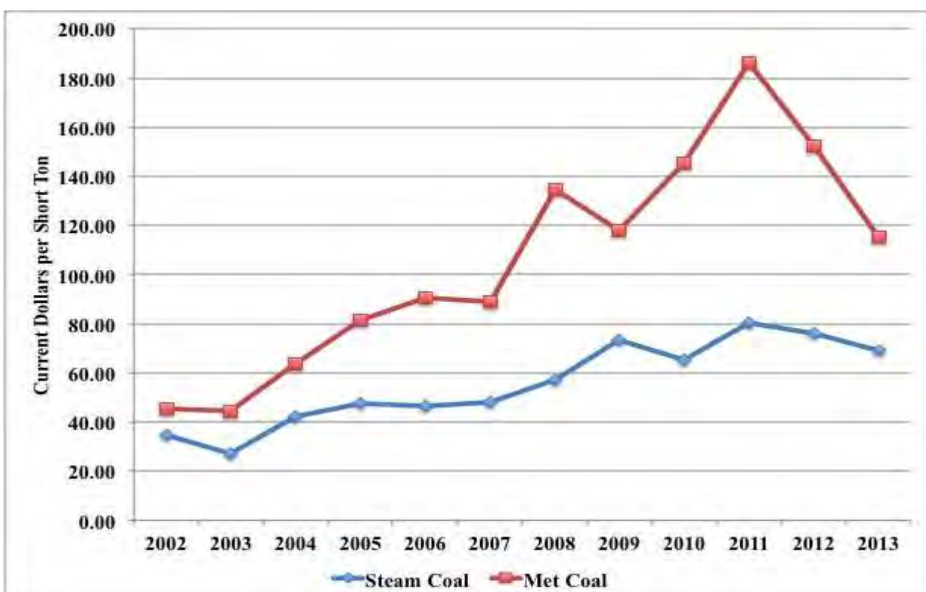

Figure 5: U.S. Coal Export Prices, 2002-2012

Most of the growth in steam coal exports from the U.S. has come from an increase in demand from Europe and to a lesser extent Asia (see Figure 6). U.S. exports of steam coal to Europe were over 32 million tons, comprising 58 percent of total U.S. steam coal exports, during 2012. The Asia Pacific region bought 12.4 million tons or 18 percent of total U.S. steam coal exports during 2012.

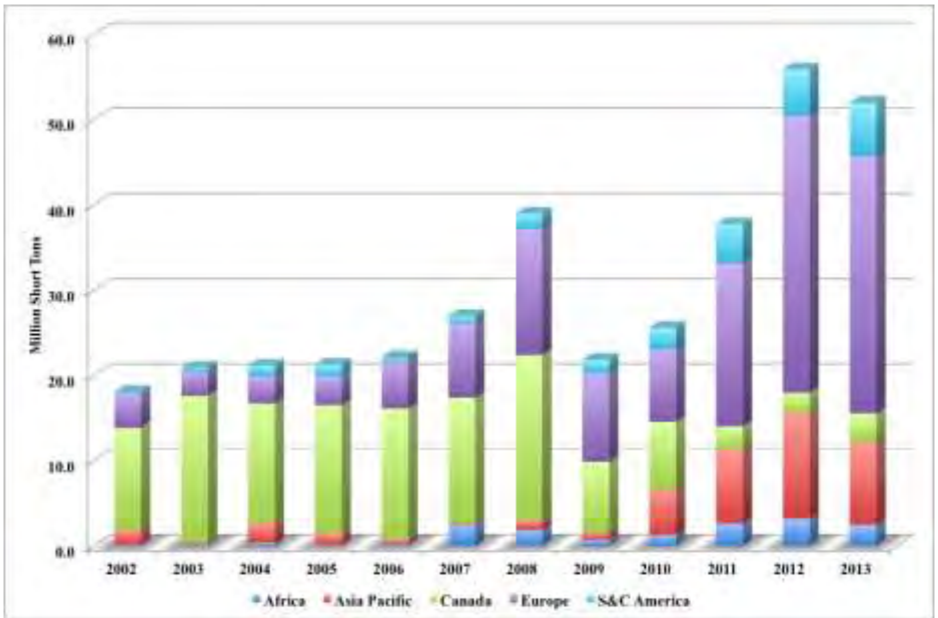

Figure 6: U.S. Coal Exports by region, 2002-2012

Given the size of the international coal market and the highly competitive costs of PRB coal production, Wyoming has the potential to export significantly greater amounts of PRB coal. Despite this promise, however, Wyoming coal producers have yet to achieve significant access to international customers (see Figure 7). Moreover, over the past ten years, exports of coal from Wyoming to international destinations declined while coal exports from other regions of the United States surged. These divergent trends reflect the absence of metallurgical coal production in Wyoming and the relatively high costs of getting Wyoming coal to ports for shipment overseas.

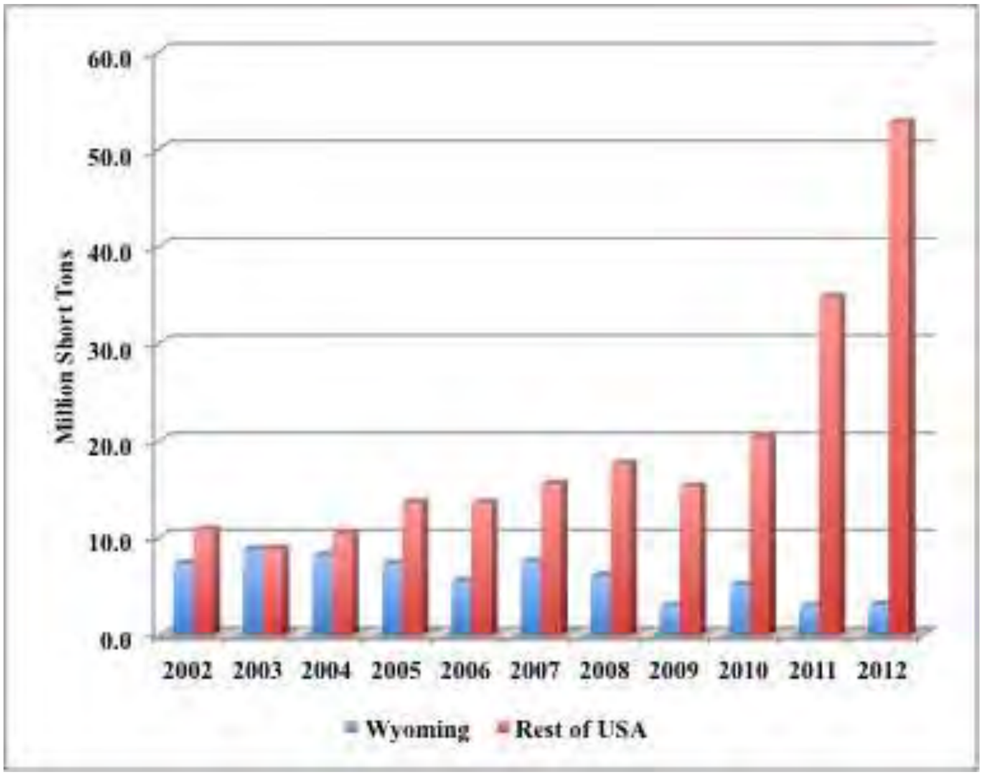

Figure 7: Steam Coal Exports from Wyoming & Rest of USA, 2002-2012

One of the key obstacles in making higher coal exports from Wyoming a reality is environmental opposition to port expansions in the Pacific Northwest. According to Schaefer (2012), there were more than 150 million tons of coal export capacity proposed in Oregon and Washington. Several proposed facilities, however, recently have been canceled for economic reasons so the current projection is now approximately 100 million tons. Even if half of this capacity is built and with additional export capacity in the Gulf Coast region and even Canada, coal exports could partially offset reductions in domestic PRB coal shipments.

So currently PRB coal is at the margin, poised to expand service to international customers but currently under threat from opposition to port expansions on the west coast and more recently from the proposed royalty rule changes discussed above. Seemingly small changes in royalties can have significant impacts on the export possibilities for PRB coal.

The proposed rule changes discussed above would most likely eliminate any profit margin on PRB coal exports to Asia. An illustration of the possible effects and uncertainties associated with the proposed rule changes on profits for coal export sales are illustrated in Figure 8. Under the proposed netback policy, profits on coal exports based on Q1 2015 prices are -$0.04, or essentially zero. Any recovery of international coal prices would likely restore the profitably of coal exports and revive incentives to export PRB coal.

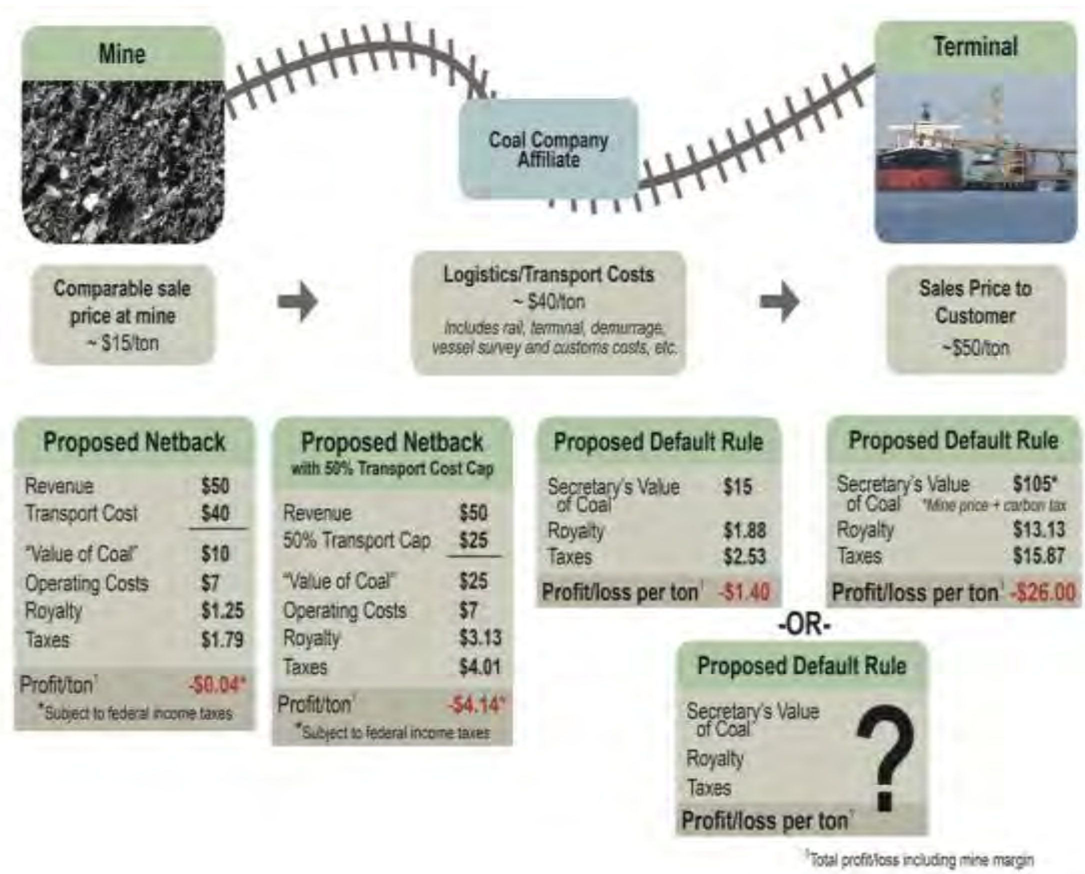

Figure 8: Possible Impacts on Coal Export Profitability

The proposed rule changes, however, make this prospect less likely. For instance, if a 50% transport cost cap is implemented, profits on coal exports from the PRB fall to -$4.14 (see Figure 8). If a carbon fee is erroneously assessed, profits on coal export sales would be -$26 per ton, which would clearly render any coal exports from the PRB uneconomic and, therefore, unlikely to be realized. The criteria for setting coal royalties under the default provision, however, are not defined and, therefore, expected profits from future PRB coal exports would not be known under the proposed default provision. What is clear is that this uncertainty entails real financial costs that firms must bear in the interim between infrastructure development and future coal export sales. These additional transaction costs arising from uncertainty would reduce these expected profits even further from those estimated in Figure 8.

This analysis suggests that the proposed rule changes would likely forestall any future growth in PRB coal exports. Our observations about U.S. coal exports, however, indicate that efforts to make federal coal more expensive would not affect the bulk of U.S. coal exports, which are primarily metallurgical grade coal and Appalachian steam coal that would be unaffected by the proposed rule changes. While the export potential for PRB coal is significant, it is constrained by limited port capacity to the Pacific basin. Finally, profit margins on shipping coal from the PRB to Asia have been falling in recent years and are currently next to nothing or result in marginal losses for some companies. These market realities suggest that the proposed changes to rules determining royalties on coal extracted from federal lands and the resulting risk premium required would likely eliminate the already thin profit margins from exporting PRB coal. The end result of the proposed rule changes would be the elimination of coal exports from federal lands in the U.S.

VII. Recommendations

If the proposed rules were adopted, the most likely outcome would be the loss of considerable volumes of potential future coal exports, upwards of 100 million tons of coal per year. Under this scenario, U.S. taxpayers would lose roughly $200 million per year in royalty income from lost federal coal production arising from the effects of the proposed rule changes.

The proposed rule changes for royalty determination are ill defined and actually represent a step back from existing rules by creating unnecessary uncertainty that raises transactions costs on coal exports. If royalty valuation needs reform, a far better approach would be to establish royalties on federal coal based upon published price indices for PRB, similar to the methods proposed for federal oil and gas. Finally, the proposed default provision would force coal companies to carry significant financial liabilities to protect their shareholders from unilateral royalty re-valuation by ONRR. These transactions costs would likely force firms to re-organize their operations to spin-off coal marketing affiliates and to abandon efforts to seek new markets abroad for PRB coal. The proposed default provision, therefore, is a bad idea and should not be adopted.

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United States Government Accountability Office

Report to Congressional Requesters

December 2013

COAL LEASING

BLM Could Enhance Appraisal Process, More Explicitly Consider Coal Exports, and Provide More Public Information

This Report Is Temporarily Restricted Pending Official Public Release.

COAL LEASING

BLM Could Enhance Appraisal Process, More Explicitly Consider Coal Exports, and Provide More Public Information

GAO Highlights

Highlights of GAO-14-140, a report to congressional requesters

Why GAO Did This Study

In fiscal year 2012, about 42 percent of the 1.05 billion tons of coal produced in the United States came from coal tracts leased under the federal coal leasing program. Interior's BLM is responsible for managing this program, including estimating the fair market value of the coal to be leased. GAO was asked to examine this program. (Representative Markey originally made this request as Ranking Member of the House Committee on Natural Resources. He is now a member of the United States Senate.) This report examines (1) the number of tracts leased, along with the trends in associated coal production and revenues generated since 1990; (2) BLM's implementation of the process to estimate fair market value for coal leases; (3) the extent to which BLM considers coal exports and domestic coal reserve estimates when estimating fair market value; and (4) the extent to which BLM communicates information on federal coal lease sales to the public. GAO analyzed data on coal leasing activity, examined regulations and case files for coal lease sales, and interviewed BLM and other officials.

What GAO Recommends

GAO recommends, among other things, that BLM require state offices to use more than one approach to estimate fair market value where practicable, develop a mechanism to ensure that reviews of appraisal reports take place, and take steps to release additional summary information on its websites, including past lease sales. Interior concurred with these recommendations.

View GAO-14-140. For more information, contact Anne-Marie Fennell at (202) 512-3841 or fennella@gao.gov.

What GAO Found

Since January 1990, the Bureau of Land Management (BLM) has leased 107 coal tracts, and associated coal production and revenues have grown. Most lease sales have had a single bidder and were leased the first time offered. The amount of coal produced from federal leases and associated revenues have increased since 1990, although production has leveled off since 2002. Revenues from federal coal leases have generated about $1 billion annually in recent years. Royalties paid when coal is sold and bonus bids paid for the right to mine a federal coal tract account for nearly all of these revenues.

BLM's guidance offers flexibility in how to estimate fair market value, and BLM state offices vary in the approaches they used to develop an estimate of fair market value. In estimating fair market value, some BLM state offices used both the comparable sales approach—where bonus bids received for past sales are used to value the tract being appraised—and the income approach—which uses estimates of the future net revenue streams from the sale of coal from the appraised tract. However, some offices relied solely on the comparable sales approach and may not be fully considering future market conditions as a result. In addition, GAO found that BLM did not consistently document the rationale for accepting bids that were initially below the fair market value presale estimate. Furthermore, some state offices were not following guidance for review of appraisal reports, and no independent review of these reports was taking place. Adequate review of the fair market value process is critical to ensure that its results are sound and key decisions are fully documented. In addition, BLM is not currently taking advantage of a potential independent third-party reviewer with appraisal expertise within the Department of the Interior (Interior), specifically, the Office of Valuation Services.

BLM considers exports to a limited extent when estimating fair market value and generally does not explicitly consider estimates of the amount of coal that can be mined economically, known as domestic reserve estimates. As a result, BLM may not be factoring specific export information into appraisals or may not be fully considering the export potential of a lease tract's coal as called for in agency guidance. The Wyoming and Montana BLM state offices considered exports, but they generally included only generic statements about exports in the reports they prepared. In the other seven states with leasing activity, exports were generally not considered during the appraisal process. According to BLM officials, domestic reserve estimates, which vary based on market conditions and the costs to extract the coal, are not considered due to their variable nature.

BLM generally provides limited information on federal coal lease sales to the public because of the sensitive and proprietary nature of some of this information. The Wyoming BLM state office posts information on its website, including information on past lease sales, but most state office websites provide only general information. BLM's guidance states that redacted public versions of its appraisal reports should be prepared, but no BLM state office has prepared such reports. BLM supplied redacted versions of fair market value documents in response to a recent public information request only after being advised to do so by Interior's Solicitor's office.

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Abbreviations

BLM	Bureau of Land Management
Btu	British thermal unit
EIA	Energy Information Administration
EPA	Environmental Protection Agency
FCLAA	Federal Coal Leasing Amendments Act of 1976
FOIA	Freedom of Information Act
IEA	International Energy Agency
NEPA	National Environmental Policy Act
OMB	Office of Management and Budget
ONRR	Office of Natural Resources Revenue
USGS	United States Geological Survey

GAO U.S. GOVERNMENT ACCOUNTABILITY OFFICE

441 G St. N.W.
Washington, DC 20548

December 18, 2013

The Honorable Peter DeFazio
Ranking Member
Committee on Natural Resources
House of Representatives

The Honorable Edward J. Markey
United States Senate

Coal is an important domestic energy source, and in 2011, coal-fueled electric power plants supplied about 42 percent of the nation's electricity. The Department of the Interior's Bureau of Land Management (BLM) is responsible for managing the coal resources on about 570 million acres of federal, private, and state land under the federal coal leasing program.[1] Under this program, BLM leases out federal coal tracts to mining companies who extract the coal from both surface and underground mines. In fiscal year 2012, about 42 percent of the 1.05 billion tons[2] of coal produced in the United States came from federal coal lease tracts.[3] The coal leasing program also generates significant revenue for federal and state governments; in fiscal year 2012, about $1.2 billion was generated from coal leasing.[4] These revenues come primarily from royalties paid on the coal when it is sold and payments made by companies to obtain the rights to mine on a federal lease tract, known as bonus bids.

[1]The federal government owns and manages the mineral resources on and below these lands but the state, in cases of state land, or a private party, in the case of private land, owns the surface land. Federal land where coal leasing takes place includes land managed by BLM and other federal agencies, including the U.S. Forest Service. In those instances where a proposed federal lease would be on lands managed by another agency, the federal agency managing the land must consent to offer the lands for lease. In these cases, BLM is still responsible to overseeing the leasing process.

[2]This report uses tons when describing amounts of coal. One ton is 2,000 pounds.

[3]We did not include coal produced from tribal lands in our review of federal coal leasing because they are governed by a different set of regulations and do not involve the same leasing process as the federal coal leasing program. As of December 31, 2012, there were four operations mining tribal coal.

[4]Generally, revenues from federal coal leases are split equally between the federal government and the state in which the coal lease is located.

Since 1990, all federal coal leasing has taken place through a lease-by-application process where coal companies propose tracts of land to be put up for sale by BLM.[5] At these sales, known as lease sales, companies can bid for the rights to lease tracts of land that contain federal coal for a set period of time; during the lease period, they can mine and sell coal from these tracts. In most cases, these lease tracts are adjacent to companies' existing coal mines, and the additional coal would allow these operations to continue. In preparation for a lease sale, BLM develops a confidential estimate of fair market value, which can generally be defined as the amount that a knowledgeable seller would obtain from a knowledgeable buyer for the coal deposit.[6] This estimate of fair market value is documented in an appraisal report prepared by BLM.[7] When conducting the lease sale, BLM leases the tract to the highest qualified bidder, as long as its bonus bid meets or exceeds BLM's estimate of fair market value.[8] In response to a lease application, BLM will also determine the amount of the coal that can be extracted from the lease tract and the environmental impacts of the proposed mining activity.

According to the Energy Information Administration (EIA),[9] coal exports have increased in recent years—particularly exports to Asia and Europe,

[5]Another way for companies to obtain the rights to mine coal is through the lease modification process where a company may request a certain amount of contiguous land be added to an existing lease. BLM considers this request and, if granted, the lands are added to the existing lease without competitive bidding. The lease modification process was not part of our review.

[6]More specifically, fair market value is defined as "that amount in cash, or on terms reasonably equivalent to cash for which in all probability, the coal deposit would be sold or leased by a knowledgeable owner willing but not obligated to sell or lease to a knowledgeable purchaser who desires but is not obligated to buy or lease." 43 C.F.R. § 3400.0-5(n) (2013). The Federal Coal Leasing Amendments Act of 1976 require that BLM obtain fair market value for the coal lease tracts and that coal leasing generally be done on a competitive basis.

[7]For the purposes of this report, we are using the term appraisal to mean the valuation of federal coal property offered for lease, in keeping with BLM's guidance. See BLM, *H-3070-1 Economic Evaluation of Coal Properties* (Washington, D.C.: 1994). The value estimated for federal coal lease sales is used to ensure receipt of at least the fair market value as required by the Federal Coal Leasing Amendments Act of 1976.

[8]Before the lease can be issued, the high bidder must also provide a bond to ensure performance of lease conditions, and must undergo an antitrust review by the Department of Justice.

[9]EIA is a statistical agency within the Department of Energy that collects, analyzes, and disseminates independent information on energy issues.

where coal prices are generally higher than U.S. domestic prices. In 2012, the United States exported about 126 million tons of coal—an increase of 54 percent over 2010 levels. This recent increase in coal exports has raised questions about whether BLM's process for estimating fair market value is taking these changes into account, and whether the agency considers the total amount of coal that can be mined in the United States economically, known as domestic reserve estimates. In addition, some stakeholders, particularly environmental groups, have raised concerns about the amount of publicly available information on the federal coal leasing program and, specifically, documents BLM prepares as part of estimating fair market value. Interior's Inspector General also recently issued a report examining aspects of the federal coal leasing program, including the process for estimating fair market value and the coal lease inspection and enforcement program.[10]

You asked us to examine the federal coal leasing program. (This request was originally made by Representative Edward J. Markey as Ranking Member of the Committee on Natural Resources, House of Representatives. Mr. Markey is now a member of the United States Senate.) Our objectives for this report were to examine: (1) federal coal leasing, including the number of tracts leased, along with the trends in associated coal production and revenues generated since 1990; (2) BLM's implementation of the process to develop an estimate of fair market value for coal leases; (3) the extent to which BLM considers coal exports and domestic coal reserve estimates when developing an estimate of fair market value; and (4) the extent to which BLM communicates information on federal coal lease sales to the public.

To provide information on trends in federal coal leasing, we analyzed data from BLM's LR2000 database—which BLM uses to track federal land and mineral resources, including coal—and summarized federal coal lease sale activity and bonus bids accepted since 1990. We also analyzed data on coal production and revenues generated from federal coal leases from 1990 to 2012 from the Department of the Interior's Office of Natural Resources Revenue (ONRR), which is responsible for collecting and distributing revenues associated with federal mineral leases including federal coal leases. To assess the reliability of these data, we conducted

[10]Office of Inspector General, U.S. Department of the Interior, *Coal Management Program, U.S. Department of the Interior* (Washington, D.C.: 2013).

interviews with BLM and ONRR officials regarding these data and reviewed documentation on their data systems, and we determined the data we used to be sufficiently reliable for our purposes, unless otherwise indicated.

To examine BLM's implementation of the process to develop an estimate of fair market value, we reviewed applicable regulations and BLM's guidance for the coal leasing program and interviewed BLM officials in both headquarters and state offices on how they implement these regulations and guidance. In addition, we reviewed appraisal standards developed by appraisal organizations in the United States and in other countries and spoke with officials from some of these groups. We also selected and reviewed a nonrandom sample of case files prepared by BLM officials as part of 31 coal lease sales using a data collection instrument we developed. Specifically, we focused on recent lease sales and examined case files for lease sales that generally took place from January 1, 2007, to July 31, 2012.[11] For those states that did not oversee a lease sale during this time frame, we examined files from their two most recent sales.

To determine the extent to which BLM considers coal exports when developing an estimate of fair market value, we used the results of our case file review to examine what types of information BLM included on exports. We interviewed BLM officials to learn about the information they consult in estimating fair market value and also spoke with knowledgeable stakeholders, such as academics, about future projections for coal exports. To determine the extent to which BLM considers domestic coal reserve estimates, we interviewed various BLM officials at headquarters and all of the BLM state offices where there are coal leases. In addition, we examined available export and domestic coal reserve information from government sources and coal mining companies.

To examine the extent to which BLM provides information to the public on coal lease sales, we analyzed BLM's policies for making information publicly available, reviewed BLM websites related to federal coal leasing, and reviewed a sample of documents that are made publicly available during the coal leasing process. We also interviewed BLM officials,

[11]This nonrandom sample cannot be generalized to all coal lease sales held. However, the results of this sample provide illustrative examples of the coal leasing process used and the documentation prepared.

representatives from industry, and environmental groups to get their perspectives on the information made publicly available on federal coal leases.

We conducted this performance audit from June 2012 to December 2013 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. A more detailed description of our objectives, scope and methodology is presented in appendix I.

Background

Coal is an important domestic energy source, and BLM is responsible for managing coal resources on about 570 million acres of federal, state, and private land. Since 1990, all federal coal leasing has taken place through a lease-by-application process where companies propose lease tracts to be put up for sale by BLM. In fiscal year 2012, about 1.05 billion tons of coal was produced in the United States, including production from federal coal leases, and the biggest coal production area for federal coal was the Powder River Basin in northeast Wyoming and southeast Montana. Coal is also an important fuel source worldwide and consumption of coal continues to increase. To meet this growing demand, there has been an increase in global trade of coal, including exports from the United States.

Coal Leasing Program and the Transition from Regional Leasing to Lease-by-Application

The Federal Coal Leasing Amendments Act (FCLAA) of 1976 amended the Mineral Leasing Act of 1920 to generally require that all federal coal leases be offered competitively.[12] Competitive leasing provides an opportunity for any interested party to competitively bid for a federal coal lease. There are two procedures that can be used for competitive leasing: (1) regional leasing, where the Secretary of the Interior selects tracts within a region for competitive sale based on, among other things, expected demand for coal resources and potential economic impacts and (2) lease-by-application, where companies submit an application to

[12]Prior to the enactment of FCLAA, some coal leases were awarded noncompetitively through preference right leases, which were awarded in areas where coal deposits were not known to exist and were discovered by the applicant. Competitive lease sales were held for coal tracts located in areas with known coal reserves.

nominate lease tracts that they are interested in leasing. Under both of these methods, BLM examines the potential environmental impact that could result from coal leasing.

In April 1982, the first regional coal lease sale was held for 13 lease tracts containing 1.6 billion tons of coal located in the Powder River Basin in Montana and Wyoming, and a follow-up sale was held in October 1982 for 2 lease tracts. Controversy surrounded the 1982 sale. Specifically, there were allegations that confidential appraisal information was disclosed to coal companies prior to the lease sale and that appraisal and sale procedures failed to assure that the public received fair market value for the leased coal tracts. These allegations led to an investigation by the House Appropriations Committee and a report that we issued in May 1983.[13] Later that year, Congress directed the Secretary of the Interior to establish a commission to review the coal leasing procedures to ensure the receipt of fair market value, known as the Commission on Fair Market Value Policy for Federal Coal Leasing or the Linowes Commission. Congress imposed a moratorium on lease sales until after the commission's final report was issued in 1984. Among its key findings on the fair market value process, the Linowes Commission found that Interior used appraisal methods that were widely accepted by industry and government, but that Interior needed to, among other things, enhance its capacity to perform appraisals and seek independent reviews of its appraisals and, more broadly, of the federal coal leasing program. From March 1984 through February 1987, coal leases were subject to another moratorium to enable development and implementation of revised coal leasing procedures based on the commission's recommendations.

By 1990, BLM had shifted from regional coal leasing to lease-by-application as the primary method of conducting federal coal lease sales. From 1987 to 1990, Interior decertified six coal regions it had established under the regional leasing program, citing declining interest in coal leases and poor coal market conditions.[14] Decertification meant that regional sales were no longer conducted, but that lease-by-application was available so that current mines could maintain production at their existing

[13]GAO, *Analysis of the Powder River Basin Federal Coal Lease Sale: Economic Valuation Improvements and Legislative Changes Needed,* GAO/RCED-83-119 (Washington, D.C.: May 11, 1983).

[14]Two other coal regions were decertified in 1981 and 1982.

mines or new mines could begin operations. Under the lease-by-application process, companies may submit applications to BLM state offices to nominate lease tracts to be put up for sale.[15] This contrasts with the regional leasing process where Interior would decide which lease tracts would be put up for sale.

Tracts nominated under the lease-by-application process, commonly referred to as maintenance tracts, are generally adjacent to existing mining operations and are nominated by companies that own these operations. The BLM state office where the tract is located will review the application to determine whether it is consistent with applicable regulations, or if leasing the proposed property would be contrary to the public interest. For example, a lease application may be rejected if BLM determines that the land is unsuitable for coal mining or if a qualified surface owner does not consent to surface mining.[16] During this review process, BLM may also choose to redraw the lease tract boundaries in the public interest, a process known as tract modification. Reasons for tract modification include ensuring that economically recoverable coal adjacent to the original lease tract not be bypassed, or enticing another mining company to bid on a lease tract by making the boundaries of the proposed tract adjacent to more than one potential bidder, according to BLM officials. Once BLM accepts an application, it will begin either an environmental assessment or an environmental impact statement in accordance with the National Environmental Policy Act (NEPA).[17]

[15]BLM has 12 state offices, with most of these located in the western part of the United States. These state offices are located in Alaska, Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Virginia, and Wyoming.

[16]There are instances where the surface is owned by an entity other than the federal government, but the underlying minerals are owned and managed by the federal government. In these cases, known as split estates, the qualified surface owner must consent to any surface mining, but this consent is not required for underground mining. The qualified surface owner does not receive any royalties or other revenues for mining activities but may receive compensation from the lessee.

[17]Enacted in 1970, NEPA has two principal purposes: (1) to ensure that an agency carefully considers detailed information concerning significant environmental impacts and (2) to ensure that this information will be made available to the public. NEPA requires federal agencies to evaluate the likely environmental effects of proposed projects using an environmental assessment or, if the projects would likely significantly affect the environment, a more detailed environmental impact statement evaluating the proposed project and alternatives must be completed.

In preparing for a lease sale, BLM will also develop a presale estimate of fair market value of the lease tract's coal, which is generally expressed in cents per ton of coal that is recoverable from the lease tract. "Recoverable" refers to an estimate of the amount of coal that can be commercially mined from the tract and excludes coal that is not mined, such as top and bottom sections of a coal seam, which are typically mixed with less valuable rock.[18] There are also instances when fair market value is expressed on a per acre basis.

The presale estimate of fair market value is generally documented in an appraisal report prepared by the BLM state office overseeing the lease sale.[19] Other reports, such as geologic, engineering, and economic reports, may also be prepared during the appraisal process by either the relevant BLM state office or an associated BLM district or field office in the state.[20] The geologic report contains a legal description of the tract, along with an estimate of the amount of coal that can be recovered on the lease tract along with the characteristics of the coal, including its heating content.[21] An engineering report generally contains a mining plan, along with estimates of the costs to extract the coal based on the number of employees and capital equipment necessary to carry out this plan, among other costs. An economic report provides information on future coal market conditions, including price and demand levels for the lease tract's coal.

Prior to a lease sale, BLM is required to publicly announce in the Federal Register and a local newspaper when and where a lease sale will be held and the bidding procedures. Any company is free to bid on the lease using a sealed bid process. The amount that a company will pay to lease the tract—known as a bonus bid—is a function of the cents per ton they are willing to pay multiplied by the estimated recoverable tons of coal

[18]43 C.F.R. § 3480.0-5(a)(32).

[19]Some of these state offices oversee leasing activities across multiple states. For example, the New Mexico state office oversees New Mexico, Oklahoma, Kansas, and Texas. There are no federal coal leases in Kansas or Texas according to BLM officials.

[20]There are generally multiple BLM field offices that report to a specific BLM state office. For example, there are 10 BLM field offices in Colorado and 3 of these oversee federal coal leasing.

[21]Heating content is usually expressed as British thermal units (Btu) per pound of coal. A Btu is the amount of energy needed to heat 1 pound of water by one degree Fahrenheit.

from a lease tract. These bonus bids are then reviewed by a BLM sales panel, which includes officials from the relevant BLM state office and BLM headquarters. Bids are accepted or rejected based on whether they meet the estimate of fair market value, and the lease is awarded to the highest qualified bidder that meets or exceeds this estimate of fair market value.[22] This successful bidder must either pay the total bonus bid in full at the time of lease sale or pay 20 percent of the bonus bid at the lease sale followed by four equal payments on the first four anniversary dates of the lease. The minimum bid that BLM can accept for a lease tract is $100/acre. If a lease sale does not receive a qualified bid at or above the estimate of fair market value, the lease tract can be renominated again through the lease-by-application process by the company that originally nominated the tract or by another interested company. If there is no interest in the lease tract, the application is closed by BLM.

In addition to paying a bonus bid for the rights to mine the coal on a lease tract, companies also pay rents and royalties on the coal they extract.[23] Rent amounts are at least $3 an acre and royalties are 8 percent of the sale price for coal produced from underground mines and at least 12.5 percent of the sale price for coal produced from surface mines. These royalties are paid on the price of the coal received at the first point of sale after it is removed from the ground. Tracts are leased out for an initial 20-year period, so long as the lessee produces coal in commercial quantities within a 10-year period and meets the condition of continued operations.

[22]Before a lease is issued, the high bidder must also provide a bond to performance of lease conditions, and the lease issuance is subject to a Department of Justice antitrust review.

[23]The Mineral Leasing Act, as amended, directs the Secretary of the Interior to establish annual rentals and royalties for leases but establishes a minimum royalty rate of not less than 12.5 percent of the value of coal recovered by surface mining operations. 30 U.S.C. § 207(a) (2013). The regulation establishing the minimum rental rate—43 C.F.R. § 3473.3-1(a)—and the regulation establishing the minimum royalty rate for surface mining—43 C.F.R. § 3473.3-2(a)(1)—were issued in 1979. The regulation establishing the royalty rate for underground mining—43 C.F.R. § 3473.3 -2(a)(2)—was initially issued in 1979 with a regulatory minimum (of a 8 percent royalty rate) that could be lowered (to a 5 percent royalty rate) but in 1990 the regulation was amended to establish a 8 percent royalty rate. The regulations also authorize BLM to waive, suspend, or reduce the rental, or reduce the royalty, for the purpose of encouraging the greatest ultimate recovery of federal coal, and in the interest of conservation of federal coal and other resources, whenever it is necessary to promote development or when the lease cannot be successfully operated under its terms, but in no case can the royalty on a producing federal lease be reduced to zero.

Lease terms can be extended if a company is actively producing coal on the lease tract.

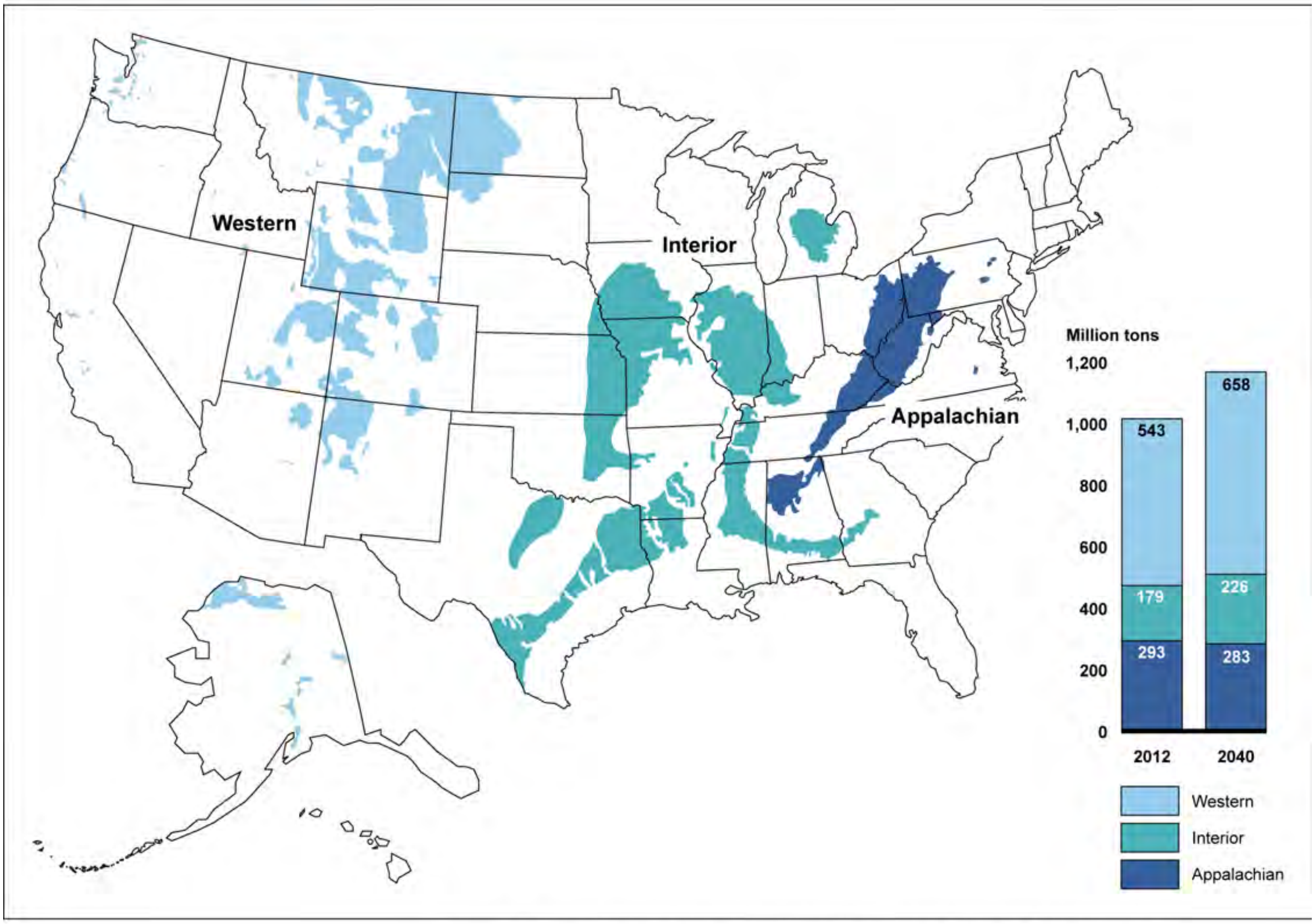
U.S. Coal Production

According to EIA data, about 1.1 billion tons of coal was produced in the United States in 2011 from 1,325 mines, which employed over 91,000 people.[24] Coal is produced from three major regions—Appalachia, the interior United States, and the western United States (see fig. 1). More than half of U.S. coal came from the western region, which includes the Powder River Basin in northeast Wyoming and southeast Montana. The Powder River Basin is the largest coal-producing region in the United States, and all 10 of the top-producing U.S. coal mines are in the Powder River Basin, with 9 of these located in the Wyoming portion of the basin, according to EIA data. Coal in the Powder River Basin has less sulfur than eastern coals, making it attractive to utilities for meeting Clean Air Act requirements.[25] Close to 100 percent of federal coal is produced from leases located in the western region and, in fiscal year 2012, federal coal accounted for nearly 80 percent of the western region coal production totals. Production from the western region is expected to continue to be the largest source of coal production in the future—in 2040, an estimated 56 percent of total U.S. coal production will come from western mines according to our analysis of EIA data.

[24]EIA. *Annual Coal Report 2011* (Washington, D.C.: 2012).

[25]According to Environmental Protection Agency (EPA) data, coal-fueled electric power plants are among the largest emitters of sulfur dioxide (SO_2) and nitrogen oxides (NO_x), which have been linked to respiratory illnesses and acid rain. The Clean Air Act requires EPA to establish national ambient air quality standards for six pollutants, including sulfur oxides and nitrogen oxides, which states are primarily responsible for attaining. States attain these standards, in part, by regulating emissions of these pollutants from certain stationary sources, such as electricity generating units In addition, the Clean Air Act Amendments of 1990 established a national cap-and-trade program to reduce SO_2 emissions from fossil-fuel electric generating units and required EPA to establish NO_x emissions limitations for coal-fueled electric power plants. In response to these Clean Air Act requirements, many utilities installed scrubbers and switched to burning low-sulfur coal such as that from the Powder River Basin to reduce SO_2 emissions.

Figure 1: U.S. Coal Production by Region



Sources: GAO analysis of Energy Information Administration data; copyright © Corel Corp., all rights reserved (map).

There are two primary methods used to mine coal: underground mining and surface mining. Deeper coal resources require use of underground mining, which entails digging a series of mine entries and shafts and using equipment to extract the coal and transport it to the surface. Underground mining is more expensive than surface mining, which is used where coal deposits are buried within a few hundred feet of the surface. In surface mining, soil and rock above the coal—known as overburden—is blasted with explosives and removed using large equipment, and the uncovered coal is then extracted. Mining on federal leases involves both underground and surface mining. According to BLM officials, underground mining is generally used on federal leases in Colorado and Utah, and surface mining is generally used in Montana and Wyoming.

Market for Coal and Coal Prices

Domestically, coal continues to be an important energy source and fuels a large portion of the electric power sector in the United States, according to EIA data. In 2011, coal-fueled electric power plants supplied about 42 percent of the nation's total electricity and, within the past decade, coal has provided as much as 50 percent of electricity in the United States. More than 90 percent of the coal consumed in the United States is used by the electric power sector. According to EIA, for this reason, coal production trends are strongly influenced by coal demand in the electric power sector, which is sensitive to both changes in the overall demand for electricity generation and changes in the mix of fuel sources. Recently, there has been a general decline in the amount of coal used to generate electricity in the United States due to a combination of factors including a decline in overall electricity demand and shifts in the relative prices of other fuels.

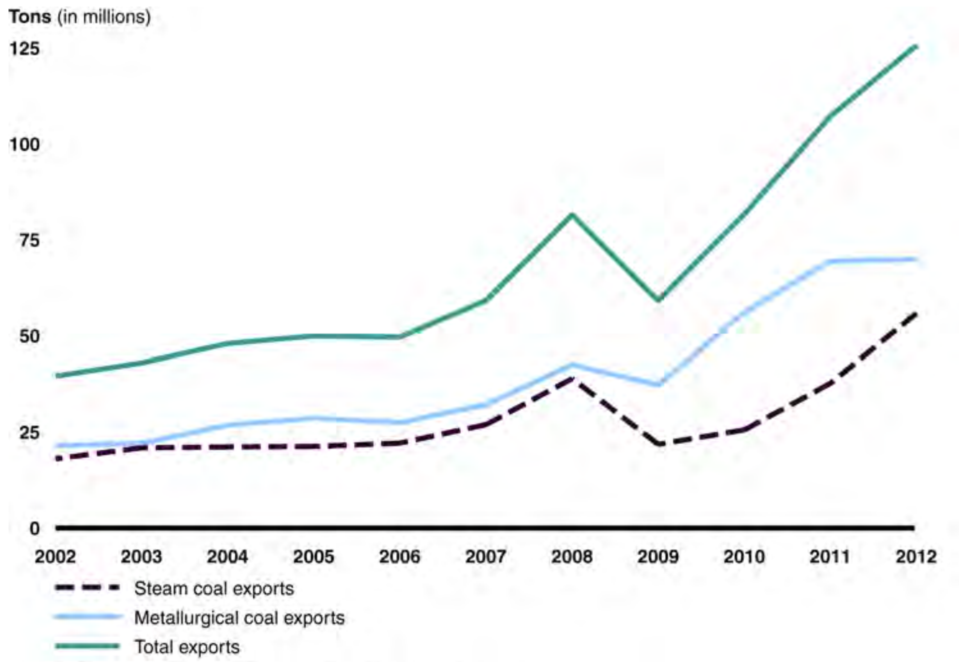
Coal used in electricity generation is referred to as steam coal, as the coal is burned to produce steam which turns turbines that generate electricity. Most of the coal that is leased out through the federal leasing program is steam coal, according to BLM officials. In addition to its use in the generation of electricity, coal can also be used for a variety of industrial uses. For example, metallurgical coal is baked at high temperatures to make coke, which is used as fuel to make steel. Metallurgical coal has low sulfur and ash content, among other properties needed for making coke.

The amount of coal produced and consumed worldwide continues to increase. The International Energy Agency (IEA) reported that worldwide coal production increased by 6.6 percent in 2011, the twelfth straight year of growth.[26] In addition, as of 2011, coal supports 28 percent of the total primary energy consumption worldwide and is the second primary energy source behind oil. China continues to drive much of the world coal markets as its consumption and production of coal accounted for about 45 percent of both global consumption and production totals in 2011 according to IEA data. To respond to this growing international demand, there has been an increase in coal exports with global coal trade increasing 7 percent in 2011 according to IEA.

The United States exports a small but increasing amount of coal primarily to Europe and Asia and, in 2011, the United States ranked fourth globally in coal exports behind Indonesia, Australia, and Russia. According to EIA data, total U.S. coal exports more than tripled from 2002 to 2012, as shown in figure 2 below. In 2012 about 126 million tons of coal was exported—about 12 percent of the total coal produced in the United States. The majority of this coal is exported to Europe and Asia. Metallurgical coal, which is generally not mined on federal coal leases, has historically made up the majority of U.S. coal exports. Nonetheless, there has been growth in exports the last few years of steam coal—the primary type of coal mined on federal coal leases. Specifically, from 2010 to 2012, steam coal exports from the United States more than doubled, rising from 25.6 million tons to 55.9 million tons. Based on EIA data, exports from Wyoming and Montana, the two largest states in terms of production from federal leases, accounted for less than 2 percent of total U.S. coal production in 2011. In addition, coal companies have announced plans to further increase steam coal exports in the future, and there are several coal export facilities that are being proposed on the West Coast to transport coal to growing Asian markets.

[26]IEA, *Coal Medium-Term Market Report*. Paris, France, 2012. IEA is an autonomous organization established in 1974 that works to ensure reliable, affordable and clean energy for its 28 member countries and beyond. The IEA's four main areas of focus are: energy security, economic development, environmental awareness, and engagement worldwide. Among its key objectives are to improve transparency of international markets through collection and analysis of energy data.

Figure 2: U.S. Coal Exports, 2002-2012



Source: GAO analysis of Energy Information Administration data.

The price for coal varies widely across the United States. Among the four states with the most production from federal coal leases—Colorado, Montana, Utah, and Wyoming—the average prices for coal originating in these states in 2011 were $39.88/ton in Colorado, $16.02/ton in Montana, $33.80/ton in Utah, and $13.56/ton in Wyoming, according to EIA's 2011 *Annual Coal Report.*[27] This large difference in price is tied to coal quality, which is referred to as coal rank.[28] Among other factors, coal rank is determined by the amount of carbon that the coal contains and the amount of heat energy it can produce, with higher rank coal having more

[27]This price per ton of coal is for all coal sold in that state and may include coal from mines that are not on federal lease tracts. This price per ton of coal is the "free on board" price for the coal, meaning it is the price paid for the coal before it is loaded on to a train or barge for transport to its final destination. Thus, this price does not include the cost to transport the coal.

[28]Coal is classified into four major ranks (from highest to lowest): (1) anthracite, (2) bituminous, (3) subbituminous, and (4) lignite.

energy content. The total amount of coal that an electric utility will need to fuel a power plant is tied to the heat content of coal. For example, a utility will need to buy more tons of coal with lower energy content to achieve the same output of energy that could be attained using less coal with a higher energy content. Other factors that affect a coal's quality are sulfur, moisture, and ash content. The sulfur content of the coal affects the sulfur dioxide emissions that result when coal is burned, and using coal with less sulfur content can help electric utilities meet air quality requirements. Coal with higher moisture and ash content is lower rank because both of these impact the amount of energy obtained from burning the coal. For example, coal with lower moisture content has greater energy content.

Since 1990, Over 100 Coal Tracts Have Been Leased, and Coal Production and Associated Revenues Have Generally Grown

Since January 1990, BLM has leased 107 coal tracts under the lease-by-application process, and both coal production and the associated revenues have grown. Most lease sales had a single bidder, and the successful bid amounts—typically expressed in cents per ton—have varied by state, with the greatest increases over time observed in Wyoming. The amount of coal produced from federal leases and associated revenues increased from fiscal year 1990 to fiscal year 2002.[29] Since fiscal year 2002, coal production from federal leases has remained relatively steady, but revenues continued to grow. In total, revenues from federal coal leases have generated about $1 billion annually in recent years.

Of the 107 Tracts Leased Since 1990, About 90 Percent Had a Single Bidder, and Most Were Leased the First Time Offered

In 1990, BLM began using the lease-by-application process as the primary method to lease out coal, and since then BLM has leased 107 coal tracts, 31 of which were in Wyoming. (See app. II for a complete list of lease sales held since 1990.) The coal from the Wyoming lease tracts comprise approximately 8 of the 9 billion tons, or about 88 percent, of the coal available from federal tracts leased since 1990, as shown in table 1.

[29]In this section, the information we present on coal production is based on data from ONRR on the volume of coal sold from federal coal leases. As mentioned earlier, we did not include coal produced from tribal lands in the scope of our report. Thus, the production and revenue information we present does not include tribal lands.

Table 1: Number of Federal Tracts Leased and Associated Amount of Coal by State from 1990 to 2012

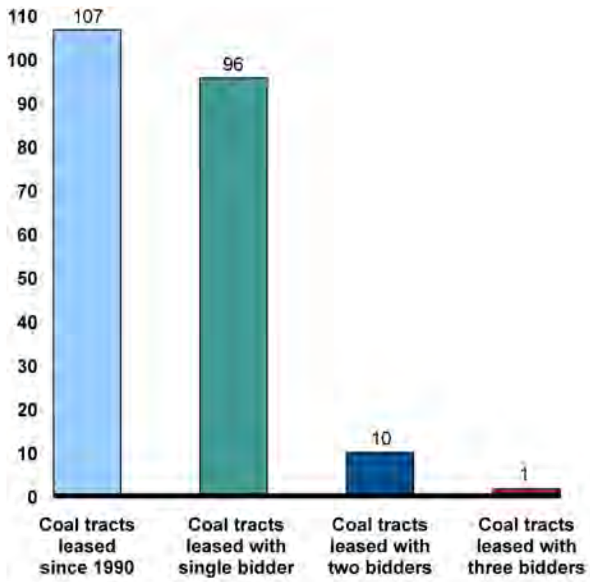
State	Number of federal tracts leased	Acres	Tons of recoverable coal (Millions)	Percentage by tons of recoverable coal
Wyoming	31	77,137	7,967[a]	88.4%
Colorado	20	26,375	289	3.2%
Utah	15	30,082	214	2.4%
Montana	4	5,349	187	2.1%
North Dakota	12	8,386	135	1.5%
New Mexico	3	10,926	93	1.0%
Oklahoma	9	16,339	71	0.8%
Alabama	6	11,097	44	0.5%
Kentucky	7	2,952	10	0.1%
Total	**107**	**188,243**	**9,011**	**100.0%**

Source: GAO analysis of BLM data.

[a]In Wyoming, we are reporting primarily mineable tons of coal while, for the other states, we are reporting recoverable tons of coal. This estimate of mineable tons of coal is generally a larger number than the recoverable estimate, because it includes coal that is generally left in place during actual mining operations, such as coal along property boundaries or coal left in place as pillars for structural reasons in an underground mine. Wyoming BLM typically does not report recoverable tons publicly because officials in this state office consider this sensitive information.

Of the 107 leased tracts, sales for 96 (about 90 percent) involved a single bidder (see fig. 3), which was generally the company that submitted the lease application. More than 90 percent of the lease applications BLM received were for maintenance tracts used to extend the life of an existing mine or to expand that mine's annual production.

Figure 3: Number of Bids Received for Federal Coal Tracts Leased, 1990-2012



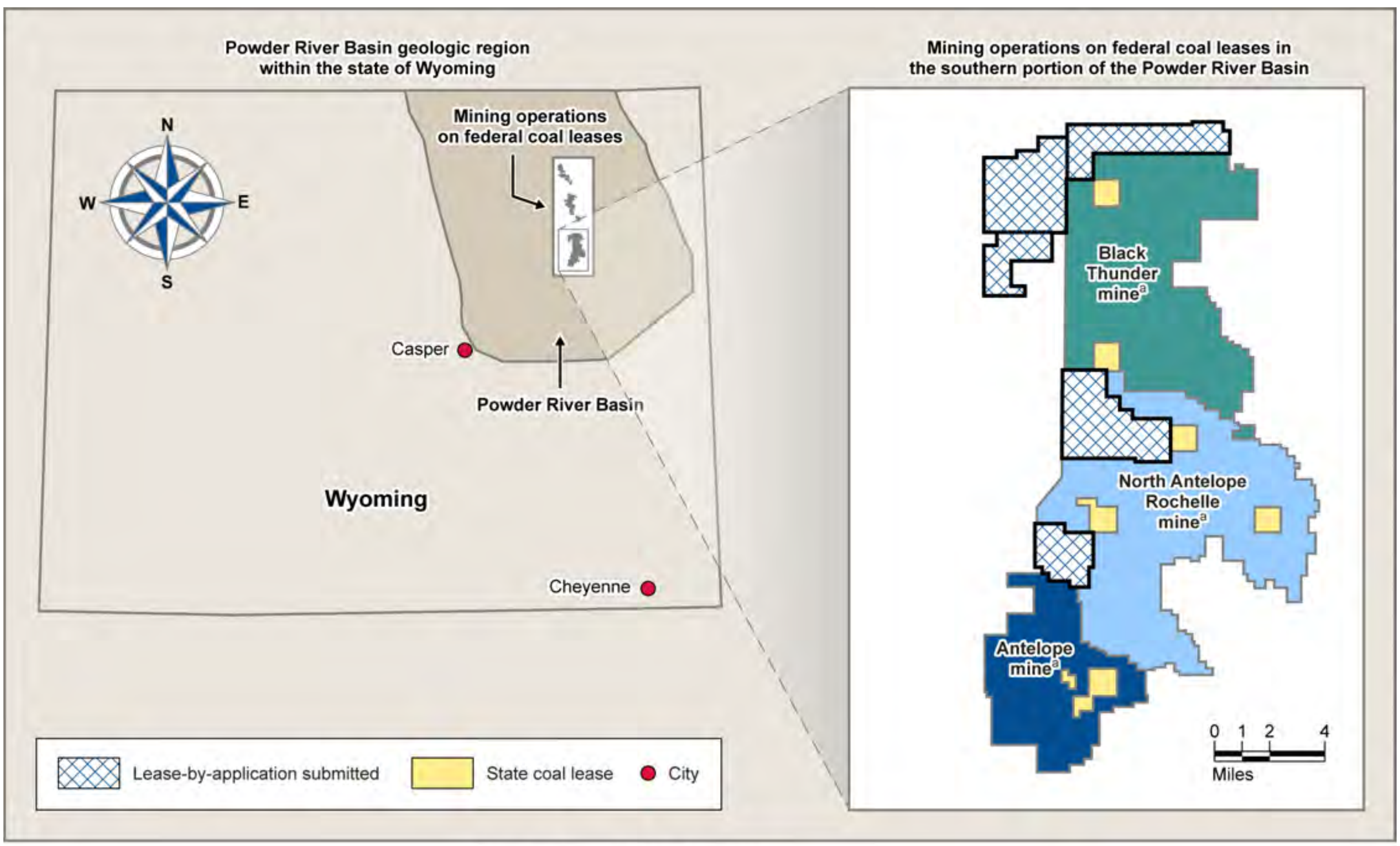
Source: GAO analysis of BLM data.

According to BLM officials and coal industry representatives, there is limited competition for coal leases because of the significant capital investment and time required to establish new supporting infrastructure to start a new mine or to extend operations of an existing mine to a tract that is not directly adjacent to it. For these reasons, there have not been many new mines established on federal leases recently. For example, according to BLM officials the last new mine started on a federal lease in the Powder River Basin in Wyoming was the North Rochelle mine, which began operations in 1982. Officials from coal companies told us they typically submit new applications for federal coal leases to maintain a 10-year coal supply at their existing mining operations. In 1983, we noted a similar lack of competition for federal coal leases following the 1982 regional coal lease sale in the Powder River Basin and concluded that the market for coal leasing was largely noncompetitive because lease tracts sold "appear captive to adjacent mining operations."[30] According to BLM officials, this same issue remains relevant today, and it is difficult to attract multiple bidders on a lease tract if it is not adjacent to multiple

[30] GAO/RCED-83-119.

mining operations. For example, as shown in figure 4, tracts submitted for lease-by-application that are north and west of the Black Thunder mine are less likely to be bid on by the operators of the North Antelope Rochelle or Antelope mines. This is because it would be too costly and take significant time for these mine operators to move their heavy equipment to extract coal from these lease tracts, which are not directly adjacent to their existing operations. In contrast, the lease tracts that are located between two mines are more likely to be bid on by multiple mine operators, according to BLM officials.

Figure 4: Map of Powder River Basin Coal Operations on Federal Coal Leases



Source: GAO analysis of BLM information.

[a]This map is a general representation of coal mining operations in the Powder River Basin. The Black Thunder, North Antelope Rochelle, and Antelope mines are each composed of several lease tracts, but we have combined this into a single entity for representation purposes.

BLM officials told us that, where possible, BLM uses the tract modification process to encourage competition for lease sales. For example, Wyoming BLM officials told us that they recently divided an applicant's proposed tract into two distinct tracts to be sold in two separate coal lease sales upon realizing that one segment may potentially interest another mining company. Colorado BLM officials told us that they altered boundaries of one coal lease application to allow for multiple entry points to the coal for underground mining to make the tract attractive to other companies. In our review of case files related to 31 recent lease sales, we found that BLM modified boundaries for seven tracts (23 percent) to enhance competition.[31] Six of these tracts were located in Wyoming and comprised more than half of the 11 Wyoming lease sales we reviewed; 1 was located in Utah. None of these leases, however, received multiple bids when sold.

Of the 107 leased tracts, 89 (about 83 percent) were leased the first time they were offered for sale. According to representatives of appraisal organizations we spoke with, this high acceptance rate of initial bids may reflect the reliance of existing mines on federal coal leases to maintain their operations and a willingness of mine owners to submit slightly higher bids to ensure they win federal coal leases. The remaining 18 tracts were leased after being reoffered for sale one or more times because the initial bonus bid offered was below the estimate of fair market value.[32] Of the 18 tracts that were reoffered for sale, 8 were in Wyoming and 5 were in Colorado.

[31]We included only those tracts where the documentation explicitly said the tracts were modified to enhance competition. We did not include those tracts modified for other reasons, such as to ensure federal coal was not bypassed.

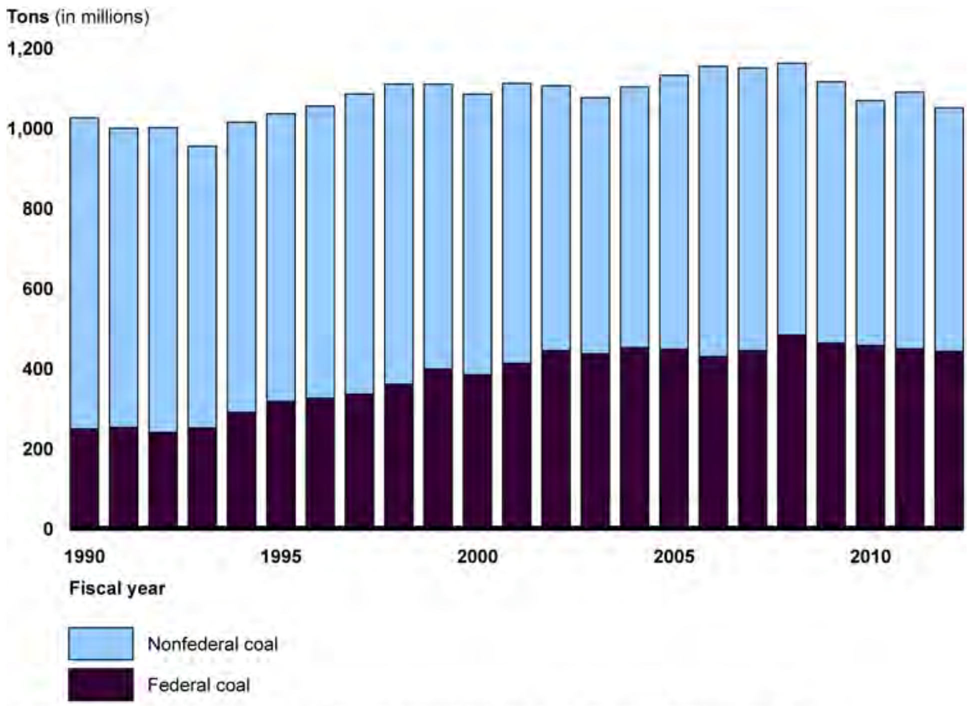
[32]Fifteen tracts were leased after a second sale; two tracts leased after a third sale; and one tract was leased after a fourth sale.

Amount of Coal Produced from Federal Leases Gradually Increased in the 1990s Before Leveling Off in Fiscal Year 2002, with Most Production Taking Place in Wyoming

The total amount of coal produced from federal leases has nearly doubled since fiscal year 1990. Growth in coal production from federal coal leases was largest from fiscal years 1992 to 2002, when it grew from 239 million tons to 444 million tons. The proportion of coal produced from federal leases relative to the total amount of U.S. coal production also grew over this same period from about 24 percent in fiscal year 1992 to about 40 percent in fiscal year 2002 (see fig. 5). During this period there was an increase in U.S. western coal production, where a majority of federal coal is located, and a corresponding decline in production from eastern coal regions. In particular, BLM officials told us that Powder River Basin coal grew in demand over eastern coal because it enabled utilities to meet the stricter emissions limits due to its low sulfur content. Powder River Basin coal was also attractive to utilities because of its low production costs and access to transportation networks, both of which help to decrease the market price that a utility must pay for the coal. A United States Geological Survey (USGS) study reported that this shift reflected the fact that western mines, which typically rely on surface mining, can extract coal more cheaply than eastern mines, where coal is generally mined using underground methods.[33]

[33]J.A. Luppens, T.J. Rohrbacher, L.M. Osmonson, and M.D. Carter, “Coal Resource Availability, Recoverability, and Economic Evaluations in the United States—A Summary,” in *The National Coal Resource Assessment Overview: U.S. Geological Survey Professional Paper 1625–F*, eds. B.S. Pierce, and K.O. Dennen, chapter D (Reston, Va.: 2009).

Figure 5: Share of U.S. Coal Produced from Federal Leases, Fiscal Years 1990-2012



Sources: GAO Analysis of Office of Natural Resources Revenue and Mine Safety and Health Administration data.

Note: Non-federal coal sources include private, state, and tribal coal.

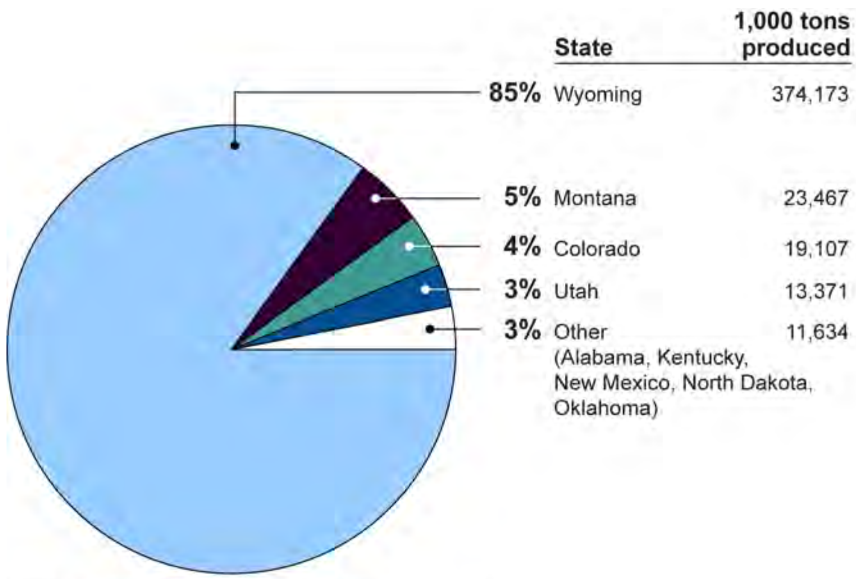
Since fiscal year 2002, coal production from federal leases remained relatively steady, averaging near 450 million tons annually, or about 41 percent of total U.S. production. Production peaked in fiscal year 2008 at 483 million tons and has since declined by 8 percent to 442 million tons in fiscal year 2012. In October 2012, we reported the amount of electricity generated using coal has decreased recently due to a decline in overall electricity demand and growth in the use of natural gas to fuel power plants.[34]

In fiscal year 2012, 85 percent of the coal produced from federal leases came from Wyoming. As shown in figure 6, Wyoming and three other western states—Montana, Colorado, and Utah—accounted for 97 percent of coal produced from federal leases. The remaining 3 percent of coal

[34]GAO, *Electricity: Significant Changes Are Expected in Coal-Fueled Generation, but Coal is Likely to Remain a Key Fuel Source*, GAO-13-72 (Washington, D.C.: Oct. 29, 2012).

(about 12 million tons) was produced from federal leases in five other states—Alabama, Kentucky, New Mexico, North Dakota, and Oklahoma.

Figure 6: Coal Produced from Federal Leases by State, Fiscal Year 2012



Source: GAO analysis of Office of Natural Resources Revenue data.

Revenue from Federal Coal Leases Has Nearly Doubled Since 2003 and Generated About $1.2 Billion in Fiscal Year 2012

The total revenue generated from federal coal leases has nearly doubled from $682 million in fiscal year 2003 to $1.2 billion generated in fiscal year 2008 and again in fiscal year 2012.[35,36] Total revenues from federal coal leases have remained relatively steady since fiscal year 2005 averaging about $1.0 billion per year according to our analysis of ONRR data. There are three sources of revenue from federal coal leases—royalties, bonus bids, and rents—but royalties and bonus bids account for nearly 100 percent of the revenues from the federal coal leasing program.

[35]All dollar figures in this section have been adjusted for inflation to 2013 dollars using the gross domestic price index, unless otherwise noted.

[36] Bonus bid and rent data prior to fiscal year 2003 initially provided by ONRR was limited due to a data system conversion the agency undertook. ONRR ultimately provided updated bonus bid data for this period, but it did so late in our review process, and we were unable to determine its reliability. ONRR provided royalty data for the entire period of our review, starting in 1990, which we assessed to be reliable.

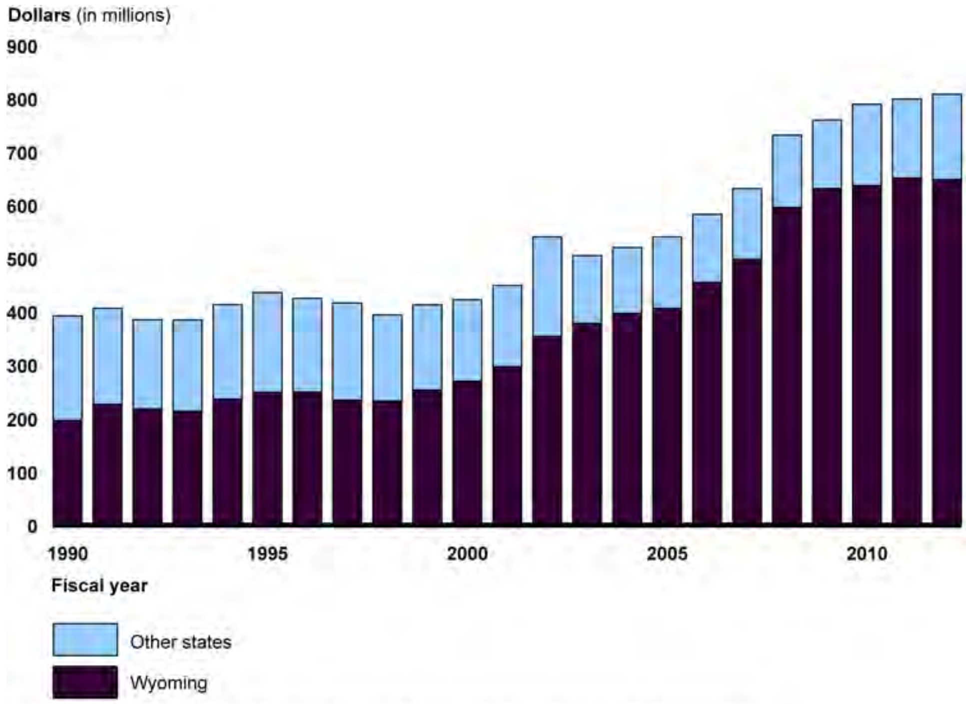
Royalties. Royalties comprised the majority of the revenue from federal coal leases—nearly two-thirds of the total revenue over the period from fiscal years 2003 to 2012.[37] Royalty rates for coal depend on the mine type and are generally calculated based on a proportion of sales value, less allowable deductions, such as transportation and processing allowances.[38] BLM generally sets royalty rates at 12.5 percent for surface mines, the required minimum royalty rate, and 8 percent for underground mines, the rate prescribed by regulation.[39] In total, royalties generated from federal coal leases have more than doubled since fiscal year 1990, from $392 million to $796 million in fiscal year 2012 (see fig. 7). In addition, as with coal production from federal leases, royalties generated from the sale of coal from federal leases in Wyoming comprise an increasing proportion of the royalty stream ranging from 50 percent of total royalties in 1990 to 80 percent in 2012 (see fig. 6).

[37]These royalty amounts do not include advance royalties, which lessees, if authorized by BLM, can pay in advance of actual production in lieu of meeting the lease's minimum coal production requirements. In fiscal year 2012, ONRR officials told us that revenue from advance royalties amounted to about $2.1 million or about 0.2 percent of total revenue from coal. If, in years subsequent to paying the advance royalty, the lease meets the minimum coal production requirement, the lessee's royalty will be reduced on a dollar for dollar basis by the amount of the advance royalty. If the lease is relinquished, cancelled, or terminated for any reason, the lessee forfeits any advance royalties paid or due.

[38]An allowance is an allowable deduction from the value of a mineral for royalty purposes. A processing allowance includes reasonable, actual costs incurred by the payer for processing a mineral commodity. A transportation allowance includes reasonable, actual costs incurred by the payer for moving a mineral commodity to a point of sale remote from the lease or unit area, or away from a processing plant; it excludes costs to gather the commodity.

[39]For all types of coal leases, BLM is authorized to reduce the royalty for the purpose of encouraging the greatest ultimate recovery of federal coal, and in the interest of conservation of federal coal and other resources, whenever it is necessary to promote development, or when the lease cannot be successfully operated under its terms, but in no case can the royalty on a producing federal lease be reduced to zero. 43 C.F.R. §§ 3473.3-2(e), 3485.2(c)(1) (2013).

Figure 7: Total Royalties Generated from Federal Coal Leases, Fiscal Years 1990 to 2012 (2013 dollars)



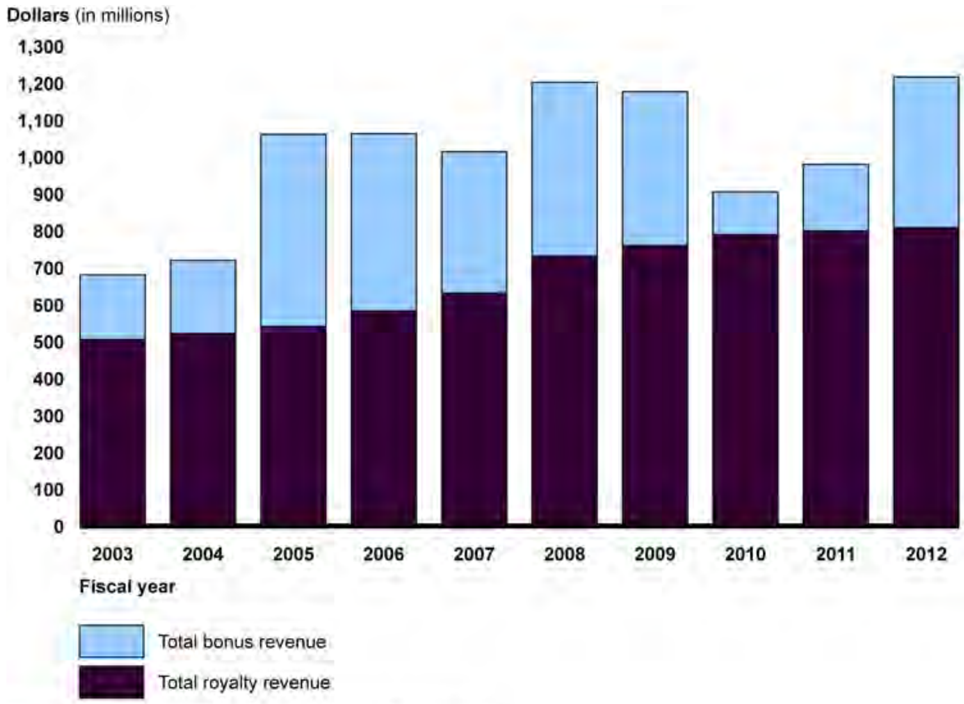
Sources: GAO analysis of Office of Natural Resources Revenue and Energy Information Administration data.

Coal prices have been a major driver of the increases in royalty revenues. For instance, from fiscal years 1990 to 2000, royalty revenues remained relatively steady even though production of federal coal increased over this period related to a decline in coal prices. Since then, coal royalty revenues have steadily increased, even with a recent decline in production. Specifically, from fiscal years 2008 to 2012 the amount of coal produced from federal leases declined by about 41 million tons of coal (or 8 percent); however the reported sales value of this coal increased 15 percent from $6.7 billion to $7.7 billion, reflecting growth in coal prices.

The effective royalty rate—the rate actually paid by lessees after processing and transportation allowances have been factored in along with any royalty rate reductions—generated from coal produced from federal leases has remained on average at about 11 percent since fiscal year 1990. Royalty rate reductions may be approved by BLM in cases where a reduction is needed to promote mining development. For example, BLM officials told us they may approve royalty rate reductions to enable continued operations in cases where mining conditions may be particularly challenging and costly, or to enable expanded recovery of federal coal. The effective royalty rate varies by state due to differences in mine type and other factors. For example, the effective royalty rate is higher in Wyoming and Montana where most coal is extracted using surface mining. In fiscal year 2012, the effective royalty rates for the top federal coal producing states were: Wyoming (12.2 percent), Montana (11.6 percent), Utah (6.9 percent), and Colorado (5.6 percent).

Bonus bids. Bonus bids are generally expressed in cents per ton of coal that is recoverable from the lease tract. The total bonus bid paid is the cents per ton multiplied by the estimated recoverable tons of coal from the lease tract. According to BLM officials, typically an initial payment of 20 percent of the total bonus bid is provided with the sealed bid, and the remaining 80 percent is paid in four equal annual installments over a 4-year period, but it may also be paid in full by the lessee at the time of a lease sale. ONRR revenue data from fiscal years 2003 to 2012 show total bonus bids received from all federal coal leases averaged $335 million annually, or about one-third of the total revenues from federal coal leases, as shown in figure 8. Since fiscal year 2003, revenue from bonus bids has fluctuated from year to year related to lease sale activity. For example, since fiscal year 2003, revenue from bonus bids has fluctuated from a peak of about $521 million in fiscal year 2005, when bonus bids made up 49 percent of the total revenue generated from coal leases, to a low of $116 million in fiscal year 2010, when bonuses comprised 13 percent of total revenue.

Figure 8: Bonus and Royalty Revenue Generated from Federal Coal Leases, Fiscal Years 2003-2012 (2013 dollars)



Source: GAO analysis of Office of Natural Resources Revenue data.

Note: Rents and other income account for less than 1 percent of the revenues collected from federal coal leases and are not shown in the above figure.

Based on our analysis of BLM data on coal lease sales, BLM accepted $6.4 billion in total bonus revenue for the 107 tracts leased since 1990, with total bids ranging from $5,000 to more than $800 million for a lease tract. In addition, successful bonus bid amounts for coal leases varied across states, with bonus bids received in Wyoming showing the greatest increase since 1990 when compared with the other seven states with active federal coal leases. Successful bonus bids for lease sale tracts in Wyoming ranged from $0.04 to $1.37 per ton of coal, after adjusting for inflation, and generally increased from 1990 to 2012. In comparison, successful bonus bids in Colorado bids ranged from $0.02 to $0.55 per ton and slightly increased from 1990 to 2012, and in North Dakota all successful bonus bids were $100 per acre in nominal dollars, the minimum bid BLM can accept for a lease tract and did not vary meaningfully over time when measured on a per ton scale. In other states, trends in bonus bids were not discernable due to variation in the successful bids over time or there being too few sales in these states. According to officials from coal companies we spoke with, bonus bids for federal coal leases depend on many factors, including coal quality, mine type (e.g., underground or surface mining), and the price of coal at the time of the sale.

Even when coal quality, mine type, and price are similar, successful bonus bids can vary greatly because of other factors. For example, mining conditions in Colorado and Utah are similar in several respects—most mines are underground, the energy content of the coal being mined generally exceeds 11,500 BTUs per pound of coal, and coal prices were in a similar range from 1990 to 2011.[40] Yet, the total bonus bids accepted by Colorado since 1990 have been about $22 million less after adjusting for inflation than those accepted by Utah despite the fact that Colorado has leased out almost 76 million tons more coal than Utah. When asked about the differences in total bonus bids, BLM officials reiterated that differences in conditions affecting coal marketability across these states, such as access to transportation options and proximity of customer base, make direct comparison of bonus bid values across these states difficult. Specifically, BLM officials told us that most of the coal produced in Utah is consumed locally by power plants in state; this proximity to the customer could be considered an advantage. In contrast, much of the coal produced in Colorado needs to be transported out of state.

Rents. Rents, which are set at $3 per acre, are also collected annually from federal coal leasing tracts but comprise an insignificant amount of the revenue stream.[41] In fiscal year 2012, $1.4 million in rent revenue was generated from federal coal leases, composing 0.1 percent of the annual revenue related to coal.

[40]From 1990 to 2011, adjusted average prices for all coal sold in Colorado ranged from $23 to $42 per ton and Utah coal prices ranged from $21 to $35 per ton.

[41]43 C.F.R. § 3473.3-1(a).

BLM's Implementation of the Fair Market Value Process Lacks Sufficient Rigor and Oversight

BLM's guidance offers flexibility in how to estimate fair market value, and BLM state offices vary in the approaches they use to develop an estimate of fair market value. Some state offices use both the comparable sales and income approaches in their appraisals while others rely solely on the comparable sales approach and may not be fully considering future market conditions as a result. In addition, we found that BLM did not consistently document the rationale for accepting bids that were initially below the fair market value presale estimate, and some state offices were not following guidance for review of appraisal reports. Furthermore, no independent review of appraisals is taking place, as is recommended by commonly used appraisal standards, despite Interior having expertise that could be leveraged to do so.

BLM's Guidance Offers Flexibility in How to Estimate Fair Market Value

According to BLM guidance, the goal of BLM's appraisal process is "to provide a well-supported estimate of property value that reflects all factors that influence the value of the appraised property," and it gives state offices flexibility in how they do so.[42] BLM's guidance lays out two approaches to develop an estimate of fair market value—comparable sales and income—but does not say that both approaches must be used.[43] Under the comparable sales approach, bonus bids received for past sales are used to value the tract being appraised. Adjustments may be made to these comparable sales based on how the characteristics of these past lease tract sales compare with the lease tract being appraised. For example, if a past lease sale involved coal that had lower heating content than the lease tract being appraised, BLM might conclude that the current tract should have a higher fair market value than the bonus bid received for this past sale. In contrast, under the income approach, the revenues received from selling the coal and costs to extract it are projected into the future, and this net revenue stream is discounted back to the present. The resulting net present value of this revenue stream becomes an estimate of the fair market value for the lease tract. See

[42]BLM, *H-3070-1 Economic Evaluation of Coal Properties,* I-7.

[43]There is also a third appraisal approach called the cost approach. Under this approach, the value of a property is appraised based on the cost to rebuild or replace the improvements on it. For example, the value of a property with a house on it could be based on the cost to rebuild the house, less any depreciation that has occurred. The cost approach is generally not used to appraise minerals because most of their value is tied to the minerals themselves and not capital improvements.

table 2 for a summary of methods used and information needed for the comparable sales and income approaches.

Table 2: Summary of Approaches BLM Uses to Estimate Fair Market Value for Federal Coal Lease Tracts

Appraisal approach	General methods and steps	Information needed
Comparable sales approach	Uses past sales prices of coal tracts to estimate fair market value for tract being appraised. Compares characteristics of past lease tracts to tract being appraised to identify the most applicable sale(s) for use in the analysis and determines if any adjustments should be made to past sales prices. Reconciles, as necessary, results of the most applicable sale(s) and uses these results to estimate the fair market value.	Bonus bids paid in prior coal lease sales. Characteristics of lease tracts sold in prior transactions, such as: • Time of sale. • Coal quality (heating content value, sulfur content, ash content). • Type of mining to be used (surface or underground). • Physical characteristics of mining (i.e., depth to deposit, seam thickness). • Market conditions at time of sale.
Income approach	Estimates future net revenues from the sale of coal extracted from the lease tract using annual costs and revenue projections over the period of time that a deposit is expected to be mined, which could be more or less than 20 years, corresponding to the length of time that leases are initially issued for. Discounts, or converts, the future net revenue streams back to a single number to the present—referred to as the net present value. (BLM's guidance suggests using a 10 percent real discount rate to determine this net present value.) Uses the calculated net present value of the projected after-tax net revenue of the mine operation to estimate the fair market value of the lease tract. Determine whether and how to incorporate uncertainty surrounding future market conditions into the analysis.	Mine plan based on geologic and engineering data. Lease development plan and coal production schedule based on the mine plan. Coal price projections. Anticipated capital and operating costs, taxes, and other expenses for extracting the lease tract's coal.

Source: GAO summary of BLM guidance.

BLM's guidance states that the comparable sales approach is preferred to the income approach when similar comparable sales are available because it is assumed that this method will provide the best indication of value. When comparable sales are not available, the guidance states that the income approach is a viable alternative, but the guidance highlights the uncertainty associated with using the income approach. This uncertainty stems from its reliance on projections of future market conditions, such as demand for coal, coal prices, and the costs to extract the coal. The guidance also provides examples for how the results of the comparable sales and income approaches can be used together. For example, information from comparable sales can be used as a comparison point for results from the income approach. In addition, results from the income approach can be used to adjust past comparable sales. Specifically, if the net present value of the tract being appraised is less than the net present value of a past lease sale, a conclusion can be made that the tract being appraised is less valuable than the past lease, and a numeric adjustment can be made to the actual sales prices of the past lease sale to account for this difference.[44]

BLM State Offices Differ in Their Appraisal Approaches, and Some Offices May Not Be Fully Considering Future Market Conditions as a Result

During our interviews with BLM officials, we found that BLM state offices use different approaches to develop an estimate of fair market value of coal leases, and we confirmed this during our case file review. For example, for lease sales in Wyoming, Montana, and New Mexico,[45] the BLM state offices use both the comparable sales and income approaches, based on our review of case files. Moreover, the BLM Wyoming state office goes a step further to numerically adjust its comparable sales using the results of the income approach. In contrast, for lease sales in Colorado, North Dakota, Oklahoma, and Utah, the BLM state offices have generally used just the comparable sales approach in recent years. For the two lease sales we reviewed in both Alabama and Kentucky, one of the sales used both approaches, while the other used just the comparable sales approach. When using the comparable sales approach, BLM state offices generally only used sales information for coal sales that occurred in their state. (See app. III for specific information on the approaches used for the lease sales that we reviewed.)

[44]Adjusting comparable sales using the results of the income approach can be done using the arithmetic and/or proportional approach. In the arithmetic approach, the net present value of the comparable sale is subtracted from the net present value of the tract being appraised. This difference is then added to the actual sale price of the comparable sale. In the proportional approach, the net present value of the tract being appraised is divided by the net present value of the comparable sale, and this adjustment factor is then multiplied by the actual sales price of the comparable sale to adjust it.

[45]The Montana/Dakotas state office manages federally owned minerals in Montana, South Dakota, and North Dakota. There are not any federal coal leases in South Dakota. The New Mexico state office oversees federally owned minerals in New Mexico, Oklahoma, Kansas, and Texas. There are no federal coal leases in Kansas or Texas according to BLM officials.

BLM officials in some state offices said that they did not have the resources to perform appraisals using the income approach. In particular, the income approach may require the help of an economist, and some BLM state offices do not have an economist on staff. For example, officials in both the Utah and Colorado state offices said they did not have economists on staff. For this reason, the Utah BLM office recently contracted with a firm to help them perform the income approach for a lease under consideration. However, BLM headquarters officials told us that the income approach did not require an economist and that some mining engineers in state offices could perform appraisals using this method. Officials in other state offices said they could not justify using the income approach due to the market for coal in their states. For example, they said that most coal mining in Oklahoma involves privately held coal, and a bonus bid is not required to obtain the rights to mine the coal, while in North Dakota, bonus bids offered as part of private sales have generally been less than or equal to the $100/acre minimum required for federal coal leases. When using these private sales as comparable sales, BLM officials in these states concluded that the minimum bonus bid of $100/acre should be the estimate of fair market value. BLM officials told us that if they did not set fair market value at this level, the coal on the federal lease tracts would be bypassed and never mined.

The reliance solely on the comparable sales approach among certain BLM state offices contrasts with the recommendations of officials from appraisal organizations we spoke with, who generally supported using both the comparable sales and income approaches when conducting mineral valuations. Representatives from three U.S. appraisal organizations told us that the income approach can provide helpful information and should be used along with the comparable sales approach.[46] Specifically, the income approach can serve as a check on the results of the comparable sales approach. In addition, we reviewed general appraisal standards in the United States and industry-developed standards for mineral valuation in Canada and Australia, as identified by appraisal organizations we spoke with, and we found that mineral valuation standards in Canada were the most prescriptive in terms of

[46]We spoke with officials from the Appraisal Institute, the Appraisal Foundation, and the American Institute of Mineral Appraisers.

using multiple appraisal methods.[47] Specifically, the Canadian standards require that more than one appraisal approach be used unless justification is provided, and these standards recommend use of both the income and comparable sales approaches.[48] All of the standards we reviewed stated that appraisal reports should include a discussion of the rationale for the appraisal approaches used, as well as the rationale for any approaches not used. Similarly, representatives from one of the appraisal groups we interviewed said that if only a single approach is employed, the reasons for doing so should be documented and justified. According to BLM's guidance, officials must document the rationale for choosing a certain appraisal approach in the appraisal report but, during our review of case files, we generally did not find this rationale documented in states where one approach was used. In contrast, appraisal reports prepared for lease sales in New Mexico, North Dakota, Montana, and Wyoming contained explanations for the appraisal approaches they chose to use.

Because the income approach examines estimates of future market conditions while the comparable sales approach focuses on past coal lease sales, BLM state offices that rely solely on the comparable sales approach may not be fully considering current or new trends in coal markets when estimating fair market value. This is particularly true if a state office is using comparable sales from a time during which market conditions were different. During our case file review, we found there were several comparable sales used that were over 5 years old. One official from an appraisal organization told us that he would hesitate to use comparable sales that were older than 5 years because of changes in

[47] These standards included the *Uniform Standards of Professional Appraisal Practice* prepared by the Appraisal Standards Board of the Appraisal Foundation in the United States, the *Uniform Appraisal Standards for Federal Lands Acquisitions* prepared by the Interagency Land Acquisition Conference in the United States, *Standards and Guidelines for Valuation of Mineral Properties* prepared by the Canadian Institute of Mining, Metallurgy, and Petroleum, *and* the *Code for Technical Assessment and Valuation of Mineral and Petroleum Assets and Securities for Independent Expert Reports* prepared by several groups, including the Australasian Institute of Mining and Metallurgy.

[48] Special Committee of the Canadian Institute of Mining, Metallurgy, and Petroleum on Valuation of Mineral Properties, *Standards and Guidelines for Valuation of Mineral Properties,* (February 2003). These standards are required by the Toronto Stock Exchange, and recommended to be followed in mineral valuations required by regulatory bodies in Canada.

market conditions. BLM officials noted that the usefulness of sales over 5 years old would depend on the extent to which the market has changed.

BLM Did Not Always Document the Rationale for Accepting Bids and Inconsistently Prepared Appraisal Reports

During our case file review of 31 selected lease sales, we found four lease tracts in three states where the bonus bid offered was below the fair market value presale estimate, but BLM accepted these bids after additional consideration was given to them.[49] In total, the accepted bonus bid amounts related to all four tracts was more than $2 million below the presale estimate of fair market value. Three of these sales occurred in the 1990s, and one occurred in 2007. As outlined in BLM's guidance, bonus bids below the presale estimate of fair market value may be considered as long as the bid is above the minimum bonus bid requirement of $100 per acre, among other factors. Furthermore, BLM's guidance allows for additional information to be considered or additional analysis to be completed as part of a postsale review process to address technical errors or in cases where appraisal standards are not met. BLM's guidance states that postsale analysis be documented and any revised fair market value be reviewed, but it does not clearly describe what postsale documentation is needed. According to BLM headquarters officials, this postsale analysis must be documented and a new estimate of fair market value needs to be completed and reviewed. We did not, however, find this documentation in the case files we reviewed for these four sales. Specifically, we found no documented evidence of a single, revised fair market value estimate against which to compare the bids. The files contained general statements about additional information that was considered during the postsale review process, such as changes in mining plans or changes in coal prices. In each of the four cases, BLM found that the respective bids fell within an "acceptable range of values" close to the initial presale fair market value estimate and, as a result, BLM determined in each of these cases that the bid should be accepted. Without better documentation of these decisions, including specifying the revised fair market value estimate and clear justification for the revision, BLM has not demonstrated that the accepted bids met or exceeded the fair market value estimate as required under the Mineral Leasing Act.

We also found inconsistencies in the appraisal reports prepared as part of coal lease sales. In particular, some states consistently updated past

[49] For the other 27 lease sales we reviewed, the initial bonus bid met or exceeded BLM's presale estimate of fair market value for 26 lease sales. For 1 of the 2 lease sales we reviewed in Utah, no bids were received.

comparable sales for inflation while others did not. For example, we found instances where the Montana/Dakotas and New Mexico state BLM offices used comparable sales that were more than 5 years old, but did not adjust them for inflation. In contrast, the Colorado, Utah, and Wyoming BLM state offices generally updated sales that were more than 5 years old for inflation. BLM headquarters officials told us that past comparable sales should be adjusted for differences in market conditions over time. State offices also varied in the number of comparable sales they consulted when using the comparable sales approach. For the 31 lease sales we reviewed, the number of comparables used in the appraisal ranged from a low of 2 to a high of 10 comparable sales.

In addition, we found instances where BLM did not fully document its estimate of fair market value. Specifically, we found three related lease sales in Oklahoma where a formal appraisal report was not prepared to justify using the minimum bid amount of $100/acre as the estimate of fair market value. In the case file, there was discussion of the general market for coal in Oklahoma, including the fact that private coal sales did not involve up-front payments, such as bonus bids, but there was no description of the methods used to develop an estimate of fair market value. A BLM official said that he believed comparable sales were reviewed to determine that the fair market value estimate would be below the minimum bid value for these leases, but this was not documented in a formal appraisal report.

Some State Offices Did Not Follow BLM's Guidance for Reviewing Appraisal Reports and Currently There Is No Independent Review of Appraisals

From our review of 31 case files, we found differences in the appraisal review process used by different state offices and, in some cases, states had not followed BLM guidance. According to BLM guidance, appraisal reports must be signed by three BLM officials—the chief of the regional evaluation team, a qualified mineral reviewer, and the deputy state director—to ensure technical accuracy of the fair market value estimate and conformance with BLM's appraisal guidance. The chief of the regional evaluation team is an outdated position that no longer exists because BLM no longer leases coal on a regional basis, but the guidance has not been updated to reflect this. BLM headquarters officials said they expected that the mineral appraiser's signature would take this official's place. However, we found that appraisal reports were not consistently signed by the three officials, and there was no mechanism in place to ensure that this review was taking place. While appraisal reports in

Wyoming were signed by three officials—the mineral appraiser, mineral reviewer, and deputy state director—other state offices had appraisal reports that were reviewed and signed by a single official.[50] For example, two appraisal reports in Colorado were signed only by the branch chief of solid minerals, while in Alabama, one appraisal report was just signed by an economist. Of the two appraisals we reviewed for lease sales in Kentucky, one was signed by only an economist, and one was not signed at all. Without clear guidance on who is supposed to be reviewing reports and consistent reviews by these officials, BLM does not have assurance that proper oversight is taking place in all state offices responsible for coal leasing.

Currently, review of appraisal reports takes place primarily at the state office level, and there is no review by an independent third party outside of BLM state offices. In its review of the coal leasing procedures in 1984, the Linowes Commission concluded that periodic independent review of coal activities by a group with clear independence from the coal leasing program was desirable. Furthermore, both the *Uniform Standards of Professional Appraisal Practice* and the *Uniform Appraisal Standards for Federal Land Acquisition* note that independent appraisal review is an important tool for ensuring that the valuation estimate is credible. BLM headquarters officials currently have a very limited role in reviewing appraisal reports prior to a lease sale, and they told us that headquarters officials receive copies of between 5 and 10 percent of appraisal reports prior to a lease sale occurring. These officials told us that they are provided with these appraisal reports so that they can participate in sale panel meetings where BLM considers whether to accept bids for lease tracts. BLM headquarters officials do not sign off on these reports or provide comments to the state officials during the period when the appraisal reports are being developed. As a result of not regularly reviewing all appraisals, BLM headquarters officials were unaware of some of the differences in appraisal practices and documentation issues that we found across BLM state offices.

In addition, BLM is not currently taking advantage of a potential independent third-party reviewer with appraisal expertise within Interior, specifically, the Office of Valuation Services. The Office of Valuation

[50]Appraisal reports prepared in the Wyoming BLM state office also contained a signature by a fourth official, the branch chief of solid minerals.

Services, established by secretarial order in May 2010 and reorganized in Interior's Departmental Manual in June 2011, is responsible for providing real estate valuation services to the department's bureaus and offices, including "appraisals, appraisal reviews, consultation services, and mineral evaluation products for Department and client agencies."[51] Within the Office of Valuation Services, the Office of Mineral Evaluation is responsible for providing mineral evaluations for Interior's bureaus and offices, according to the *Departmental Manual.* Because the Office of Mineral Evaluation is a small office with about six staff, it is not feasible for this office to take over the mineral valuation function for the entire coal leasing program, according to officials in this office, and it would not be practical given the knowledge and expertise that state and field BLM staff have regarding coal in their respective regions. Rather, officials in this office said they were amenable to helping BLM in other ways by, for example, providing independent third-party review of appraisal reports, which is critical for ensuring the integrity of the appraisal process. Without additional oversight of the appraisal process by an independent reviewer, BLM is unable to ensure that its results are sound, key decisions are fully documented, and that differences we noted across state offices are warranted.

BLM Considers Coal Exports to Limited Extent When Estimating Fair Market Value and Does Not Consider Domestic Reserve Estimates Because of Their Variable Nature

BLM considers coal exports to a limited extent when developing an estimate of fair market value and generally does not explicitly consider estimates of the total amount of coal in the United States that can be mined economically, known as domestic reserve estimates. In the few state offices that did consider exports, we generally found the same generic statements in appraisal and economic reports that stated in general terms the possibility of future growth in coal exports, and there was limited tracking of exports from specific mines. As a result, BLM may not be factoring specific export information into appraisals or keeping up-to-date with emerging trends. Domestic reserve estimates are not considered due to the variable nature of these estimates according to BLM officials.

[51] Interior, *Departmental Manual*, part 112, chapter 33 (June 1, 2011).

BLM Considers Coal Exports for Some Lease Sales in Certain States, but Associated Reports Provide Little Information on Current or Future Export Activity

BLM's guidance states that appraisal reports should consider specific markets for the coal being leased, and that "export potential" may be considered as part of the appraisal process. The export potential for coal from a particular mine can be influenced by several factors, including the quality of the coal and whether there is a transportation system nearby that can ship the large volume and weight of coal to a port for export.[52] Some coal mines, such as those in Wyoming's Powder River Basin, are part of a national coal market and, in 2011, Wyoming mines shipped coal to 34 states in the United States according to EIA data.[53] Other mines supply coal only to neighboring power plants, known as mine mouth operations, meaning that their export potential is limited, and exports would not factor into the fair market value estimation, according to BLM officials.

In our review of BLM case files for 31 coal lease sales, we found that coal exports were generally mentioned in appraisal and economic reports for the 13 federal lease sales held in Montana and Wyoming. Mines in these states exported 17.7 million tons of coal in 2011, according to EIA data, or about three-quarters of the total amount of coal exported from western states.[54] Exports from these states represented less than 2 percent of total U.S. coal production and about 17 percent of total U.S. exports of coal in 2011.[55] Of the 13 Montana and Wyoming case files we reviewed, one provided specific export information for the mine that was adjacent to the lease tract being appraised. This appraisal report, which was prepared for a lease tract in Montana, provided detailed information from IHS Global Insight and Wood Mackenzie, two private providers of information on coal.[56] In addition, we found that economic and appraisal reports in Wyoming typically contained generic boilerplate statements

[52]Due to its volume and weight, most coal is transported in the United States by train.

[53]EIA, *Annual Coal Distribution Report* (Washington, D.C.: 2011).

[54]In 2011, coal exports from Montana mines were 13.2 million tons, and coal exports from Wyoming mines were 4.5 million tons. These export amounts may include coal from mines that are not on federal coal leases. EIA, *Annual Coal Distribution Report*.

[55]In 2011, coal exports from states east of the Mississippi River totaled about 84.3 million tons or about 79 percent of total coal exports from the United States. As mentioned earlier, there is little federal coal leasing east of the Mississippi River.

[56]IHS Global Insight is a firm that provides comprehensive economic and financial information on countries, regions, and industries. Wood Mackenzie provides industry and analysis on energy and minerals industries around the world.

about the possibility of coal exports in the future and the uncertainty surrounding them, rather than specific information on actual or predicted coal exports—even for proposed lease tracts that were adjacent to mines on federal leases that are currently exporting coal. Wyoming BLM officials told us that coal exports made up such a small portion of total production from Wyoming that they did not believe it was necessary to provide specific information on exports in their economic or appraisal reports. Wyoming BLM officials told us that future appraisal reports may provide more specific export information if exports became a more significant issue, but they did not identify a threshold for including it.

We generally did not find mention of coal exports in the other states with federal coal leasing activity: Alabama, Colorado, Kentucky, New Mexico, North Dakota, Oklahoma, or Utah.[57] State BLM officials in these states told us they did not consider exports when estimating fair market value because there were few or no coal exports from their state. However, we found an example in Utah where the lease tract was adjacent to a mine that, according to EIA data, was exporting coal, but the appraisal report did not mention coal exports. EIA officials told us that they began collecting mine-level information on coal exports in 2008 and received a request from one BLM state office for these data. BLM state and headquarters officials generally told us they were not aware that EIA collects these data. Similarly, Wood Mackenzie has mine-level data on coal exports, but not all state BLM officials were aware that this information was available to them through a BLM subscription. By not tracking and considering all available export information, BLM may not be factoring specific export information into appraisals for lease tracts that are adjacent to mines currently exporting coal or keeping abreast of emerging trends in this area.

BLM officials said that they examine projections of future coal prices during the appraisal process, and these projections would account for exports. However, only the income approach for appraisals explicitly considers future prices, so the state offices that use only the comparable sales approach would not explicitly factor export potential into their fair market value assessments. Two states in particular—Colorado and Utah—have coal exports from mines on federal leases, but they generally

[57]Utah BLM officials reported that they were currently preparing for a lease sale and that they would be considering exports as part of this sale. In order to determine the impact of exports on fair market value, the Utah state office contracted with a private firm.

use the comparable sales approach to estimate fair market value, therefore their fair market values would not explicitly reflect the potential impact of coal exports.

BLM officials told us that they are aware that some coal companies plan to export more coal in the future but voiced some concern about weighting these plans too heavily in estimating fair market value because major port infrastructure upgrades are needed on the West Coast to handle increased coal exports. Several stakeholders with expertise in coal markets that we interviewed shared this view. In addition, IEA said it is difficult to predict future coal exports from Wyoming's Powder River Basin to countries such as China because of a lack of infrastructure in place to handle exports and the uncertainty of market conditions.[58]

BLM Generally Does Not Consider Domestic Coal Reserve Estimates Because of Their Variable Nature

BLM officials told us that BLM does not consider domestic coal reserve estimates during the fair market value process.[59,60] One reason they gave was these estimates can vary greatly depending on market conditions. Domestic coal reserve estimates reflect the amount of coal that can be economically recovered at a given point in time; as a result, these estimates can change as coal prices fluctuate and mining technologies advance. For example, USGS estimated reserves of 10.1 billion tons in the Gillette coal field of the Powder River Basin at a sales price of $10.47 per ton in 2007,[61] but it changed this estimate to 18.5 billion tons when prices rose to $14.00 per ton in March 2008.[62] A more recent USGS assessment estimated that there was 25 billion tons of coal that can be

[58]IEA, *Coal Medium-Term Market Report, 2012: Market Trends and Projections to 2017*, (2012).

[59]According to BLM officials, BLM does develop an estimate of the economically recoverable tons of coal for each lease by application for use in valuing each lease.

[60]Coal reserves are different from coal resources. To be classified as reserves, coal must be considered economically producible at the time of classification. Coal reserves are a subset of coal resources.

[61]The Gillette coal field is the largest producing coal field in the Powder River Basin.

[62]James Luppens et. al, USGS*, Assessment of Coal Geology, Resources, and Reserves in the Gillette Coalfield, Powder River Basin, Wyoming* (Reston, VA.: 2008). Spot market prices for Powder River Basin coal were $10.55/ton as of April 2013, according to EIA. Spot prices are prices received on very short-term contracts, generally lasting a few months in length.

economically recovered in the entire Powder River Basin at the time of study, but notes that “mining costs and coal prices are not static as both tend to increase over time.”[63] The report goes on to state that “if market prices exceed mining costs, the reserve base will grow (the converse is also true).”

Some BLM officials told us they do not consider domestic reserve estimates when estimating fair market value because the United States has ample coal supplies to meet demand over the next 20 years, the time horizon that BLM uses when evaluating coal lease-by-applications. For example, EIA estimated that the United States has over 190 years of coal reserves, at the time of its most recent Annual Energy Outlook in April 2013.[64] While BLM does not consider reserve estimates explicitly, those BLM state offices that prepare an economic report as part of estimating fair market value examine future demand and price projections for coal, which impact reserve estimates as mentioned previously.

BLM Provides Limited Information on Federal Coal Lease Sales to the Public

BLM generally provides limited information on federal coal lease sales to the public. Environmental documents produced as part of the NEPA process and required coal lease sale announcements are the primary source of detailed written information made available on coal lease sales. The amount and type of information provided on websites vary by state office, with the most comprehensive information of the websites we reviewed provided by the Wyoming BLM state office. In addition, BLM does not typically make documents used to estimate fair market value publicly available due to the sensitive and proprietary information they contain, although its guidance states that a public version of the appraisal document should be prepared.

[63]USGS, *Assessment of Coal Geology, Resources, and Reserve Base in the Powder River Basin, Wyoming and Montana* (Reston, Va.: 2013).

[64]EIA projects that U.S. coal production will increase at about 0.2 percent per year for the period from 2011 to 2040. If that growth rate continues into the future, estimated recoverable coal reserves would be exhausted in about 194 years if no new reserves are added.

BLM Provides Some Information through Environmental Documents and Coal Lease Sale Announcements

BLM provides some information on coal lease sales in environmental documents developed to meet NEPA requirements and in lease sale announcements. BLM is required to share these documents with the public, and these documents are made available for review in public reading rooms in relevant BLM state and field offices and are also typically available on BLM's websites during the period of leasing activity. These environmental documents include environmental assessments and environmental impact statements,[65] which evaluate the likely environmental effects of leasing and mining the proposed lease tract. These documents generally include information on the lease applicant, mining methods at the existing operation, alternatives considered, and anticipated environmental effects. For example, an environmental assessment for a recent coal lease in Montana included an overview of the mine's history, the mining methods used at the site, the mine's layout, and information on potential effects of alternatives considered. In addition to environmental documents, a decision document summarizing the results of the process and the agency decision regarding the lease sale is also issued.[66]

BLM is also required to announce forthcoming coal lease sales in the *Federal Register* and a newspaper in the area of the lease tract. These announcements typically include general characteristics of the lease tract up for sale, such as the size of the tract, and the amount and quality of the coal being offered, including its estimated heating value, ash and moisture content, and the thickness of the coal beds. In addition, the announcements list the applicant and potential use of the tract, such as whether it will be used to extend existing mining operations or the tract's location adjacent to more than one existing mine. The announcement also notes where interested stakeholders can view lease sale details including bidding instructions, terms and conditions of the proposed coal lease, and case file documents, typically available for review at the relevant BLM state office.

[65]Environmental impact statements are more detailed evaluations of the proposed project and alternatives compared to environmental assessments, and are required if a project would likely significantly affect the environment.

[66]For environmental assessments a decision record is used; for environmental impact statements a record of decision is issued.

BLM State Offices Vary in the Amount and Type of Coal Lease Information on Their Websites

BLM websites are another way that public information is released on the leasing program, but we found that it was difficult to locate this information on some of BLM's websites that we reviewed and the amount and type of information shared across the websites that we accessed in May 2013 varied (see table 3). For example, BLM headquarters' website contains general information on the federal coal leasing program, but it does not include information on past or upcoming federal coal lease sales or link to relevant BLM state or field office websites. BLM officials told us that they attempted to provide general information on past lease sales on the headquarters website in 2010, but they were unable to obtain state BLM offices' verification of the data, which stalled the effort. Five of the six state offices do not maintain information on past lease sales on their websites, although officials in BLM headquarters and two state offices also told us they have provided this information upon request. All six state offices that manage lease sales, at a minimum, publish lease sale announcements in the *Federal Register*, which is searchable via the Internet, and based on our review of BLM websites and interviews with BLM officials, all but one of the state offices issue press releases with lease sale results that are highlighted for limited periods. In addition, during our review of BLM websites, we found that five of the six state offices keep environmental documents related to lease sales on their websites during the time of lease sale activity.

Table 3: Summary of Federal Coal Leasing Information Contained on BLM Websites

BLM office website and states covered	Colorado BLM (Colorado)	Eastern States BLM (Alabama, Kentucky)	Montana/ Dakotas BLM (Montana, North Dakota)	New Mexico BLM (New Mexico, Oklahoma)	Utah BLM (Utah)	Wyoming BLM (Wyoming)
Number of coal tracts leased since 1990	20	13	16	12	15	31
General information on the federal coal leasing program[a]	—	√	√	—	√	√
Lease sale results announced in press release	√	√	√	—	√	√
Environmental documents linked on website (during time of lease sale activity)	√	√	√	—	√	√
Final environmental documents maintained on website	—	—	—	—	—	√
Summary information from past lease sales maintained on website	—	—	—	—	—	√

Sources: GAO analysis of BLM websites accessed May 2013 and interviews with BLM officials.

[a]Links to general information on primary coal website pages were considered as being contained on BLM website pages.

Of the six state office websites we reviewed, the Wyoming state office provided the most comprehensive information on the federal coal leasing program, including results for all coal lease sales in the Powder River Basin since 1990. For each lease sale, this website had information on successful bid amounts, associated coal volume and coal quality, and links to environmental documents. Wyoming BLM officials told us that they had this information on their website because they receive regular inquiries from the press and public on coal leasing in the Powder River Basin. In contrast, the New Mexico state office had no coal leasing information on its website. New Mexico BLM officials told us that there is not much public interest in coal lease sales in the states of New Mexico and Oklahoma, which they oversee, and requests for this type of information are limited to inquiries from mining companies.

Making electronic information available to the public is a position supported by the Office of Management and Budget (OMB) and has been demonstrated by other agencies. Specifically, OMB guidance directs federal agencies to use electronic media to make government information more easily accessible and useful to the public.[67] In addition, we have previously reported on the importance of federal programs allowing users to easily access and use information on websites.[68] BLM's federal oil and gas onshore leasing program maintains a list of planned lease sale auction dates on the headquarters level website, along with summary results from recent lease sales by state. Without standard information on BLM websites, federal coal leasing activity is difficult to track by the public, and access to publicly available documents may be hampered.

BLM Does Not Make Reports Related to Its Estimation of Fair Market Value Publicly Available, Which Is Inconsistent with Some Parts of Its Guidance

BLM's guidance states that a public version of the appraisal report that deletes all proprietary material should be prepared for each lease sale, but BLM has not been following this guidance.[69] According to officials from BLM state offices, a public version of appraisal reports is not prepared as a standard practice in the six BLM offices managing the coal lease sale process. According to some BLM officials, they do not prepare this public version because they are concerned about the potential release of proprietary and sensitive information these reports contain and the impact this could have on the bidding process.[70]

BLM's guidance also states that the "fair market value appraisals and estimates can be released to the public upon request on tracts where the high bid has been accepted," and further states "information and analyses documents used to derive these released fair market value estimates are to be released to the public upon request" after these documents have been "modified to exclude proprietary information."[71] BLM has interpreted this guidance to mean that the agency has the discretion to determine

[67]OMB Circular No. A-130.

[68]GAO, *Agricultural Chemicals: USDA Could Enhance Pesticide and Fertilizer Usage Data, Improve Outreach and Better Leverage Resources*, GAO-11-37(Washington, D.C.: Nov. 4, 2010), and GAO, *Medicare: Communications to Beneficiaries on the Prescription Drug Benefit Could Be Improved*, GAO-06-654 (Washington, D.C.: May 3, 2006).

[69]BLM, *H-3070-1 Economic Evaluation of Coal Properties*, V-4.

[70]BLM officials noted that federal officers and employees are prohibited from publishing or disclosing proprietary or business confidential information to any extent not authorized by law and that unauthorized publication or disclosure could result in criminal penalties.

[71]BLM, *H-3070-1 Economic Evaluation of Coal Properties,* V-5.

whether to release these reports in a redacted format. For two Freedom of Information Act (FOIA) requests received in 2011 for reports used to determine fair market value of coal leases,[72] BLM initially withheld all fair market value documents until Interior's Office of the Solicitor advised BLM to provide redacted documents in response to an appeal filed in one of these cases.[73] In its response to this FOIA appeal, Interior's Office of the Solicitor agreed that BLM has discretionary authority to disclose this information and noted that BLM's guidance "does not require the BLM to release 'fair market value appraisals and estimates' to the public and, instead, merely notes that it 'can' do so." In the end, BLM provided redacted appraisal reports to this FOIA request, which we reviewed. These documents included a description of the approaches BLM used to estimate fair market value, the number of comparable sales that were considered, and background information on the mining operation, but the fair market value estimate was redacted along with the supporting analysis behind this number. As of June 2013, BLM was in the process of responding to another request for fair market value documents received in 2012.

BLM headquarters and state office officials consistently told us that it is critical that the sensitive information in lease sale documents not be released publicly so that the integrity of the sealed bid process can be maintained. For example, if companies were to obtain the specific comparable sales used for a past lease sale, this information could lead them to reduce their bid for a future lease sale so that it is closer to the fair market value estimate, according to BLM officials. But there are differing views within the agency on the extent of information that should and could be shared. For instance, BLM headquarters officials told us that they are open to releasing additional information on federal coal leasing, including making redacted appraisal reports available. In contrast, Wyoming BLM officials told us they were not comfortable making any additional information on the fair market value process available such as redacted appraisal reports. They told us that, in their opinion, considerable information is already available in documents that must be prepared as part of the process, such as environmental impact

[72]Pub. L. No. 89-487 (1966), *codified as amended at* 5 U.S.C. § 552. FOIA requires federal agencies to provide the public with access to government records and information on the basis of the principles of openness and accountability in government.

[73]The other requester did not appeal BLM's decision.

statements, public notices, and detailed statements on how to bid. They also told us most people are interested primarily in lease sale results, which Wyoming BLM makes available on its website. Wyoming BLM officials also said they are concerned that, by making additional information available, including redacted appraisal reports, some important information might be shared that would result in reduced bids on future coal lease sales. The Wyoming BLM officials' point of view stands in conflict with BLM's guidance that additional information in the form of public versions of the appraisal report should be prepared and the Office of the Solicitor's determination that FOIA does not allow BLM to withhold entire documents relating to the estimate of fair market value in response to FOIA requests when portions of these documents contain information that is not protected from disclosure and should be released.

Conclusions

With about 40 percent of the nation's coal produced from federal coal lease tracts in recent years, the federal coal leasing program plays an important role in the nation's energy portfolio. In managing the leasing program, BLM is required to obtain fair market value for coal leases. Because there is typically little competition for federal leases, BLM plays a critical role in ensuring that the public receives fair market value for the coal that is leased. However, we found differences across BLM state offices in the approaches they use to estimate fair market value and the rigor of these reports. Moreover, BLM state offices are not documenting the rationale for choosing their approaches for the appraisal process.

Adequate oversight of the fair market value process is critical to ensuring that its results are sound and properly reviewed. However, BLM's guidance on the valuation of coal properties is out of date, and officials are not reviewing and signing appraisal reports in accordance with BLM's guidance. Without a mechanism to ensure consistent reviews by three officials, as specified in the guidance, and independent third-party reviews, appraisal reports may not be receiving the scrutiny they deserve.

BLM's guidance allows for additional information and analyses to be considered as part of the postsale review process, which could result in a lower revised fair market value estimate and acceptance of bids below the presale fair market value estimate but above the revised estimate. The guidance calls for such decisions to be fully justified and that a revised fair market value be clearly documented and reviewed. However, we found instances where BLM's justification to accept such bids was not adequately documented. Without proper documentation of these decisions, adequate oversight cannot take place, and BLM does not have assurance that accepted bids were in compliance with the Minerals Leasing Act.

Coal exports make up a small but growing proportion of total U.S. coal production, yet BLM state offices were generally not tracking the export activity for mines on federal leases and were including only generic statements about exports in their appraisal reports, and some state offices were not routinely including export information in appraisal reports. Moreover, BLM officials were largely unaware of the various sources of mine-level information about exports, such as the information that EIA collects and the information collected by private companies. By not tracking and considering all available export information, BLM may not be factoring specific export information into appraisals for lease tracts that are adjacent to mines currently exporting coal or keeping abreast of emerging trends in this area.

BLM state offices are not following agency guidance because they have not prepared public versions of appraisal reports, and there is a lack of agreement within the agency on the extent and type of information related to the estimation of fair market value to be shared in response to public requests. Without updated guidance and a consensus, there may continue to be a disconnect between BLM's guidance and its standard practice of not releasing this information publicly. Finally, BLM provides little summary information on its websites on past lease sales or links to sale-related documents. Having additional information online could increase the transparency of federal coal leasing program.

Recommendations for Executive Action

We are recommending that the Secretary of the Interior direct the Director of the Bureau of Land Management to take the following eight actions:

To ensure that appraisal reports reflect future trends in coal markets, BLM should revise its guidance to have state offices use both comparable sales and income approaches to estimate fair market value where practicable. Where it is not practicable to do so, the rationale should be documented in the appraisal report.

To ensure that appraisal reports receive the scrutiny they deserve and are reviewed by specified officials, BLM should take the following actions:

- update its guidance so that it reflects the current titles of officials who should review appraisal reports;

- develop a mechanism to ensure that state offices are reviewing and signing appraisal reports consistent with the guidance;
- develop a process for independent review of appraisal reports and work with the Office of Valuation Service to determine its role, if any, in this process.

To ensure that all accepted bids comply with the Minerals Leasing Act by meeting or exceeding BLM's estimate of fair market value, BLM should update its guidance to specify the documentation needed for postsale analyses in instances where a decision is made to revise the fair market value estimate and accept a bonus bid that was below the presale estimate of fair market value but above the revised estimate. Such documentation for postsale analyses should include the revised estimate of fair market value, the rationale for this revision, and review of this decision by appropriate officials.

To ensure that appraisal reports reflect the current state of export activity for mines on federal leases, BLM headquarters should develop guidance on how to consider exports as part of the appraisal process and identify potential sources of information on coal exports that state offices should use when conducting appraisals.

To eliminate the disconnect between its guidance and BLM state offices' practice of not releasing appraisal documents to the public, BLM headquarters, state office officials, and Interior's Office of the Solicitor should come to agreement on the extent and type of information related to the estimation of fair market value that should be shared in response to public requests for this information and make sure that its guidance reflects this consensus.

To make electronic information on the coal leasing program more accessible to the public, BLM should provide summary information on its websites on results of past lease sales (e.g., amount of coal offered, coal quality, bonus bids received) and status of any upcoming coal lease sales along with links to sale-related documents.

Agency Comments

We provided a draft of this report to the Department of the Interior, the Department of Agriculture, and the Department of Energy for review and comment. The Department of the Interior concurred with our recommendations and also noted it has begun to address some of these recommendations. Specifically, BLM has signed a memorandum of understanding with the Office of Valuation Services to enhance the review of fair market values. In addition, BLM stated it will soon publish additional information on lease sales on its national and state websites. The Departments of the Interior, Agriculture, and Energy also provided us with technical comments, which we have incorporated as appropriate. See appendixes IV and V for agency comment letters from the Department of the Interior and the Department of Agriculture.

As agreed with your offices, 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 of this report to the appropriate congressional committees, the Secretary of the Interior, the Secretary of Agriculture, the Secretary of Energy, 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 staffs 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 major contributions to this report are listed in appendix VI.

Anne-Marie Fennell

Anne-Marie Fennell
Director, Natural Resources and Environment

Appendix I: Objectives, Scope and Methodology

Our objectives were to examine (1) federal coal leasing, including the number of tracts leased, along with the trends in associated coal production and revenues generated since 1990; (2) Bureau of Land Management's (BLM) implementation of the process to develop an estimate of fair market value for coal leases; (3) the extent to which BLM considers coal exports and domestic coal reserve estimates when developing an estimate of fair market value; and (4) the extent to which BLM communicates information on federal coal lease sales to the public.

To provide information on trends in federal coal leasing under the first objective, we analyzed data from BLM's LR2000 database—used by BLM to track federal land and mineral resources including coal—and summarized federal coal lease sale activity and bonus bids accepted from January 1, 1990 to December 31, 2012. For each lease sale where a bid was accepted and the tract leased, we analyzed data including: lease sale date, tract acreage, the amount of offered coal, number of bids received, and winning bid amounts. We also analyzed data on coal production and revenues generated from federal coal leases from fiscal years 1990 to 2012 from the Department of the Interior's Office of Natural Resources and Revenue (ONRR), which is responsible for collecting and distributing revenues associated with federal mineral leases including federal coal leases. We used ONRR sales year revenue data, which includes current fiscal year data and adjusted or corrected transactions for sales that took place in previous years. According to ONRR officials, adjustments to sales year data are made on an ongoing basis in real time, such that the data varies daily. We used sales year data because this type of data was identified by ONRR as the best for trending purposes. To complete our analysis, we adjusted both BLM bonus bid data and ONRR revenue data to 2013 dollars using the gross domestic product price index.

We conducted interviews with BLM and ONRR officials regarding these data and reviewed documentation on their data systems. We found that some of the revenue data initially provided by ONRR prior to 2003, in particular the bonus, rent, and other income data, had gaps resulting from a data system conversion the agency underwent and was not reliable for use in our analysis. ONRR ultimately provided updated bonus data for this period, but it did so late in our review process, and we were unable to determine its reliability. We determined that all other ONRR data including royalty and production data from 1990 to 2012, as well as BLM federal coal leasing data, were sufficiently reliable for describing trends in the federal coal leasing program.

To examine how BLM implements the process to develop an estimate of fair market value, we reviewed applicable regulations and BLM's guidance for the coal leasing program, including BLM's H-3070-1 handbook, titled *Economic Evaluation of Coal Properties*. We also interviewed BLM officials in headquarters and state offices on how they implement these regulations and guidance. Specifically, we interviewed officials in the following BLM state offices because they are the only state offices involved in federal coal leasing at BLM: Colorado, Eastern States, Montana/Dakotas, New Mexico, Utah, and Wyoming.[1] We also spoke with officials in the Casper Field Office who are directly involved in coal leasing activity in the Powder River Basin. In addition, we reviewed other appraisal standards developed by appraisal organizations in the United States and appraisal standards used in other countries. These standards included the *Uniform Standards of Professional Appraisal Practice* prepared by the Appraisal Standards Board in the United States; the *Uniform Appraisal Standards for Federal Lands Acquisitions* prepared by the Interagency Land Acquisition Conference in the United States; *Standards and Guidelines for Valuation of Mineral Properties* prepared by the Canadian Institute of Mining, Metallurgy and Petroleum; and the *Code for Technical Assessment and Valuation of Mineral and Petroleum Assets and Securities for Independent Expert Reports* prepared by several groups, including the Australasian Institute of Mining and Metallurgy. We examined these standards to see what they said about certain aspects of an appraisal including required documentation and review processes. To learn about appraisal practices for mineral properties, we also spoke with appraisal officials, including officials from the Appraisal Institute, the Appraisal Foundation, the American Institute of Mineral Appraisers, and an official involved in the development of the Canadian standards for mineral valuation mentioned above. In addition, we spoke with officials from Interior's Office of Valuation Services, which is responsible for providing real estate evaluation services to the Department of the Interior's bureaus and offices.

We selected and reviewed a nonrandom sample of case files prepared by BLM officials as part of 31 recent coal lease sales using a data collection instrument we developed. The sample included all reports for lease sales that generally took place from January 1, 2007, to July 31, 2012. This

[1]The Eastern States office oversees activities in the eastern half of the United States. There is currently coal leasing activity in Alabama and Kentucky. The New Mexico state office also oversees leasing activity in Oklahoma.

nonrandom sample cannot be generalized to all coal lease sales held but rather has a focus on recently prepared files. However, the results of this sample provide illustrative examples of the coal leasing process used and the documentation prepared. We requested the following documentation from BLM for these lease sales if they had been prepared: appraisal report, economic report, engineering report, geologic report, and tract modification report. As part of our review, we examined 147 documents that were prepared for these 31 lease sales. For those states that did not oversee two lease sales from January 1, 2007, to July 31, 2012—Alabama, Kentucky, New Mexico, North Dakota, and Oklahoma—we examined their two most recent lease sales.[2] In the end we reviewed case files for 11 lease sales in Wyoming, 4 lease sales in Colorado, 3 lease sales in both Oklahoma and New Mexico, and 2 lease sales each in Alabama, Kentucky, North Dakota, Montana, and Utah.[3] To ensure that our data collection instrument was filled out correctly, two GAO staff members reviewed the provided documents: one filled out the data collection instrument the first time, and the other verified this work. We conducted follow-up interviews with BLM state offices to discuss both general questions our review raised about the processes used to estimate fair market value in each of the BLM states and details related to specific cases we reviewed.

To determine the extent to which BLM considers coal exports when developing an estimate of fair market value, we used our case file review to examine what types of information BLM provided on exports, if any. For those files that did contain information on exports, we compared the wording used to describe exports across the various reports to see what kind of information was provided. We also used our interviews with BLM officials at headquarters and state offices to learn about the information they consult in estimating fair market value and the extent to which they consider exports when making this determination. We examined available information on coal exports from the Energy Information Administration (EIA) and other publicly available documents, such as financial statements of mining companies. We also spoke with knowledgeable stakeholders about future projections for coal exports, including the

[2] We reviewed three pre-2007 files for both Oklahoma and New Mexico because these sales involved multiple lease tracts that were held on the same date.

[3] One of the two lease sales we reviewed from Utah did not receive any bids. All of the other lease sales received at least one bid.

National Mining Association, International Energy Agency, and other officials from academia and industry.

To determine the extent to which BLM considers reserve estimates, we interviewed a variety of BLM officials at the headquarters and state office level to determine if reserves were considered. In addition, we examined available reserve information from the United States Geological Survey (USGS) and spoke with USGS officials involved in making these estimates. We also obtained perspectives from stakeholders from academia, industry, and environmental organizations.

To examine the extent to which BLM provides information to the public on coal lease sales, we analyzed BLM's policies for making information publicly available, including BLM's H-3070-1 handbook. We also reviewed BLM websites related to federal coal leasing, and we reviewed a sample of environmental documents that are made publicly available during the coal leasing process. We obtained data from BLM on Freedom of Information Act (FOIA) requests made for fair market value information prepared for federal coal lease sales. We also reviewed copies of request letters and BLM's response to these requests, including redacted versions of fair market value documents made available in response to the only FOIA request where BLM supplied these documents. We interviewed BLM staff, industry representatives, as well as conservation and environmental groups to get their perspectives on the information made publicly available on federal coal leases.

Finally, we conducted site visits to Colorado and Wyoming. During these visits, we met with officials in BLM state offices in Colorado and Wyoming, and we also met with officials in the Casper Field Office in Wyoming. In addition, we met with a coal mining company and toured a large surface mine in Wyoming and met with a professor of economics at the University of Wyoming's School of Energy Resources. We selected these states because they have different types of mining that take place—generally surface mining in Wyoming and underground mining in Colorado. In addition, we selected Wyoming because of the large amount of federal coal leasing activity in the state.

We conducted this performance audit from June 2012 to December 2013 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: Federal Coal Lease Sales, January 1990 through December 2012

This appendix presents data on all federal coal lease sales by state that were conducted from January 1, 1990, through December 31, 2012. Table 4 provides information on the lease tract characteristics (acreage, type of mine, and amount of coal) along with the lease sale results (number of bids received, bonus bid accepted, and name of successful bidder).

Table 4: Federal Coal Lease Sales, January 1990 through December 2012

Sale date	Lease serial number	Acres	Associated mine name	Type of mine	Estimated amount of coal leased (1,000 tons)[a]	Number of qualified bids received	Total accepted bonus bid (nominal dollars)	Bonus bid per ton (nominal dollars)	Bonus bid per acre (nominal dollars)	Successful bidder
Alabama										
6/12/1990	ALES 041886	80	River King	Surface	160	1	$21,101	$0.13	$264	River King Energy
7/12/1991	ALES 043165	6440	Yellow Creek	Underground	24,600	1	$1,300,880	$0.05	$202	Pittsburg & Midway Mining Coal Co.
3/18/1994	ALES 044853	1610	Shoal Creek	Underground	8,065	1	$330,000	$0.04	$205	Drummond Co. Inc.
6/28/1996	ALES 046611	40	Mary Lee Number 1	Underground	191	1	$7,795	$0.04	$194	Drummond Co. Inc.
8/21/1997	ALES 047886	40	Oak Mountain and Boone Number 1	Underground	500	1	$4,223	$0.00001	$103	Oak Mtn. Energy LLC
9/30/2004	ALES 051589	2887	North River	Underground	10,789	1	$320,568	$0.03	$111	Pittsburg & Midway Mining Coal Co.
Colorado										
4/27/1990	COC 049465	193	King	Underground	1,000	2	$101,560	$0.10	$526	National King Coal
6/26/1991	COC 051551	1280	Deserado	Underground	8,700	1	$656,640	$0.08	$513	Western Fuels
7/30/1992	COC 053510	1340	Elk Creek	Underground	10,300	1	$1,025,998	$0.10	$766	Somerset Mining
12/18/1992	COC 053356	522	Bowie Number 2	Underground	2,500	1	$52,178	$0.02	$100	Cyprus Orchard Valley
10/7/1993	COC 053560	544	Foidel Creek	Underground	3,600	1	$57,225	$0.02	$105	Cyprus Western

Sale date	Lease serial number	Acres	Associated mine name	Type of mine	Estimated amount of coal leased (1,000 tons)[a]	Number of qualified bids received	Total accepted bonus bid (nominal dollars)	Bonus bid per ton (nominal dollars)	Bonus bid per acre (nominal dollars)	Successful bidder
11/4/1993	COC 054558	1012	West Elk	Underground	14,000	1	$803,520	$0.06	$794	Mountain Coal Co. LLC
5/15/1995	COC 056447	2770	West Elk	Underground	37,000	1	$6,408,035	$0.17	$2,314	Mountain Coal Co. LLC
1/25/1996	COC 054608	2600	Foidel Creek	Underground	23,870	1	$4,057,900	$0.17	$1,561	Twentymile Coal Co.
3/30/1998	COC 060941	195	King	Underground	624	1	$19,752	$0.03	$101	National King Coal
5/31/2000	COC 061357	4444	Elk Creek	Underground	20,920	1	$8,723,661	$0.42	$1,963	Oxbow Mining Inc.
5/31/2000	COC 061209	3211	Bowie Number 2	Underground	32,600	1	$10,334,186	$0.32	$3,219	Bowie Resources Ltd.
12/4/2001	COC 062920	1305	King II	Underground	7,049	1	$396,720	$0.06	$304	National King Coal
1/6/2004	COC 066514	1520	McClane Canyon	Underground	8,365	2	$2,065,000	$0.25	$1,358	Central Appalachia Mining, CAM Holdings
7/1/2004	COC 067011	691	West Elk	Underground	2,300	1	$191,994	$0.08	$278	Arch Coal, Inc., Ark Land Co.
10/12/2006	COC 067514	200	Foidel Creek	Underground	2,100	1	$525,000	$0.25	$2,620	Twentymile Coal Co.
1/24/2007	COC 067232	1517	West Elk	Underground	14,000	1	$3,025,000	$0.22	$1,994	Ark Land Co.
5/30/2007	COC 068590	1407	Colowyo	Surface	92,000	1	$13,106,600	$0.14	$9,317	Colowyo Coal Co. LP
1/14/2009	COC 072980	500	Foidel Creek	Underground	1,400	1	$350,000	$0.25	$700	Twentymile Coal Co.
5/15/2012	COC 070615	726	Elk Creek	Underground	3,960	1	$990,264	$0.25	$1,364	Oxbow Mining, LLC
8/22/2012	COC 074219	400	Sage Creek	Underground	3,200	1	$800,000	$0.25	$2,000	Sage Creek Holdings, LLC
Kentucky										
12/13/1990	KYES 041395	180	Bell Co. Number 2	Underground	900	3	$196,000	$0.22	$1,089	Apollo Fuel
12/13/1990	KYES 045303	800	Stone Number 2	Underground	3,800	1	$160,000	$0.04	$200	Apollo Fuel

Sale date	Lease serial number	Acres	Associated mine name	Type of mine	Estimated amount of coal leased (1,000 tons)[a]	Number of qualified bids received	Total accepted bonus bid (nominal dollars)	Bonus bid per ton (nominal dollars)	Bonus bid per acre (nominal dollars)	Successful bidder
5/3/1991	KYES 043034	167	Camp Number 2	Underground	900	1	$16,658	$0.02	$100	Peabody
5/3/1991	KYES 042948	99	Big Fist Number 4	Underground	400	1	$9,900	$0.02	$100	Wellmore Coal
8/31/1993	KYES 045088	181	Number 60	Underground	500	1	$19,005	$0.04	$105	Leeco
7/27/2005	KYES 051002	1210	Beechfork	Underground	2,900	1	$501,003	$0.17	$414	Bledsoe Coal Leasing Company
5/11/2006	KYES 050213	315	Chas Number 4	Underground	792	1	$47,250	$0.06	$150	Chas Coal LLC
Montana										
6/16/1999	MTM 080697	1401	Rosebud	Surface	27,600	1	$4,416,000	$0.16	$3,152	Western Energy Co.
11/27/2000	MTM 088405	150	Spring Creek	Surface	15,400	1	$1,740,200	$0.11	$11,601	Spring Creek Coal Co.
4/17/2007	MTM 094378	1118	Spring Creek	Surface	108,600	1	$19,902,200	$0.18	$17,806	Spring Creek Coal Co.
2/28/2012	MTM 097988	2680	Bull Mountains Mine No. 1	Surface	35,500	1	$10,650,000	$0.30	$3,974	Signal Peak Energy LLC
New Mexico										
7/31/1991	NMNM 078371	3082	Salt River	Surface	19,600	1	$1,571,963	$0.08	$510	Salt River Project
7/31/1991	NMNM 086717	3360	Salt River	Surface	10,000	1	$799,680	$0.08	$238	Salt River Project
11/1/2000	NMNM 099144	4484	San Juan	Underground	63,000	1	$13,000,000	$0.21	$2,899	San Juan Coal Co.
North Dakota										
1/23/1991	NDM 078697	160	Freedom	Surface	2,500	1	$16,000	$0.01	$100	Coteau Properties Co.
8/9/1994	NDM 081582	793	Freedom	Surface	9,140	1	$79,300	$0.01	$100	Coteau Properties Co.
3/26/1997	NDM 085516	159	Freedom	Surface	1,750	1	$15,900	$0.01	$100	Falkirk Mining Co.
3/26/1997	NDM 085537	80	Coteau	Surface	510	1	$8,000	$0.02	$100	Coteau Properties Co.

Sale date	Lease serial number	Acres	Associated mine name	Type of mine	Estimated amount of coal leased (1,000 tons)[a]	Number of qualified bids received	Total accepted bonus bid (nominal dollars)	Bonus bid per ton (nominal dollars)	Bonus bid per acre (nominal dollars)	Successful bidder
3/26/1997	NDM 085517	399	Freedom	Surface	5,610	1	$39,900	$0.01	$100	Coteau Properties Co.
3/26/1997	NDM 085515	79	Freedom	Surface	2,000	1	$8,000	$0.004	$101	Coteau Properties Co.
9/30/1998	NDM 086601	360	Beulah	Surface	6,210	1	$36,000	$0.01	$100	Knife River Corp.
2/12/2002	NDM 090783	503	Freedom	Surface	7,000	1	$50,280	$0.01	$100	Coteau Properties Co.
12/10/2002	NDM 091647	40	Falkirk	Surface	300	1	$4,000	$0.01	$100	Falkirk Mining Co.
3/2/2006	NDM 091535	5334	Freedom	Surface	89,000	1	$533,400	$0.01	$100	Coteau Properties Co.
9/12/2006	NDM 095104	320	Center	Surface	8,300	1	$32,000	$0.004	$100	BNI Coal LTD
10/15/2009	NDM 097633	160	Center	Surface	3,000	1	$16,000	$0.01	$100	BNI Coal LTD
Oklahoma										
11/14/1994	OKNM 091590	400	Shady Point, Cavanal	Underground	369	1	$165,544	$0.45	$414	Farrell-Cooper Mining Co.
11/14/1994	OKNM 091569	2725	Heavener	Surface	18,290	1	$281,388	$0.02	$103	Farrell-Cooper Mining Co.
11/14/1994	OKNM 091568	1933	Red Oak South	Surface	11,137	1	$204,502	$0.02	$106	Farrell-Cooper Mining Co.
11/14/1994	OKNM 091190	3429	Pollyanna Number 8 North and South	Surface	15,320	1	$346,710	$0.02	$101	P&K Company
1/31/1997	OKNM 094663	90	Pollyanna Number 9	Surface	138	1	$10,000	$0.07	$111	Georges Colliers Inc.
1/31/1997	OKNM 091571	2120	Rock Island	Surface	4,300	1	$251,816	$0.06	$119	Farrell-Cooper Mining Co.
9/14/2005	OKNM 108097	2380	McCurtain	Underground	10,058	2	$323,204	$0.03	$136	Farrell-Cooper Mining Co.

Sale date	Lease serial number	Acres	Associated mine name	Type of mine	Estimated amount of coal leased (1,000 tons)[a]	Number of qualified bids received	Total accepted bonus bid (nominal dollars)	Bonus bid per ton (nominal dollars)	Bonus bid per acre (nominal dollars)	Successful bidder
9/14/2005	OKNM 107920	2702	Bull Hill	Surface	8,993	2	$409,965	$0.05	$152	Farrell-Cooper Mining Co.
9/14/2005	OKNM 104763	560	Liberty Number 4	Surface	2,057	1	$57,820	$0.03	$103	Farrell-Cooper Mining Co.
Utah										
1/11/1990	UTU 064263	1987	Star Point Mine	Underground	7,630	1	$1,526,369	$0.20	$768	Cyprus Western
6/28/1990	UTU 066060	933	Aberdeen	Underground	8,800	1	$1,654,776	$0.19	$1,773	AMCA Coal Leasing
6/28/1990	UTU 064375	2631	Trail Mountain	Underground	12,200	2	$6,103,479	$0.50	$2,320	Beaver Creek Coal
12/29/1993	UTU 068082	2979	Genwal, Crandall Canyon North	Underground	18,600	1	$3,810,000	$0.20	$1,279	Andalex Resources, Inc.
7/19/1995	UTU 069635	2177	Dugout Canyon	Underground	12,700	1	$2,667,000	$0.21	$1,225	Sage Point Coal Co.
5/30/1996	UTU 067939	3291	Skyline	Underground	24,100	1	$5,600,000	$0.23	$1,702	Coastal States Energy Co.
12/18/1996	UTU 073975	2299	Willow Creek Mine	Underground	22,100	1	$5,127,200	$0.23	$2,230	Cyprus Plateau Mining Co.
5/14/1998	UTU 074804	1288	Horizon	Underground	6,300	1	$315,000	$0.05	$244	White Oak-Horizon Mining
5/20/1999	UTU 076195	7172	Sufco	Underground	60,000	1	$16,900,000	$0.28	$2,356	Canyon Fuel Co.
12/12/2001	UTU 078562	1646	West Ridge	Underground	14,800	1	$11,459,900	$0.77	$6,961	Andalex Resources, Inc.
6/12/2003	UTU 078953	880	Genwal, Crandell Canyon South	Underground	7,630	1	$6,561,800	$0.86	$7,457	Andalex Resources, Inc.
6/24/2004	UTU 079975	703	Aberdeen	Underground	3,040	1	$486,400	$0.16	$692	Andalex Resources, Inc.

Sale date	Lease serial number	Acres	Associated mine name	Type of mine	Estimated amount of coal leased (1,000 tons)[a]	Number of qualified bids received	Total accepted bonus bid (nominal dollars)	Bonus bid per ton (nominal dollars)	Bonus bid per acre (nominal dollars)	Successful bidder
6/8/2006	UTU 081893	1760	Aberdeen	Underground	14,900	1	$2,816,000	$0.19	$1,600	Andalex Resources, Inc.
8/1/2006	UTU 084285	214	Deer Creek	Underground	325	1	$98,000	$0.30	$459	PACIFICORP
9/3/2009	UTU 086038	120	Emery Deep	Underground	561	1	$201,600	$0.36	$1,680	Consolidation Coal
Wyoming										
9/20/1990	WYW 119606	81	Swanson	Underground	300	1	$28,611	$0.10	$353	Lion Coal
9/26/1991	WYW 117924	1709	Jacobs Ranch	Surface	102,600	1	$20,110,457	$0.20	$11,770	Kerr McGee
8/12/1992	WYW 118907	3493	Black Thunder	Surface	481,000	1	$71,898,842	$0.15	$20,587	Thunder Basin
9/28/1992	WYW 119554	3064	North Antelope Rochelle	Surface	370,000	1	$86,986,960	$0.24	$28,390	Powder River
1/7/1993	WYW 122586	463	Rocky Butte	Surface	55,000	1	$16,500,001	$0.30	$35,621	Northwestern Resources
4/5/1995	WYW 124783	1059	Eagle Butte	Surface	166,400	1	$18,470,400	$0.11	$17,438	AMAX Land Co.
12/4/1996	WYW 128322	617	Antelope	Surface	60,364	1	$9,054,600	$0.15	$14,670	Antelope Coal Co.
9/25/1997	WYW 127221	1482	North Rochelle	Surface	157,610	1	$30,576,340	$0.19	$20,633	Triton
6/30/1998	WYW 136142	4224	North Antelope Rochelle	Surface	532,000	1	$109,596,500	$0.21	$25,945	Powder River Coal Co.
10/1/1998	WYW 136458	3546	Black Thunder	Surface	412,000	2	$158,000,009	$0.38	$44,563	Arch Coal
9/29/1999	WYW 139975	5206	Elk Mountain	Surface & Underground	65,780	1	$1,957,456	$0.03	$376	Ark Land Co.
9/7/2000	WYW 141435	2819	Antelope	Surface	275,577	1	$91,220,121	$0.33	$32,363	Kennecott Energy
1/16/2002	WYW 146744	4982	Jacobs Ranch	Surface	537,542	2	$379,504,652	$0.71	$76,171	Kennecott Energy

Sale date	Lease serial number	Acres	Associated mine name	Type of mine	Estimated amount of coal leased (1,000 tons)[a]	Number of qualified bids received	Total accepted bonus bid (nominal dollars)	Bonus bid per ton (nominal dollars)	Bonus bid per acre (nominal dollars)	Successful bidder
6/29/2004	WYW 154001	2957	North Antelope Rochelle	Surface	297,469	1	$274,117,684	$0.92	$92,710	Peabody-BTU Western Resources, Inc.
9/22/2004	WYW 150318	5084	Black Thunder	Surface	718,719	1	$610,999,950	$0.85	$120,193	Ark Land LT Incorporated
11/17/2004	WYW 151634	921	Buckskin	Surface	142,698	1	$42,809,400	$0.30	$46,473	Kiewit Mining Group
12/15/2004	WYW 151643	2809	Antelope	Surface	194,961	1	$146,311,000	$0.75	$52,084	Antelope Coal Co.
12/29/2004	WYW 150210	2369	North Antelope Rochelle	Surface	324,627	1	$299,143,785	$0.92	$126,254	BTU Western Resources, Inc.
1/19/2005	WYW 154595	2242	Bridger	Underground	32,145	1	$6,953,861	$0.22	$3,101	Bridger Coal Co.
2/16/2005	WYW 151134	2813	School Creek	Surface	327,186	2	$317,697,610	$0.97	$112,959	BTU Western Resources, Inc.
6/5/2007	WYW 160394	1399	Black Butte	Surface	11,200	1	$2,426,620	$0.0002	$1,735	Black Butte Coal Company
2/20/2008	WYW 155132	1428	Eagle butte	Surface	255,000	1	$180,540,000	$0.71	$126,429	Foundation Coal West Inc.
4/22/2008	WYW 174407	2900	Cordero Rojo	Surface	288,100	1	$250,800,000	$0.87	$86,476	Cordero Mining Co.
1/28/2009	WYW 154432	446	Cordero Rojo	Surface	54,657	1	$48,098,424	$0.88	$107,871	Cordero Mining Co.
5/11/2011	WYW 163340	2838	Antelope	Surface	350,263	1	$297,723,228	$0.85	$104,920	Antelope Coal LLC
6/15/2011	WYW 177903	1909	Antelope	Surface	56,356	1	$49,311,500	$0.88	$25,836	Antelope Coal LLC
7/13/2011	WYW 161248	1671	Caballo	Surface	221,735	2	$210,648,060	$0.95	$126,059	BTU Western Resources
8/17/2011	WYW 172657	1024	Belle Ayr	Surface	130,196	2	$143,417,404	$1.10	$140,057	Alpha Coal West

Sale date	Lease serial number	Acres	Associated mine name	Type of mine	Estimated amount of coal leased (1,000 tons)[a]	Number of qualified bids received	Total accepted bonus bid (nominal dollars)	Bonus bid per ton (nominal dollars)	Bonus bid per acre (nominal dollars)	Successful bidder
12/14/2011	WYW 174596	1977	Black Thunder	Surface	222,676	1	$300,001,012	$1.35	$151,769	Ark Land Co., South
5/17/2012	WYW 176095	3243	North Antelope Rochelle	Surface	401,831	1	$446,031,864	$1.11	$137,536	BTU Western Resources
6/28/2012	WYW 173408	6364	North Antelope Rochelle	Surface	721,155	1	$793,270,311	$1.10	$124,644	BTU Western Resources

Source: GAO analysis of BLM data.

[a]With the exception of WYW 154595 lease tract, we are reporting minable tons of coal for the lease tracts in Wyoming. For WYW 154595 lease tract and lease tracts in all other states, we are reporting recoverable tons of coal. This estimate of mineable tons of coal is generally a larger number than the recoverable estimate, because it includes coal that is generally left in place during actual mining operations, such as coal along property boundaries or coal left in place as pillars for structural reasons in an underground mine. Wyoming BLM does not typically report recoverable tons publicly because officials in this state office consider this sensitive information.

Appendix III: Summary Information from File Reviews of Selected Federal Coal Lease Sales

This appendix provides information on the 31 federal coal lease sales we reviewed that generally took place from January 1, 2007, to July 31, 2012. For those BLM state offices that did not conduct 2 lease sales during this time, we reviewed their 2 most recent lease sales.[1]

Reports that are relevant to the determination of fair market value include the following:

- geologic reports, which contain an estimate of the amount of coal that can be recovered on the lease tract along with the characteristics of the coal, including its heating content;
- engineering reports, which generally contain estimates of the costs to extract the coal based on the number of employees and capital equipment necessary to carry out mining activities;
- economic reports, which establish price and demand levels for the lease tract's coal; and
- appraisal reports, which document the fair market value for the lease tract, along with an explanation of the methods used to develop this number.

BLM's guidance does not direct that all of these reports to be prepared as part of a lease sale. For example, it is unlikely that an economic report would be prepared if the income approach was not used to determine fair market value. However, BLM guidance requires that appraisal reports be signed by three officials.

For the files we reviewed, table 5 provides information by lease tract on the amount of coal involved in the sale, types of reports prepared as part of the sale, fair market value approaches used, and compliance with appraisal report review requirements.

[1]We reviewed three pre-2007 files for both Oklahoma and New Mexico because these sales involved multiple lease tracts that were held on the same date.

Table 5: Summary Information on Coal Lease Sale Files Reviewed

State	Serial number	Lease tract name	Date of lease sale	Coal offered (millions of tons)[a]	Geologic report prepared?	Engineering report prepared?	Economic report prepared?	Appraisal report prepared?	Fair market value approaches used	Appraisal report signed by three officials?[b]
AL	ALES-047886	Jesse Creek	8/21/1997	0.5	No	No	No	Yes	Comparable sales	Unknown because BLM unable to provide copy of appraisal
AL	ALES-051589	Flat Creek	9/30/2004	10.8	Yes	Yes	No	Yes	Comparable sales Income	No
CO	COC-067232	Dry Fork	1/24/2007	12.1	Yes	Yes	No	Yes	Comparable sales	No
CO	COC-68590	Collom	5/30/2007	92.0	Yes	Yes	Yes	Yes	Comparable sales Income	No
CO	COC-072980	Foidel Creek	1/14/2009	1.4	Yes	Yes	No	Yes	Comparable sales	No
CO	COC-070615	Elk Creek East	5/15/2012	4.0	Yes	Yes	No	Yes	Comparable sales	No
KY	KYES-051002	Gray Mtn.	7/27/2005	2.9	Yes	Yes	No	Yes	Comparable sales Income	No
KY	KYES-050213	Laurel Fork	5/11/2006	0.8	Yes	Yes	No	Yes	Comparable sales	No
MT	MTM-094378	Spring Creek	4/17/2007	108.6	Yes	Yes	Yes	Yes	Comparable sales Income	Yes
MT	MTM-097988	Bull Mtn.	2/28/2012	35.5	Yes	Yes	Yes	Yes	Comparable sales Income	No
NM	NMNM-078371	Fence Lake 1	7/31/1991	19.6	Yes	Yes	Yes	Yes	Comparable sales Income	Yes
NM	NMNM-086717	Fence Lake 2	7/31/1991	10.0	Yes	Yes	Yes	Yes	Comparable sales Income	Yes
NM	NMNM-099144	San Juan Deep Ext.	11/1/2000	63.0	Yes	Yes	Yes	Yes	Comparable sales Income	No

State	Serial number	Lease tract name	Date of lease sale	Coal offered (millions of tons)[a]	Geologic report prepared?	Engineering report prepared?	Economic report prepared?	Appraisal report prepared?	Fair market value approaches used	Appraisal report signed by three officials?[b]
ND	NDM-095104	Center Mine	9/12/2006	8.3	Yes	Yes	No[c]	Yes	Comparable sales	Yes
ND	NDM-097633	Center Mine 2	10/15/2009	3.0	Yes	Yes	Noc	Yes	Comparable sales	No
OK	OKNM-107920	Bull Hill	9/14/2005	9.0	No	No	No	No	No approaches documented	No
OK	OKNM-104763	Liberty West	9/14/2005	2.1	No	No	No	No	No approaches documented	No
OK	OKNM-108097	McCurtain Tract No. 1	9/14/2005	6.5	No	No	No	No	No approaches documented	No
UT	UTU-086038	Miller Canyon	9/3/2009	0.6	Yes	Yes	No	Yes	Comparable sales	No
UT	UTU-85539	Dry Canyon	11/15/2011	42.2	Yes	Yes	No	Yes	Comparable sales	No
WY	WYW-160394	Pit 14	6/5/2007	11.2	Yes	Yes	Yes	Yes	Comparable sales Income Adjusted discounted cash flow comparable sales[d]	Yes
WY	WYW-155132	West Eagle Butte	2/20/2008	255.0	Yes	Yes	Yes	Yes	Comparable sales Income Adjusted discounted cash flow comparable sales	Yes
WY	WYW-174407	South Maysdorf	4/22/2008	288.1	Yes	Yes	Yes	Yes	Comparable sales Income Adjusted discounted cash flow comparable sales	Yes

State	Serial number	Lease tract name	Date of lease sale	Coal offered (millions of tons)[a]	Geologic report prepared?	Engineering report prepared?	Economic report prepared?	Appraisal report prepared?	Fair market value approaches used	Appraisal report signed by three officials?[b]
WY	WYW-154432	North Maysdorf	1/29/2009	54.7	Yes	Yes	Yes	Yes	Comparable sales Income Adjusted discounted cash flow comparable sales	Yes
WY	WYW-163340	West Antelope 2 North	5/11/2011	350.3	Yes	Yes	Yes	Yes	Comparable sales Income Adjusted discounted cash flow comparable sales	Yes
WY	WYW-161248	North Belle Ayr	7/13/2011	221.7	Yes	Yes	Yes	Yes	Comparable sales Income Adjusted discounted cash flow comparable sales	Yes
WY	WYW-172657	Caballo West	8/17/2011	130.2	Yes	Yes	Yes	Yes	Comparable sales Income Adjusted discounted cash flow comparable sales	Yes
WY	WYW-174596	South Hilight	12/14/2011	222.7	Yes	Yes	Yes	Yes	Comparable sales Income Adjusted discounted cash flow comparable sales	Yes

State	Serial number	Lease tract name	Date of lease sale	Coal offered (millions of tons)[a]	Geologic report prepared?	Engineering report prepared?	Economic report prepared?	Appraisal report prepared?	Fair market value approaches used	Appraisal report signed by three officials?[b]
WY	WYW-176095	South Porcupine	5/17/2012	401.8	Yes	Yes	Yes	Yes	Comparable sales Income Adjusted discounted cash flow comparable sales	Yes
WY	WYW-177903	West Antelope 2 South	6/15/2012	56.4	Yes	Yes	Yes	Yes	Comparable sales Income Adjusted discounted cash flow comparable sales	Yes
WY	WYW-173408	North Porcupine	6/28/2012	721.2	Yes	Yes	Yes	Yes	Comparable sales Income Adjusted discounted cash flow comparable sales	Yes

Source: GAO analysis of BLM case files for coal lease sales.

[a]In Wyoming, we are reporting mineable tons of coal, while for the other states, we are reporting recoverable tons of coal. This estimate of mineable tons of coal is generally a larger number than the recoverable estimate because it includes coal that is generally left in place during actual mining operations, such as coal along property boundaries or coal left in place as pillars for structural reasons in an underground mine. Wyoming BLM does not report recoverable tons publicly because officials in this state office consider this sensitive information.

[b]According to BLM's handbook on the economic evaluation of coal properties and BLM officials, the three officials that need to sign the appraisal report are: appraiser, reviewer, and deputy state director.

[c]While a separate economic report was not prepared, economic and market information was incorporated into the appraisal report.

[d]This approach involves numerically adjusting comparable sales using the results of the income approach.

Appendix IV: Comments from Department of the Interior

The report number was changed to a FY2014 number after it was sent to the agency for comment.

United States Department of the Interior

OFFICE OF THE SECRETARY
Washington, D.C. 20240

AUG 29 2013

Ms. Anne-Marie Fennell
Director, Natural Resources and Environment
U. S. Government Accountability Office
441 G Street, N.W.
Washington, D.C. 20548

Dear Ms. Fennell:

Thank you for the opportunity to review and provide comments on the draft Government Accountability Office (GAO) Report entitled "COAL LEASING: BLM Could Enhance Appraisal Process, More Explicitly Consider Coal Exports, and Provide More Public Information" (GAO-13-586).

The Department of the Interior appreciates the work of the GAO team and how the draft report captures the uncertainties and complexities involved with the coal leasing process. We concur with the recommendations in the report. The Bureau of Land Management (BLM) has already begun implementing a number of reforms designed to improve and standardize the performance of the BLM coal program, including the establishment of a Memorandum of Understanding (MOU) with the Department's Office of Valuation Services to strengthen the BLM coal valuation program. The BLM also will soon publish additional detailed information regarding past lease sales on its national and state websites.

We are providing two enclosures. The first is a table of our technical comments on the draft report to assist with the preparation of the final report. The second is a copy of the referenced MOU between the BLM and Office of Valuation Services. If you have any questions or need any additional information, please contact Mitchell Leverette, Chief, Division of Solid Minerals, at 202-912-7113 or LaVanna Stevenson, BLM's Audit Liaison Officer, at 202-912-7077.

Sincerely,

Tommy P. Beaudreau
Acting Assistant Secretary
Land and Minerals Management

Enclosures

Appendix V: Comments from Department of Agriculture

The report number was changed to a FY2014 number after it was sent to the agency for comment.

USDA United States Department of Agriculture | Forest Service | Washington Office | 1400 Independence Avenue, SW Washington, DC 20250

File Code: 1420
Date: AUG 21 2013

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

Dear Ms. Fennell:

Thank you for the opportunity to review and provide comments on the draft U.S. Government Accountability Office (GAO) Report on "Coal Leasing: BLM Could Enhance Appraisal Process, More Explicitly Consider Coal Exports, and Provide More Public Information (GAO-13-586)". We place great value on our collaborative relationship with the BLM and our joint roles in minerals development to meet the needs of the American public. The Forest Service has reviewed the report and has no additional comments.

Thank you again for the opportunity to review your draft report. If you have any questions, please contact Thelma Strong, Chief Financial Officer, at 202-205-0429 or tstrong@fs.fed.us.

Sincerely,

Tim DeCoster
for THOMAS L. TIDWELL
Chief

Caring for the Land and Serving People

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Appendix VI: 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), Antoinette Capaccio, Scott Heacock, Rich Johnson, Mehrzad Nadji, Alison O'Neill, Dan Royer, Rebecca Shea, Jeanette M. Soares, Jeff Tessin, and Swati Sheladia Thomas made key contributions to this report.

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EVALUATION

OFFICE OF
INSPECTOR GENERAL
U.S.DEPARTMENT OF THE INTERIOR

COAL MANAGEMENT PROGRAM, U.S. DEPARTMENT OF THE INTERIOR

Report No.: CR-EV-BLM-0001-2012

June 2013

OFFICE OF
INSPECTOR GENERAL
U.S.DEPARTMENT OF THE INTERIOR

JUN 11 2013

Memorandum

To: Tommy P. Beaudreau
Acting Assistant Secretary, Land and Minerals Management

Rhea Suh
Assistant Secretary, Policy Management and Budget

From: Mary L. Kendall
Deputy Inspector General

Subject: Final Evaluation Report – Coal Management Program, U.S. Department of the Interior
Report No. CR-EV-BLM-0001-2012

This memorandum transmits the results of our evaluation of the U.S. Department of the Interior's (Department) coal program. The evaluation focused on the coal lease sale process, the coal lease inspection and enforcement program, and the venting of methane gas from coal mines.

We found weaknesses in the sale process that put the Government at risk of not receiving full value for coal leases. In addition, deficiencies in the inspection and enforcement program could prevent the program from ensuring that mine operators comply with laws, regulations, and lease terms. We did not find, however, any issues with the venting of methane gas.

Our report contains 13 recommendations to improve the coal management program. In response to the draft report, the Bureau of Land Management (BLM) concurred with 12 recommendations and partially concurred with 1. The details of the response, however, were sufficient for us to consider all 13 recommendations resolved. Because full implementation of the recommendations will not be accomplished until 2014, we will refer all recommendations to the Assistant Secretary for Policy, Management and Budget for tracking of implementation.

The legislation creating the Office of Inspector General requires that we report to Congress semiannually on all reports issued, actions taken to implement our recommendations, and recommendations that have not been implemented.

We appreciate the cooperation and assistance of the BLM staff during our review. If you have any questions about this report, please contact me at 202-208-5745.

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Results in Brief

The Bureau of Land Management (BLM) in the U.S. Department of the Interior (Department) oversees coal mining activities on Federal (public) and Indian lands. The Department collects more than $1 billion in bonus and royalty revenues from coal mining companies each year, a figure that has been steadily rising. In fiscal year 2012, bonuses and royalties exceeded $2.4 billion, the highest amount recorded in the last decade. The program also meets the coal industry's continuing demand for additional leases, and helps satisfy the Nation's energy needs.

Coal-burning power plants generate about half of the Nation's electrical power. About 40 percent of the Nation's coal comes from public lands. As a result, coal mining on public lands is a significant source of revenue to the U.S. Government, and significantly contributes to the Nation's power supply.

We focused on the program's goal of obtaining a fair return for coal on public lands, its mine inspection and enforcement activities, and venting of methane gas from mines. We found weaknesses in the current coal sale process that could put the Government at risk of not receiving the full, fair market value for the leases. For instance, we identified lost bonus revenues of $2 million in recent lease sales and $60 million in potentially undervalued lease modifications. In addition, flaws in the inspection and enforcement program could prevent BLM personnel from detecting noncompliance with laws, regulations, and lease terms. We did not find evidence that mines improperly vented methane gas.

We make 13 recommendations to enhance BLM's coal sales and inspections. Since even a 1-cent-per-ton undervaluation in the fair market value calculation for a sale can result in millions of dollars in lost revenues, correcting the identified weaknesses could produce significant returns to the Government.

Introduction

Objective

Our objective was to assess the U.S. Department of the Interior's (Department) effectiveness in managing its coal program. Our focus was to—

- determine if the Department's coal leasing process obtains a fair return for the public's coal;
- assess the effectiveness of the Department's coal lease inspection and enforcement program; and
- assess whether the Department is sufficiently addressing financial concerns about venting methane gas from coal mines.

Appendix 1 contains the details of the scope and methodology for this report.

Background

Coal management is a high-dollar program for the Department (see Figure 1). In fiscal year (FY) 2012, the Department collected $876 million in royalties (the amount paid by companies for producing the coal) and over $1.5 billion in bonuses (the amount paid by companies to obtain a lease) from six sales. The Bureau of Land Management's (BLM) budget for coal management is about $9.5 million. The program has 76 full-time employees.

Coal Revenues ($ in millions)

Revenue Type	FY2010	FY2011	FY2012
Royalties	$810.0	$ 848.6	$ 876.0
Bonus Bids		701.1	1,551.7
Total	$810.0	$1,549.7	$2,427.7

Figure 1. Coal revenues from FYs 2010 through 2012.

Coal is one of the Nation's primary sources of energy. The Nation uses coal to generate about half of its electrical power. More than 90 percent of coal mined in the Nation is for generating electricity. Other sources of electrical energy include natural gas, nuclear, wind, solar, geothermal, and hydroelectric plants.

Multiple bureaus within the Department have roles in the coal management program, including the Office of Natural Resources Revenue (ONRR), Office of Surface Mining Reclamation and Enforcement, U.S. Geological Survey, and Bureau of Indian Affairs. BLM, however, is responsible for most of the daily management and regulatory oversight of the public and Indian coal resources;

including exploration, lease administration, and production verification; and was the focus of this evaluation.

Coal from lands controlled by the Department comprises about 40 percent of the Nation's total coal production. The Department manages 314 leases—306 leases on public lands and 8 leases on Indian lands. Ten States produce public and Indian coal: Alabama, Arizona, Colorado, Kentucky, Montana, New Mexico, North Dakota, Oklahoma, Utah, and Wyoming. Three tribes lease their coal reserves: the Navajo Nation in Arizona, the Hopi Tribe in Arizona, and the Crow Tribe in Montana. The combined tribal production is about 5 percent of the Department's total.

In FY 2011, mining operations on public and Indian lands produced 473 million tons of coal, which was mostly shipped to power plants across the Nation (see Figure 2). The largest coal producing State is Wyoming. In FY 2011, Wyoming accounted for 83 percent of the Department's total coal production and 86 percent of its coal revenues.

Figure 2. Load-out facility in Utah where coal from several mines is gathered and shipped to end users such as power plants. Source: Office of Inspector General.

Seventy-one companies operate about 80 mines (surface and underground) on public and Indian lands, mostly in the Western United States. Four companies

(Alpha Natural Resources, Arch Coal Inc., Cloud Peak Energy Inc., and Peabody Energy) account for over 90 percent of the Department's sales volume.

In general, the process for a coal lease sale begins with a company applying for and receiving a license to explore an area for possible coal production. If the exploration has been successful, the company submits a "lease by application" request to BLM to initiate planning for the sale. The lease by application contains a variety of information such as the geographic coordinates and size of the proposed lease, expected production volumes, quality of the coal, and a mine plan detailing such information as the coal extraction methods, disposition and use of the coal, and the reclamation plan for restoring the land. BLM reviews the application and may recommend changes such as altering the acreage and adjusting the location of the lease. BLM also computes the fair market value (FMV) for the lease, which is kept secret, and publicly announces the sale. At various times in the process, BLM invites the public to comment.

Eventually, the applicable BLM State Office arranges and convenes the lease sale, using a competitive sealed bid procedure. BLM then awards the lease to the highest qualified company whose bid meets or exceeds the FMV. The awarded company must pay the first installment of the bonus, with the remainder paid over the next 4 years. During the life of a lease, BLM monitors and inspects the mine to ensure compliance with the lease's terms as well as the mine's plan.

A number of laws, rules, policies, and procedures govern leasing and managing coal on public lands, including the following:

- The Mineral Leasing Act (MLA) of 1920 (30 U.S.C. § 181, et seq.) and the Mineral Leasing Act for Acquired Lands of 1947 (30 U.S.C. § 351, et seq.) grant BLM the responsibility to lease mineral resources on public lands.
- The Federal Coal Leasing Amendments Act of 1976 (Pub. L. No. 94-377) amended the MLA to require a royalty rate of not less than 12.5 percent of the sale value of coal for surface mines, but allowed a lower rate for underground mines. The Department has set the royalty rate for underground mines at 8 percent. In addition, the MLA generally requires BLM's coal leases to be competitive lease sales and requires the Federal Government to receive the FMV for coal leases. The MLA does not define the FMV, but BLM follows a standard real estate definition.[1] Regulations for the coal leasing program are in the Code of Federal Regulations (43 C.F.R. §§ 3000, 3400-3480).
- The handbook titled "H-3070-1- Economic Evaluation of Coal Properties" contains BLM's policies for estimating FMV for coal lease sales.

[1] The "Uniform Appraisal Standards for Federal Land Acquisitions," published in 1992, defines FMV 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."

- The handbook titled “H-3486-1- Inspection and Enforcement” contains BLM’s inspection policies for ensuring that coal operators comply with lease terms and conditions, approved mine plans, and leasing regulations.
- The Energy Policy Act of 2005 (Pub. L. No. 109-58) increased the amount of land that can be added to an existing lease, through lease modification, from 160 acres to 960 acres.

Findings

We found several areas for BLM to improve the coal leasing process and strengthen the inspection and enforcement program. We did not find, however, financial-related issues with venting methane gas from mines. Underground mines must dispose of this hazardous gas for safety reasons.

Correcting the deficiencies identified in this report will be a challenge because the BLM Washington Office does not have direct lines of authority for the coal program. Specifically, although the Washington Office manages the coal program, it does not directly control the program in the many State and field offices that oversee coal leases. Without strong, centralized management, State and field office personnel may interpret official standards, processes, and procedures inconsistently.

Coal Leasing

BLM has a responsibility to obtain a fair return for coal on public lands. We found weaknesses in the current sale process that could put the Government at risk of not receiving the full value for the leases. For instance, we identified lost bonuses of $2 million from recent lease sales and $60 million in potentially undervalued lease modifications (see Appendix 2).

Valuation

A critical aspect of a competitive coal lease sale is determining the value of the property. BLM estimates FMV prior to each sale and by statute cannot accept a bid that is less than this amount. The FMV determination is based on the Government's assessment of projected income to the coal mining company and an analysis of comparable, prior lease sales as well as economic, geologic, and engineering variables unique to each proposed mining operation. These variables include the price of coal; current and future demand for coal; market conditions; shipping costs; proximity of the mine to available transportation and the end market; quality of the coal, which includes energy content and impurities such as ash and sulfur; depth of coal seams; equipment and labor required to operate the mine; and whether the coal will be extracted by surface or underground mining methods.

FMV Determination

BLM does not use the Department's Office of Valuation Services (OVS) to prepare the FMV appraisals. Instead, BLM has continued to prepare the appraisals using its own appraisers, which does not comply with Secretarial Order No. 3300, issued in May 2010. The order intended to foster independence by taking responsibility for the valuation process from the bureaus and placing it with OVS. The order was converted in June 2011 into Part 112, Chapter 33 in the Departmental Manual. The Departmental Manual notes: "The mission of the Office of Valuation Services is to provide independent real property valuation services." As the following discussion in this report shows, we believe BLM's coal lease sales would be greatly enhanced if OVS assumed the appraisal function.

Mineral valuation expertise is essential for setting the FMV. In that regard, OVS is responsible for serving as the Department's authority on valuation for all minerals extracted from public lands. Mineral valuation is a complex and unique field of appraisal, requiring special training to be properly qualified. In contrast, real estate appraisers primarily deal with a land's surface. For the Department's coal regions, which contain vast quantities of coal worth hundreds of millions of dollars, an accurate valuation of the mineral is essential for ensuring the Government receives the proper amount for each lease.

To illustrate the significance of computing an accurate FMV, the average sale price was $320 million in seven coal lease sales conducted in Wyoming's Powder River Basin since 2011. Given the magnitude of these sales, even a 1-cent-per-ton undervaluation in the FMV calculation could result in a $3 million revenue loss.

Comparable sales are a key component of determining the FMV. In two recent sales in one State, however, BLM developed its comparable sales analyses using a lower bid amount instead of the higher, actual sale price. Although these sales may not have resulted in lost revenue, the risk of accepting a lower bid is increased with an inappropriately low FMV.

Although OVS must determine the FMV according to the Departmental Manual, BLM would retain a major role in coal lease sales. Specifically, BLM would continue to develop the critical data components, such as the geologic, engineering, and aspects of the economic analyses, leading up to a sale. Further, BLM would still conduct the lease sales.

Exports

BLM does not fully account for export potential in developing the FMVs. The export of public coal has been growing in recent years (see Figure 3 next page), especially to Asian markets. The U.S. Energy Information Administration reported 125 million tons of coal exports for calendar year 2012, over twice the export levels of 2007. Likewise, the price of exported coal has more than doubled from 2007 through 2011. Coal companies are reported to be exploring the expansion of ports in the Northwest United States to enable coal to be shipped overseas. Accordingly, BLM should reflect the export potential in its FMV calculations to ensure the Government receives proper value for lease sales. Based upon our analysis of appraisals, however, it appears that several state offices overlook the export potential, thus possibly undervaluing the public's coal. In contrast, the Utah State Office used a contractor to help develop the FMV for a sale and did consider the export value.

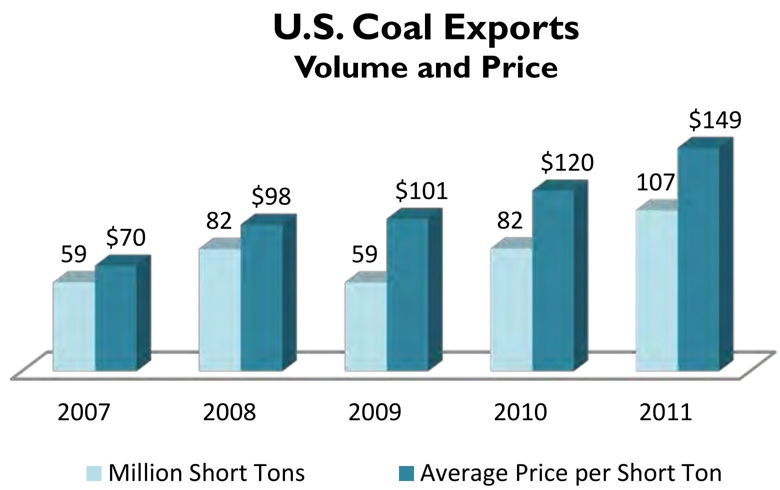

Figure 3. Coal export volumes and prices from calendar years 2007 through 2011.
†Short ton equals 2,000 pounds. Source: U.S. Energy Information Administration.

Competition

The FMV determination is critical in coal leasing because a competitive market generally does not exist for coal leases, therefore, the FMV serves as a substitute for competition. For example, we found that over 80 percent of the sales for coal leases in the Powder River Basin received only one bid in the past 20 years. No coal lease has had more than two bidders on a sale. Further, with mergers and consolidations during this period, the number of operating mines and companies has been declining even though coal production has increased (see Figure 4 next page). This lack of competition also applies to the coal producing regions in other States. Since FY 2002, BLM has held 47 successful coal lease sales nationwide, averaging about 4 per year, with as many as 9 and as little as 1 in a single year. The Powder River Basin has been the most active region for leasing, with 18 sales during this period.

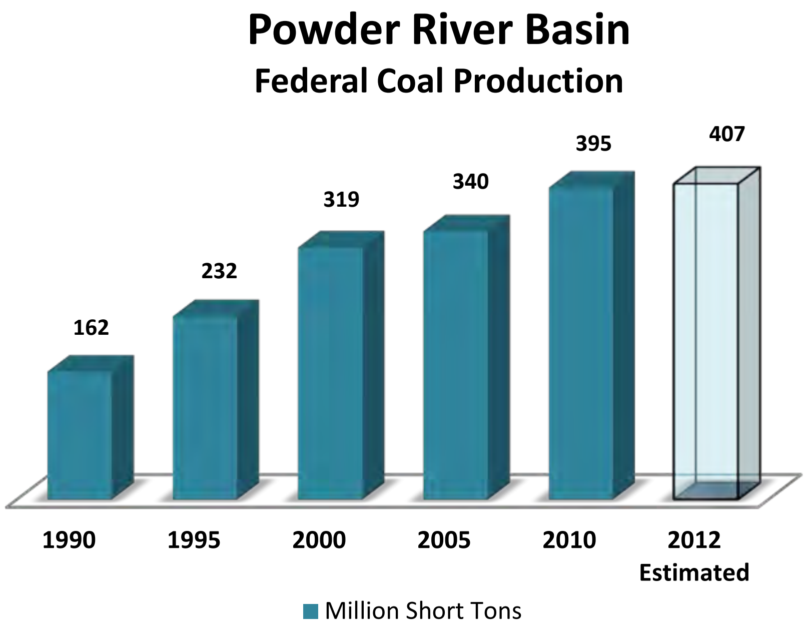

Figure 4. The volume of coal mined from Wyoming's Powder River Basin since 1990 has grown about 150 percent, while the number of mining companies has declined from 12 to 7. Source: BLM.

In our "Notice of Potential Findings and Recommendations" (NPFR) issued during our review, we recommended BLM have its methodology for coal lease valuation and the FMV determination peer reviewed independently, such as by the Office of Minerals Evaluation, a division under OVS that handles minerals evaluation matters. BLM responded that it would ask the Office of Minerals Evaluation to review, for possible revision, the Bureau's handbook, "H-3070-1-Economic Evaluation of Coal Properties," which contains its existing policies and procedures for coal property valuation.

Also, in response to our NPFR's recommendation to "achieve consistency in administering coal sales by assigning this function to one State Office or to a central group of specialists," BLM wrote that it will train new or existing coal specialists by establishing "mentoring or peer groups." BLM also said it would use external consultants when appropriate.

Recommendations
1. BLM should work with OVS when establishing FMV policies and methods, and when identifying FMV for coal leases. 2. BLM and OVS should take action to fully account for export potential in developing coal FMVs. 3. BLM should ensure a consistent and efficient coal lease sale process by designing a system that prevents individual BLM State Office discretion.

Bid Acceptance

To protect the public's interest in obtaining a fair return for coal sales, BLM computes the FMV and is required by the MLA to reject bids that fail to meet or exceed the calculated FMV. The process for accepting the winning bid at a lease sale is not consistent among BLM state offices. For example, two state offices normally reject a bid that does not meet or exceed the FMV. In such cases, BLM holds a new sale or "reoffer." At least three other state offices, however, have allowed companies to provide information to justify their original bid, and approved the sale if BLM considered the information satisfactory. In four sales in two of these States, BLM did not comply with the MLA because they accepted bids that were below the established FMV, resulting in over $2 million in lost revenues from the bonuses (see Appendix 2).

We believe that any sale below the FMV should be rejected. Mining companies could exploit this inconsistency between state offices by adjusting their bidding strategy for state offices they perceive as lenient in enforcing the FMV.

When a bid is rejected, however, lease reoffers are inefficient because the sales process starts over. Many administrative actions, such as reassessing the FMV and publishing Federal Register notices, must then be repeated. Since a company does not know the FMV, the sales process may repeat multiple times over many months as the company adjusts its bid until BLM finally accepts it. Until then, the company does not obtain the lease and the Federal Government does not receive any bonus income.

To address these inefficiencies, an alternative method involving direct negotiations immediately following an unsuccessful sale between BLM and the bidder could provide a quicker resolution. This would likely require legislative change to the MLA and revision of applicable regulations. This may be worth the effort, however, as about 25 percent of lease sales in the Powder River Basin go through the inefficient and time-consuming reoffer process.

Recommendations

4. BLM should reject bids less than the established FMV in compliance with the MLA.

5. BLM should explore options for a more efficient lease reoffer process, such as initiating direct negotiations with the coal company, or otherwise revising current procedures to execute a timely sale.

Internal Controls

BLM considers the FMV determinations and related files as highly confidential. Acquiring this sensitive information could give a company an unfair competitive advantage. Unintended disclosure would have significant ramifications considering that a single coal lease can sell for hundreds of millions of dollars. We found insufficient internal controls over securing the FMV data.

FMV Data Security

Some state offices do not adequately safeguard the FMV records. We found an instance where one employee locked an appraisal in a standard file cabinet in a cubicle that other employees could access. In another instance, an electronic copy of the appraisal was stored on an unencrypted compact disk at an employee's home.

Procedures for securing the FMV data are not consistent throughout BLM's offices, and there is no standard information security protocol. We notified BLM of these information security issues in our NPFR. In its response, BLM said it had taken corrective steps to secure the FMV documentation.

Review and Approval of FMV Determinations

At one State Office, various personnel contribute to the specialized geologic, engineering, and economic analyses that form the basis for the FMV, but only one person computes the actual value. This process was established decades ago to eliminate potential leaks of information to mining companies, which could then adjust their bids. If information is now leaked, only a single individual is accountable.

Our concerns over this process include the possibility of undetected errors in the FMV methodology and calculations, a higher risk of fraud, and the inability to complete sales during periods of key-employee turnover. Others involved in making the FMV could verify the data and subsequent approval. In addition, mining companies may be aware of the BLM employees computing the FMV, and could attempt to influence those individuals. A basic principle of internal control includes separation of duties, which involves additional personnel to alleviate the risk of undetected errors or fraud. Having additional people involved in the FMV appraisal process would also help ensure continuity when the lead appraiser is unavailable.

Third-Party Access to Proprietary Information

Where the Department does not have the people to work on a coal lease sale, using an external consultant—as was previously done by the BLM Utah State Office—could prove useful. We caution, however, that confidential data must be safeguarded. This would likely necessitate a nondisclosure agreement for the consulting company, and procedures that grant information access to the consultant only on a "need-to-know" basis. In response to a recommendation in our NPFR, BLM agreed to evaluate protocols to safeguard confidential and proprietary information when it uses private consultants in developing appraisals.

Recommendation

6. BLM should strengthen its internal controls and safeguards over the FMV records. This should include a thorough assessment of the data's information security protocol at all BLM state offices, the data's physical security, and security when allowing access to an outside party.

Exploration Integrity

Before a lease sale takes place, a mining company explores the site for the existence and extent of coal seams, including the energy content and quality of the coal. The mining company is required to furnish the information to BLM, which helps form the basis of BLM's FMV determination. BLM, however, does not independently verify the data, relying instead on test results supplied by the mining company. Further, an independent laboratory does not furnish exploration data directly to BLM. This constitutes a risk in that BLM might not receive accurate data. Although "H-3486-1- Inspection and Enforcement" handbook recommends that BLM staff witness exploration activities, at least one State Office does not conduct such field inspections.

Our evaluation did not uncover specific indicators of data misrepresentation, however, there are risks in current exploration-data management. Without verification, a company could provide incorrect data to BLM, resulting in BLM's undervaluing the FMV and unknowingly accepting a low bid. Further, a company could use unverified data to justify a request for a reduced royalty rate (see the "Royalty Rate Reduction" section below).

Recommendations
7. BLM should require that all State and field offices conduct and document inspections of exploration operations. 8. BLM should protect the integrity of exploration data by requiring coal companies to certify the accuracy of the data under penalty of the applicable false statement statute, and it should periodically verify data through an independent laboratory.

Modifications

A coal company may increase the size of an existing lease by up to 960 acres through a noncompetitive procedure, a lease modification. BLM uses a modification primarily for mining one or more coal seams deemed less desirable, typically due to the quality of the coal and its location. This is in contrast to the coal from the primary seam. Modifications serve BLM's goal of achieving "maximum economic recovery" of the natural resource by developing coal that would otherwise go unmined. BLM has approved 45 lease modifications since 2000.

We found, however, that BLM might not be obtaining a fair return for lease modifications. Some BLM state offices did not prepare a full FMV appraisal as required by 43 C.F.R. § 3432.2. Our sample of 11 modifications for 4 state offices disclosed inconsistencies in the supporting documentation, often making it difficult to assess whether the FMV determination was properly justified. Further, more than half of the FMVs were for $100 per acre (the lowest price allowed by regulation) without adequate supporting documentation for this minimal price. In addition, as previously stated in the "Valuation" report section, OVS is the Department's office that is authorized to perform appraisals.

We analyzed all 45 lease modifications since 2000 and found that BLM typically approved a substantially lower price—averaging more than 80 percent lower—than the price used in the regular lease sales during the same period. The cumulative price difference indicated a potential $60 million in lost revenues (see Appendix 2). While the reduced quality and accessibility of these coal seams could justify a lower price, the overall lack of documentation made it difficult to validate BLM's decisionmaking process.

Recommendation
9. BLM should work with OVS in preparing the FMV appraisals for lease modifications. This should include establishing recordkeeping standards.

Royalty Rate Reduction

If a mine becomes unprofitable because of adverse geologic conditions (for example, difficult access to the coal seam or a decrease in coal quality) or financial hardship, a company may formally request that BLM reduce the royalty rate. The company submits an application, and if BLM considers the request justified, the rate may be reduced to as low as 2 percent of sales value. Approval is granted on a temporary basis and may expire after a designated period, when a specified volume of coal has been mined, or when mining operations cease. Similar to lease modifications, the goal of royalty rate reduction is to promote maximum recovery of the natural resource.

A judgmental sample of six rate reduction requests for four state offices showed that BLM appropriately evaluated and managed royalty rate reductions. Occasionally, however, the mining company and the state offices criticized the review process for being too slow as final approval comes from the Bureau's Washington Office. In two cases, State Governors intervened in the review process, thus bypassing the BLM Washington Office. Although BLM's policy does allow for the State Governor's input, the policy reserves decision authority to BLM. We believe the process is better served when BLM maintains full control over the application review.

In addition, when a royalty rate reduction is based on financial hardship, BLM coal program officials, who are mostly trained in geology and mine engineering, generally do not have the expertise to evaluate a company's financial statements and other supporting documentation. In these cases, officials from ONRR, who have accounting expertise in financial record analysis, could provide assistance. To date, however, ONRR has not been requested to do so.

Recommendation

10. BLM should process applications for royalty rate reductions timely and request ONRR to assist when requests are based on financial hardship.

Coal Inspection and Enforcement Program

BLM has an active inspection and enforcement program in place. The program has 27 personnel who conduct more than 2,500 inspections annually. Mines are inspected to ensure that there is no wasted coal, that coal operations conform to mine plans, and that the actual coal production matches a mine's reported production. In addition, to verify royalty payments, inspectors ensure that the amount of coal shipped in a given month matches the volume of coal sold, as reported to ONRR. Active mines are inspected at least quarterly, while inactive mines are inspected annually for such reasons as unauthorized mining, physical hazards, and environmental degradation.

We found vulnerabilities, however, that could prevent the program from ensuring that mining companies comply with laws, regulations, and lease terms.

Inspections

We found that the inspection and enforcement program operates without the benefit of strong oversight from the BLM Washington Office, due in part to BLM's decentralized organizational structure. This leaves the individual State and field offices to administer inspections without consistent guidance. Moreover, BLM has not implemented an effective quality assurance process, such as regular peer or external reviews, to ensure uniformity and quality of work.

BLM developed the handbook "H-3486-1- Inspection and Enforcement" in the 1980s to guide the inspection process, but we found the following issues with the handbook:

- Since the handbook is still in draft, the inspection staff does not follow the policies and guidelines consistently.
- It contains outdated material such as references to old Code of Federal Regulations' citations and an obsolete database.
- It provides insufficient guidance for conducting and documenting inspections.
- Inspectors do not always follow the handbook. For example, one State Office did not prepare a report of its inspection results.
- The handbook allows for unannounced inspections, but in actual practice, these are rarely performed. Unannounced inspections would strengthen BLM's inspection process.

As a result, the quality of inspections is unknown. Our review of 21 inspection reports in 6 States showed that the narratives in these reports were inconsistent among BLM offices and inspectors. Some state offices did not have sufficient documentation, making it difficult to determine what they had inspected. In contrast, BLM's inspection program for oil and gas operations achieves uniformity via structured training, updated guidance, and checklists that provide evidence of work performed.

BLM's handbook states that all inspections should be recorded in a central database. We found, however, that BLM presently has no effective central database to track inspections or production verification reviews. BLM is piloting a new system, but funding constraints have prevented its full development.

In response to our NPFR recommending that BLM establish inspection and enforcement policies and procedures, BLM stated that in 2009 it began developing a new inspection and enforcement manual and handbook, and a handbook for production verification. It noted that many issues we address above should be corrected with the addition of these guides. The target dates for issuing the new guides are FY 2013 for the inspection and enforcement manual and FY

2014 for the production verification handbook. In addition, BLM said it began a pilot program in 2010 that will standardize inspection reports, but full implementation is contingent on funding availability.

Recommendation

11. BLM should update its policies and procedures to ensure consistent and effective inspections and enforcement. Documentation and reporting standards should be included.

Enforcement

Coal inspectors do not presently have effective enforcement tools. Unlike the wide variety of penalties available to oil and gas inspectors, which vary based on the severity of the infraction, Notices of Noncompliance used by coal inspectors do not have a financial penalty to deter noncompliance with Federal leases. Inspectors said they prefer to work informally with mining companies to resolve noncompliances. This may explain why only 6 instances of noncompliance have been reported in 8,118 inspections conducted from FYs 2009 through 2011. Although the informal approach may have merit, this approach essentially conceals a company's record of noncompliance. It also complicates BLM's assessment of its inspections' effectiveness. In contrast, for Indian leases we noted that a financial penalty up to $1,000 per day may be enforced as an incentive to deter noncompliance.

In response to our NPFR, BLM stated that current statutory authority limits its available enforcement options. BLM could, however, partner with ONRR if the infraction concerns unpaid royalties. ONRR has a greater enforcement ability that includes substantial monetary fines. BLM said that it will team with ONRR to achieve the desired compliance in such instances.

While we support this approach, a company's noncompliance may concern non-royalty-related violations. For example, a company may attempt to bypass lower-quality coal, use inefficient mining techniques, or mine coal outside the lease boundary. In these instances, ONRR would not be involved. Accordingly, BLM still needs its own set of enforcement tools.

Recommendation

12. BLM should evaluate its enforcement policies and, where necessary, augment its enforcement capability.

Inspector Rotation and Training

There is no formal rotation policy for inspectors. BLM has assigned some inspectors to the same mines for many years. One inspector said that he had worked one mine since the 1980s. Another inspector said that rotations do not occur until a person retires, thereby forcing a redistribution of the workload. This could result in overfamiliarity with mine operators. It could also lead to complacency and the potential failure to detect noncompliance. In response to our NPFR, BLM stated it would consider evaluating the cost-effectiveness of instituting a rotation policy.

In addition, BLM has no policy for cross-training inspectors. A substitute inspector may not be as effective when standing in for the regular inspector. The substitute may be unfamiliar with a particular mine's operations, or may look for different things based upon personal experiences at other mines. Cross-training would also allow BLM to better plan for succession. More than one-half of BLM's solid minerals staff will be eligible for retirement by 2015.

BLM has an inspector certification initiative underway that covers all personnel who inspect solid mineral operations, which includes coal. As is done for inspectors in the oil and gas program, this should enhance inspectors' professionalism. We believe this initiative will substantially improve the quality and consistency of inspections.

Recommendation

13. BLM should enhance the effectiveness of its inspectors by developing and implementing a rotation policy, cross-training program, succession plan, and finalization of the inspector certification program.

Promising Practices

During our evaluation, we noted the following practices at BLM's offices that could be considered at other locations. We are not making recommendations, but are providing this information for BLM's consideration:

- The Price Field Office in Utah meets annually with each mining company within its jurisdiction. ONRR representatives have also recently attended these meetings. In the meetings, the company explains its mining strategy so the bureaus can better design their oversight and management plans. The parties also discuss the company's production and royalty payment history to resolve any concerns. The Government and industry benefit from this communication and coordination.
- The Utah State Office developed an in-house database known as the Solid Minerals Program Tracking System, which contains extensive details about each mine in Utah. ONRR will eventually have access to the database, enabling both BLM and ONRR to use the same data. Personnel involved in this pilot program stated that this database is more useful for lease management than the LR 2000 database used by the rest of BLM.

We believe the new system would also be useful for managers at the Washington Office as they oversee the coal management program.

Conclusion and Recommendations

Conclusion

The Department's coal management program generates billions of dollars in revenue from public and Indian leases and helps meet the Nation's continuing demand for energy generated from coal. As noted in this report, however, BLM faces significant challenges in the areas of coal leasing and mine inspection and enforcement. Most importantly, a stronger management emphasis from the Washington Office is needed to bring program consistency and guidance over the individual State and field offices. Fortunately, most of the identified issues can be resolved with little or no additional funding or personnel. By implementing our recommendations, BLM can enhance its coal management program significantly.

Throughout our review, we were impressed with the commitment and professionalism of the Department's employees who work in the coal program. BLM's people, in particular, carry out many complicated tasks, sometimes using innovative ideas. Ongoing activities such as the new mine tracking database and the inspector certification initiative bode well as the program heads into the future.

Recommendations Summary

1. BLM should work with OVS when establishing FMV policies and methods, and when identifying FMV for coal leases.

   BLM's Response: BLM concurred with the recommendation, stating that it will evaluate all existing coal program guidance and update them if necessary. BLM will also work with OVS to explore options for obtaining OVS' input into coal lease sales, and potential revision to existing BLM guidance.

   Office of Inspector General's (OIG) Reply: We consider this recommendation resolved, but not implemented. The recommendation will be referred to the Assistant Secretary for Policy, Management and Budget for tracking its implementation.

2. BLM and OVS should take action to fully account for export potential in developing coal FMVs.

   BLM's Response: BLM concurred with the recommendation, stating that it will evaluate and consult with OVS whether existing valuation guidance should be updated to properly account for export potential.

   OIG's Reply: We consider this recommendation resolved, but not implemented. The recommendation will be referred to the Assistant

Secretary for Policy, Management and Budget for tracking its implementation.

3. BLM should ensure a consistent and efficient coal lease sale process by designing a system that prevents individual BLM State Office discretion.

   BLM's Response: BLM concurred with the recommendation, stating that it will issue supplemental coal lease sale guidance reiterating requirements, and will provide additional Washington Office oversight through new internal control reviews.

   OIG's Reply: We consider this recommendation resolved, but not implemented. The recommendation will be referred to the Assistant Secretary for Policy, Management and Budget for tracking its implementation.

4. BLM should reject bids less than the established FMV in compliance with the MLA.

   BLM's Response: BLM concurred with the recommendation, stating that it will issue supplemental guidance reiterating existing requirements, and will integrate additional Washington Office review to include a minerals specialist as a member of the post-sale panel.

   OIG's Reply: We consider this recommendation resolved, but not implemented. The recommendation will be referred to the Assistant Secretary for Policy, Management and Budget for tracking its implementation.

5. BLM should explore options for a more efficient lease reoffer process, such as initiating direct negotiations with the coal company, or otherwise revising current procedures to execute a timely sale.

   BLM's Response: BLM partially concurred with the recommendation, stating that it will evaluate options for a more efficient lease reoffer process and evaluate available alternatives. BLM, however, disagreed that direct negotiations would be permitted under existing law and guidance.

   OIG's Reply: We consider this recommendation resolved, but not implemented. The matter concerning direct negotiations was only intended as an example of a possible method for resolving lease reoffers. Therefore, BLM's nonacceptance of direct negotiations does not prevent us from considering the response as a concurrence. The recommendation will be referred to the Assistant Secretary for Policy, Management and Budget for tracking its implementation.

6. BLM should strengthen its internal controls and safeguards over the FMV records. This should include a thorough assessment of the data's information security protocol at all BLM state offices, the data's physical security, and security when allowing access to an outside party.

   BLM's Response: BLM concurred with the recommendation, stating that it will issue supplemental guidance reiterating existing internal controls and safeguards for FMV records. BLM will also conduct internal control reviews every 2 years.

   OIG's Reply: We consider this recommendation resolved, but not implemented. The recommendation will be referred to the Assistant Secretary for Policy, Management and Budget for tracking its implementation.

7. BLM should require that all State and field offices conduct and document inspections of exploration operations.

   BLM's Response: BLM concurred with the recommendation, stating that it will issue supplemental guidance emphasizing the need to oversee exploration activity. BLM will also stress the importance of exploration inspections in its inspection and enforcement handbook and mine inspector training.

   OIG's Reply: We consider this recommendation resolved, but not implemented. The recommendation will be referred to the Assistant Secretary for Policy, Management and Budget for tracking its implementation.

8. BLM should protect the integrity of exploration data by requiring coal companies to certify the accuracy of the data under penalty of the applicable false statement statute, and it should periodically verify data through an independent laboratory.

   BLM's Response: BLM concurred with the recommendation, stating that it will work with the Office of the Solicitor to develop an exploration authorization form and to determine allowable penalties when operators provide misleading exploration data. BLM will also consider having an independent laboratory certify exploration data. BLM suggested that such certification might be implemented through existing cost recovery regulations.

   OIG's Reply: We consider this recommendation resolved, but not implemented. The recommendation will be referred to the Assistant Secretary for Policy, Management and Budget for tracking its implementation.

9. BLM should work with OVS in preparing the FMV appraisals for lease modifications. This should include establishing recordkeeping standards.

   BLM's Response: BLM concurred with the recommendation, stating that it will work with OVS to explore options for obtaining OVS' input into appraisals for select coal lease modifications. BLM will also evaluate its recordkeeping standards and guidance for modifications, and make changes as necessary.

   OIG's Reply: We consider this recommendation resolved, but not implemented, as long as BLM works with OVS for all lease modifications, not just "select" modifications. The recommendation will be referred to the Assistant Secretary for Policy, Management and Budget for tracking its implementation.

10. BLM should process applications for royalty rate reductions timely and request ONRR to assist when requests are based on financial hardship.

    BLM's Response: BLM concurred with the recommendation, stating that it is developing supplemental guidance for royalty rate reductions and that ONRR may be able to provide assistance for financial hardship cases.

    OIG's Reply: We consider this recommendation resolved, but not implemented. The recommendation will be referred to the Assistant Secretary for Policy, Management and Budget for tracking its implementation.

11. BLM should update its policies and procedures to ensure consistent and effective inspections and enforcement. Documentation and reporting standards should be included.

    BLM's Response: BLM concurred with the recommendation, stating that it anticipates issuing a new manual in FY 2013 covering inspection, enforcement, and production verification; an inspection and enforcement handbook in FY 2013; and a new production verification handbook in FY 2014.

    OIG's Reply: We consider this recommendation resolved, but not implemented. The recommendation will be referred to the Assistant Secretary for Policy, Management and Budget for tracking its implementation.

12. BLM should evaluate its enforcement policies and, where necessary, augment its enforcement capability.

BLM's Response: BLM concurred with the recommendation, stating that it will review its license and lease forms to ensure appropriate enforcement authorities are included, and issue supplemental guidance memoranda. Further, BLM will coordinate with the Office of the Solicitor to identify other potential enforcement authorities.

OIG's Reply: We consider this recommendation resolved, but not implemented. The recommendation will be referred to the Assistant Secretary for Policy, Management and Budget for tracking its implementation.

13. BLM should enhance the effectiveness of its inspectors by developing and implementing a rotation policy, cross-training program, succession plan, and finalization of the inspector certification program.

    BLM's Response: BLM concurred with the recommendation, stating that it will evaluate policies and budget implications for the feasibility of rotating mine inspectors. Also, the inspector certification program was finalized in the second quarter of FY 2013, and this included cross-training of inspectors.

    OIG's Reply: We consider this recommendation resolved, but not implemented. The recommendation will be referred to the Assistant Secretary for Policy, Management and Budget for tracking its implementation. Concerning cross-training of inspectors, please see our additional comments in the next section.

OIG's Analysis of General and Technical Comments

BLM's response to the draft report contained comments and requests for clarification, which are addressed below.

The response provided additional general information about bureau responsibilities, coal leasing, lease modifications, OVS assistance, coal exports, royalty rate reductions, inspection, enforcement, and production verification. We did not include this information in the draft report for reasons of brevity, because it was not needed to describe the identified weakness, or because it was outside the scope of our evaluation. The report is not intended to explain all functions of the coal program, nor is it a compilation of coal program facts. Instead, the report discloses the results of our evaluation, which focused on a defined objective and scope. Nevertheless, we considered BLM's comments and revised the report where deemed helpful to the reader.

Bid Acceptance

BLM requested more detail on the $2 million in lost bonus revenues. We intentionally left this information out of the draft and final reports to avoid compromising BLM's FMV methodology. During the evaluation, we agreed to protect the confidentiality of the valuation process. As a result, valuation data relating to specific sales have been excluded from the report. We have since provided this information to BLM.

Modifications

BLM stated that OIG used a flawed methodology to compute lost revenues, explaining that coal in the modification area would likely have less value than the coal seams in the original sale. We recognize that the lost revenue cannot be computed with precision, and that the issue of lease modification is complex. Modifications are granted noncompetitively, and are therefore not the optimal method to establish value. As we note in the report: "While the reduced quality and accessibility of these coal seams could justify a lower price, the overall lack of documentation made it difficult to validate BLM's decisionmaking process." Moreover, this condition prevents us from identifying a specific value on which to base a more precise estimate of potential revenue shortfalls. Therefore, we believe it reasonable to simply calculate the gap between the original bid prices and the prices associated with each approved modification. This illustrates the range that BLM exercised its discretionary pricing authority without adequately documenting its valuation decisions.

FMV Determination

BLM disagreed with the report's assertion that the Bureau did not comply with Secretarial Order No. 3300 and the applicable Departmental Manual's section. BLM stated that OVS may provide valuation services only upon request, but BLM acknowledged some uncertainty about this matter. We believe, however, that the Secretarial Order and Departmental Manual clearly transferred real estate valuation responsibilities from the bureaus to OVS. This position was reinforced during discussions with the Office of the Solicitor. We therefore maintain our position that BLM should work with OVS concerning FMV valuations.

Exports

BLM stated that the report may give a "misleading impression" about the significance of exported Federal coal, as no more than 1.6 percent of coal from Wyoming's Powder River Basin is exported. BLM added, however, that it will work with OVS to determine whether improvements in the FMV methodology are needed to account for the export potential. We believe that FMV determinations need to fully account for current and future export potential even if export volumes are relatively low at the present time. A coal mine is a long-term, commercial project, and operations may extend over decades. Exports from the Powder River Basin are expected to increase substantially in the coming years. Accordingly, all coal lease sales should fully recognize this factor in the valuation of the commodity.

Enforcement

BLM agreed to evaluate its enforcement policies and augment them if necessary. BLM also provided several examples of non-royalty-related violations where it maintains that existing enforcement tools are sufficient. Most of the examples, however, show that BLM may only recover lost revenues after noncompliance has been discovered. In our opinion, assessing a penalty after the fact is inefficient. Deterrence is a better option. We believe that BLM needs additional enforcement tools backed by penalties that actually deter noncompliance.

Inspection Rotation and Training

BLM stated that its inspector certification program sufficiently provides cross-training of mine inspectors through a mentoring process. We believe this is a good start, but does not fully address the needs of the inspection program. A more complete cross-training program would have the inspectors stationed at a field, district, or State office to learn the unique operations of each mine. This would enable all inspectors to inspect any mine, ensuring continuity of operations.

Appendix 1: Scope and Methodology

Scope

Our evaluation covered the U.S. Department of the Interior's (Department) coal leasing activities on public and Indian lands, specifically relating to the lease sale process, mine inspection and enforcement program, and venting of methane gas from coal seams.

Methodology

We conducted this review from December 2011 through September 2012. We reviewed laws, regulations, policies, and procedures related to the coal management program; examined prior reviews; analyzed program data; interviewed many Department and bureau officials having coal program responsibilities; interviewed State Government officials and other organizations knowledgeable about the Department's coal program; evaluated program processes relating to coal exploration, leasing, and inspections; examined internal controls; obtained input from the coal industry; evaluated inspector training; reviewed coal leasing practices used by selected international governments; and observed conditions at a surface mine, an underground mine, coal gathering facilities, and a power plant.

We visited or contacted the—

- BLM Washington Office, Washington, DC;
- BLM State Offices in Arizona, Colorado, Montana, New Mexico, Utah, and Wyoming;
- BLM district and field offices in Craig, CO; Farmington, NM; Price, UT; and Casper, WY;
- Office of Natural Resources Revenue, Lakewood, CO;
- Office of Surface Mining Reclamation and Enforcement, Washington, DC;
- Bureau of Indian Affairs, Washington, DC;
- Office of Indian Energy and Economic Development, Lakewood, CO;
- Office of the Solicitor, Washington, DC;
- Office of Valuation Services and the Office of Minerals Evaluation, Lakewood, CO, and Washington, DC;
- U.S. Geological Survey, Washington, DC;
- Navajo Nation, Window Rock, AZ;
- State government offices of Wyoming, Cheyenne, WY;
- State and Tribal Royalty Audit Committee;
- National Mining Association, Washington, DC;
- Peabody Energy, St. Louis, MO;
- Colorado School of Mines, Golden, CO;
- University of Colorado – Boulder; Boulder, CO;

- Black Thunder Mine, WY; and the
- coal mining region near Price, UT.

We conducted our evaluation in accordance with the Quality Standards for Inspection and Evaluation as put forth by the Council of the Inspectors General on Integrity and Efficiency. We believe that the work performed provides a reasonable basis for our conclusions and recommendations.

Appendix 2: Schedule of Monetary Impact

Issue	Monetary Impact
Potential lost revenue from lease modifications	$60,000,000
Lost bonus revenues from accepting lease bids lower than full market value	$2,042,675

Appendix 3: The Bureau of Land Management Response to the Draft Report

The Bureau of Land Management's response to our draft report follows on page 30.

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

In Reply Refer To:
1245 (320/830)

MAY - 6 2013

Memorandum

To: Assistant Inspector General for Audits, Inspections, and Evaluations

Through: Tommy P. Beaudreau
Acting Assistant Secretary, Land and Minerals Management

From: Neil Kornze
Principal Deputy Director, Bureau of Land Management

Subject: Office of the Inspector General Evaluation Draft Report, Department of the Interior's Coal Management Program (Report No. CR-EV-BLM-001-2012)

Thank you for the opportunity to review and comment on the Office of Inspector General (OIG) draft report, "Department of the Interior's Coal Management Program" (Report No. CR-EV-BLM-001-2012). The Department of the Interior (DOI) appreciates the continued interest of the OIG in the administration of the Federal coal program.

There were 13 recommendations identified in the report. The Bureau of Land Management (BLM) concurs with 12 of the recommendations, and concurs in part with one of the recommendations. The BLM agrees with the majority of findings included in the report; however, a few points require additional context or clarification, which BLM has included in the attachments.

Attachment 1 provides general comments and requests clarification regarding those aspects of the BLM's coal management program discussed in the draft report. Attachment 2 provides specific responses to each of the recommendations, including a summary of the actions taken or planned by the BLM, Office of Natural Resources Revenue, and the Office of Valuation Services to implement the recommendations. Attachment 3 provides technical comments and recommended edits to the report.

If you have any questions about this response, please contact LaVanna Stevenson, BLM Audit Liaison Officer, at 202-912-7077, or Mitchell Leverette, BLM Chief, Division of Solid Minerals, at 202-912-7113.

Attachments

Department of the Interior
General Comments and Requests for Clarification

The draft report discusses Federal coal leasing, export market considerations in pricing coal for pre-sale evaluations, royalty rate reduction processing, and the inspection and enforcement of coal mining operations. The Bureau of Land Management (BLM) is one of several agencies that have responsibilities for Federal coal. The BLM is responsible for:

- The issuance of exploration licenses for unleased Federal coal;
- The issuance of licenses to mine for Federal coal;
- The issuance, readjustment, modification, termination, cancellation, and/or approval of transfers of Federal coal leases;
- Inspection and enforcement of Federal coal leases and licenses to verify production for royalty determination purposes; and
- General responsibilities for the development of coal resources on Indian lands as provided at 25 CFR 211.4, 212.4, and 225.4.

The Bureau of Indian Affairs has specific responsibilities associated with the issuance of permits, leases or contracts on Indian lands. The Office of Surface Mining Reclamation and Enforcement (OSM) has responsibility for preparation and submission to the Secretary a decision document recommending approval, disapproval or conditional approval of the mining plan on Federal and Indian leases and oversees the State regulatory program that issue coal mining permits. The OSM, or the applicable State regulatory authority, also monitors coal mining operations for surface reclamation compliance and has direct regulatory authority for mining permits on Indian leases. The Office of Natural Resources Revenue (ONRR) is responsible for collecting the revenue from Federal and Indian leases, determining whether the value reported by the lessee is a fair representation of mineral value for determination of royalty obligations, and disbursing mineral revenues to the American Indian Tribes and allottees, states, Federal agencies, and the United States Treasury.

Over the past year, the BLM has been working to provide more effective guidance and oversight to help strengthen the coal program. The BLM recently developed new training programs for BLM coal specialists, and is in the final stages of updating several handbooks and manuals that will aid specialists in performing their duties. Additionally, the BLM has completed phase one of a pilot project to develop an inspection tracking system that would be used across all states to monitor and consistently document all coal inspections.

The report highlights some of the same concerns that the BLM has been working to address. The BLM's on-going efforts, combined with addressing the recommendations in the draft report, will help to improve the agency's management of the coal program. To help resolve several of the recommendations, the BLM will develop a taskforce that will include representatives from the Office of Valuation Services (OVS) and ONRR.

Attachment 1

While BLM agrees with the majority of findings and conclusions in the report, there are some cases where the BLM believes that additional information is necessary for clarification or context, or where the BLM requires additional information before it can respond appropriately to certain pieces of information within the draft report. The BLM's general comments are included below.

Leasing

BLM Handbook H-3070-1, Economic Evaluation of Coal Properties, provides the procedures for developing the presale estimate of minimum acceptable bids based on fair market value concepts, and post-lease-sale evaluation of the bids. The BLM plans to provide supplemental guidance and will make any necessary changes to the existing guidance. The supplemental guidance will also reiterate the importance of following the guidance.

To clarify a definitional point that occurs often in the draft report, the BLM does not directly calculate the fair market value (FMV) for a coal lease sale. Rather, the BLM estimates the minimum acceptable bid for the lease using the guidance provided in Handbook H-3070-1. If the highest qualified bid comes in higher than the estimated pre-sale minimum, that bid becomes, by definition, the FMV.

The Office of Inspector General (OIG) asserts a loss of $2 million in sales revenue as the result of acceptance of bids that were less than the BLM pre-sale estimate. The BLM would like to address this assertion. However, the report does not provide additional details regarding how the OIG calculated this figure.

Lease Modifications

The BLM has authority to issue a lease modification to avoid bypassing Federal coal for unleased lands contiguous to an existing lease. Under the Mineral Leasing Act (MLA), as amended by the Energy Policy Act of 2005, each lease modification must comply with three basic requirements:

- The modification serves the interests of the United States;
- There is no other competitive interest in the lands or deposits; and
- The additional lands or deposits within the lease modification cannot be developed as part of another potential or existing independent mining operation.

The report concludes that the BLM did not properly document the pre-sale estimate of FMV for lease modification bonuses and estimated that there was up to $60 million in lost revenue from potentially undervalued lease modifications. The BLM disagrees with this estimate. The OIG's estimate requires the coal in the modification area to have the same value as the coal in the original lease area; however, coal within a lease modification will likely have a lesser competitive value than coal in the original lease.

Attachment 1

As part of the lease by application (LBA) process, the BLM does not simply accept an applicant's proposed tract configuration to be issued as a lease. The BLM uses a wide variety of information, including geologic data that delineates the location, quality, and quantity of coal within a given area, to determine the most appropriate tract configuration that would encourage competition and help achieve maximum economic recovery of the resource. If the coal were indistinguishable from the coal in the original LBA, then under the BLM's policies, the tract boundaries would have included that coal in the lease sale.

Office of Valuation Services (OVS) Assistance

The BLM agrees with the OIG's recommendations to work with OVS to explore potential appraisal improvements. The BLM has had some preliminary discussion with OVS as to how they might be able to assist the BLM in the pre-sale estimate determination process. We have discussed the possibility of OVS having a role in reviewing select pre-sale estimates completed by the BLM. The BLM disagrees with the OIG's conclusion that BLM has not been in compliance with Secretarial Order (SO) 3300 or Part 112, Chapter 33 of the Departmental Manual (DM). Under the SO, OVS may provide real estate (including mineral estate) valuation services to the bureaus if it is requested by the bureau. Therefore, the OIG's interpretation of the SO and the DM is not accurate. The OVS, however, may be able to offer their skillsets at the request of the BLM recognizing the limited resources currently available to the agency.

It is not clear to the BLM that the SO or the DM transferred responsibility for coal pre-lease-sale FMV determinations to the OVS. The main role of OVS is to appraise real estate for purposes of property purchase, sale or exchange, not for purposes of issuing a lease to be used as part of a commercial endeavor. At its inception, the staff of OVS included real estate appraisers that had formerly worked for a number of Interior agencies. However, engineers, geologists and other staff who are necessary to perform pre-lease-sale tract evaluation were not transferred at that time.

Exports

The BLM agrees with the importance of considering the possibility of future coal exports in developing presale estimates. However, little Federal coal is currently exported. According to the Energy Information Administration, no more than 1.6 percent of Powder River Basin coal is exported. However, and the general discussion of exports in the text of the report, as well as Figure 3, may create the misleading impression that the opposite is the case. The BLM's Handbook 3070-1 provides some direction as far as considering the potential for exports when making the pre-sale FMV determination, if such information is available. However, the BLM, in coordination with OVS, will evaluate whether improvements can be made to the methods and procedures the BLM currently uses to establish the pre-sale FMV estimate so as to better account for coal export potential. The BLM intends to monitor changes in the export market in the future years that may result from changes in the North American market for natural gas.

Attachment 1

Royalty Rate Reduction (RRR)

The BLM acknowledges the RRR issues raised by the OIG. Based on an internal review of the RRR process, the BLM has begun developing guidance to help make the process for reviewing RRR applications more timely. However, there are a few misconceptions included in this draft report:

- The State Governor cannot approve an RRR. Additional information is needed from OIG on this subject.
- The report incorrectly states that the temporary RRR ends on a designated date or when a specified volume has been mined. The RRR ends when the conditions no longer exist upon which the RRR was approved, regardless of the time or the tonnage allowed for the RRR in the decision letter, or any exploration data submitted in the application request.

Inspections, Enforcement, and Production Verification

The OIG is correct in stating that the BLM is working diligently to improve its inspection, enforcement, and production verification capabilities. With the cooperation of the Utah State Office and Wyoming State Office, the BLM has initiated a pilot program to develop an automated system to standardize and monitor reporting of lease inspection, enforcement, and production verification actions. The first phase of the pilot, known as the Mineral Tracking System, has been completed. However, further development and deployment of this pilot has been delayed due to budget constraints.

The BLM Washington Office has also recently established a national mine inspector certification policy that establishes minimum education and experience levels and requires:

- Initial safety training consistent with Mine Safety and Health Administration (MSHA) requirements for new miners;
- Successful completion of an online training course on inspections, production verification, and evaluating exploration and mining plans;
- Annual safety refresher training consistent with MSHA requirements; and
- Continued professional development training.

The BLM is finalizing new manual sections and handbooks for inspections, enforcement, and production verification to update to current policy and procedures.

Attachment 1

U.S. Department of the Interior
Response to the Recommendations included in the Office of the Inspector General Draft Report Evaluation of U.S. Department of Interior's Coal Management Program
(Assignment No. CR-EV-BLM-001-2012)

Recommendation 1: BLM should work with OVS when establishing FMV policies and methods, and when identifying FMV for coal leases.

Response: The BLM concurs with this recommendation. The BLM will evaluate all of the existing coal program guidance and, if necessary, update guidance to bring it into conformance with current regulations and practices. The BLM will work with OVS to explore options for obtaining OVS input into coal lease sale analyses and potential revisions to existing BLM guidance.

Target Date: August 31, 2014.

Responsible Official: Michael D. Nedd, Assistant Director, Minerals and Realty Management

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Recommendation 2: BLM and OVS should take action to fully account for export potential in developing coal FMVs.

Response: The BLM concurs with this recommendation. The BLM will evaluate, in consultation with OVS, whether the methods and procedures provided in existing valuation guidance—such as the appropriate use of the comparable sales approach versus the income approach—properly account for export potential, and will implement any necessary changes.

Target Date: August 31, 2014

Responsible Official: Michael D. Nedd, Assistant Director, Minerals and Realty Management

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Recommendation 3: BLM should ensure a consistent and efficient coal lease sale process by designing a system that prevents individual BLM State office discretion.

Response: The BLM concurs with this recommendation. The BLM will issue supplemental coal lease sale guidance reiterating the sale process requirements and will provide additional Washington Office (WO) oversight through the initiation of new internal control reviews every 2 years.

Attachment 2

Target Date: December 31, 2014, for completion of the first control review

Responsible Official: Michael D. Nedd, Assistant Director, Minerals and Realty Management

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Recommendation 4: BLM should reject bids less than the established FMV in compliance with MLA.

Response: The BLM concurs with this recommendation. The BLM will issue supplemental guidance reiterating the existing coal lease sale guidance requirement as outlined in H-3070-1 Economic Evaluation of Coal Properties. The BLM will also integrate an additional WO review of FMV estimates and will ensure that in most cases a WO minerals specialist is a member of the post-sale panel.

Target Date: May 31, 2014,

Responsible Official: Michael D. Nedd, Assistant Director, Minerals and Realty Management

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Recommendation 5: BLM should explore options for a more efficient lease reoffer process, such as initiating direct negotiations with the coal company, or otherwise revising current procedures to execute a timely sale.

Response: The BLM partially concurs with this recommendation. The BLM will evaluate other options for a more efficient lease reoffer process and evaluate all alternatives that are within current statutory authorities. The BLM does not agree, however, that direct negotiations are appropriate. Such negotiations are inconsistent with existing law and guidance, and could potentially lead to inconsistencies between States.

Target Date: December 31, 2014

Responsible Official: Michael D. Nedd, Assistant Director, Minerals and Realty Management

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Recommendation 6: BLM should strengthen its internal controls and safeguards over the FMV records. This should include a thorough assessment of the data's information security protocol at all BLM State offices, the data's physical security, and security when allowing access to an outside party.

Response: The BLM concurs with this recommendation. The BLM will issue supplemental guidance that reiterates existing internal controls and safeguards required for pre-sale estimated

Attachment 2

FMV records. Additionally, the BLM will complete internal control reviews on this issue every 2 years to monitor for compliance and will issue supplemental guidance if necessary.

Target Date: December 31, 2014, for completion of the first internal control review

Responsible Official: Michael D. Nedd, Assistant Director, Minerals and Realty Management

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Recommendation 7: BLM should require that all State and field offices conduct and document inspections of exploration operations.

Response: The BLM concurs with this recommendation. The BLM will issue supplemental inspection and enforcement guidance to emphasize the need to oversee exploration activity. Additionally, the BLM will edit the draft Inspection and Enforcement (I&E) handbook, and augment the new Mine Inspector training courses, to emphasize the importance of inspecting exploration operations.

Target Date: May 31, 2014. The recommendation will be closed when the supplemental guidance is issued, the handbook edits are finalized, and the training course is updated.

Responsible Official: Michael D. Nedd, Assistant Director, Minerals and Realty Management

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Recommendation 8: BLM should protect the integrity of exploration data by requiring coal companies to certify the accuracy of the data under penalty of the applicable false statement statute, and it should periodically verify data through an independent laboratory.

Response: The BLM concurs with this recommendation. The BLM will work with the Solicitor's Office to explore the potential development of an exploration authorization form, and determine the allowable penalties if operators provide misleading exploration data.

The BLM will also explore the potential for independently certifying exploration data at a laboratory selected by the BLM. The BLM will also consult with the Solicitor's Office to determine if such certification could be implemented through existing cost recovery regulation for the coal program.

Target Date: August 31, 2014

Responsible Official: Michael D. Nedd, Assistant Director, Minerals and Realty Management

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Attachment 2

Recommendation 9: BLM should work with OVS in preparing the FMV appraisals for lease modifications. This should include establishing recordkeeping standards.

Response: The BLM concurs with this recommendation. The BLM will work with OVS to explore options for obtaining OVS input into appraisals for select coal lease modifications. The BLM will also evaluate existing recordkeeping standards and other program guidance for lease modifications, and make such changes as necessary in order to bring them into conformance with current regulations and practices.

Target Date: December 31, 2014

Responsible Official: Michael D. Nedd, Assistant Director, Minerals and Realty Management

Recommendation 10: BLM should process applications for royalty rate reductions timely, and request ONRR to assist when requests are based on financial hardship.

Response: The BLM concurs with this recommendation. The BLM is developing supplemental guidance to clearly explain all necessary processing steps and requirements for royalty rate reduction applications. The guidance will reiterate the importance and necessity for field office staff to follow the current guidance when processing royalty rate reductions applications. The ONRR already assists the BLM in this process by reviewing the lessee history of payments in making a determination of good standing. ONRR may also be able to assist the BLM when reviewing hardship cases that fall under the RRR categories that are based on financials.

Target Date: December 31, 2013

Responsible Official: Michael D. Nedd, Assistant Director, Minerals and Realty Management

Recommendation 11: BLM should update its policies and procedures to ensure consistent and effective inspections and enforcement. Documentation and reporting standards should be included.

Response: The BLM concurs with this recommendation. The BLM anticipates issuing a new manual for inspection, enforcement, and production verification, and an inspection and enforcement handbook, in fiscal year (FY) 2013. The BLM anticipates issuing a new production verification handbook in FY 2014.

Target Date: September 30, 2014

Responsible Official: Michael D. Nedd, Assistant Director, Minerals and Realty Management

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Recommendation 12: BLM should evaluate its enforcement policies and, where necessary, augment its enforcement capability.

Response: The BLM concurs with this recommendation. The BLM will review its existing license and lease forms to ensure that the appropriate enforcement authorities are included and issue supplemental guidance memoranda regarding enforcement procedures. The BLM will coordinate with the Solicitor's Office to identify other potential enforcement authorities.

Target Date: November 30, 2014

Responsible Official: Michael D. Nedd, Assistant Director, Minerals and Realty Management

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Recommendation 13: BLM should enhance the effectiveness of its inspectors by developing and implementing a rotation policy, cross-training program, succession plan, and finalization of the inspector certification program.

Response: The BLM concurs with this recommendation. The BLM will evaluate policies and budgetary implications for rotating certified mine inspectors when such rotation does not impose a significant fiscal burden. The inspector certification program already provides for cross-training of mine inspectors. The mine inspector certification courses were finalized and distributed during the second quarter of FY 2013.

Target Date: August 31, 2014

Responsible Official: Michael D. Nedd, Assistant Director, Minerals and Realty Management

Technical Comments

Page 2, fourth paragraph: The second sentence in this paragraph says "BLM, however, is responsible for most of the daily management and regulatory oversight of the public and Indian coal resources, and was the focus of this evaluation." As previously mentioned in Attachment 1, within the DOI, OSM also has regulatory oversight responsibilities over coal mining operations. Consistent with the general discussion provided in Attachment 1, the BLM recommends that this paragraph clarify the bureau's responsibility over coal mining operations. The referenced sentence should be replaced with the following:

"BLM, however, is responsible for the exploration, leasing administration, and production verification of Federal coal resources. The BLM also has responsibilities over exploration and mining operations on Indian lands. Therefore, the bureau is the focus of this evaluation."

Page 4, second and third paragraph: Lease sales create a significant workload, including public coordination, meetings, hearings, environmental analyses, consultation, inter-agency cooperation, decisions and appeal resolution. These important steps in the leasing process were omitted in the description of processing a lease application.

Page 5, bullets: The bullet on H-3070-1 would be more accurate if described in the following manner:

- The handbook titled "H-3070-1- Economic Evaluation of Coal Properties" contains BLM's policies for determining the pre-sale FMV bonus estimate that establishes the minimum acceptable lease bid and lease sale bid evaluation process.

In addition, the following additional information should be referenced:

- The handbook titled "3420-1 – Competitive Coal Leasing" contains the BLM's policies for processing coal lease applications.
- The manual titled "3486-1- Inspection and Enforcement, Production Verification, and Appeals" contains BLM's inspection policies for ensuring that coal operators comply with approved lease terms conditions and BLM approved mine plans and leasing regulations.
- Code of Federal Regulations at 30 C.F.R. §§ 1201-1290 delineating ONRR responsibilities regarding coal production gross sales value determinations, collecting and distributing revenue, and other financial obligations.
- Code of Federal Regulations at 30 C.F.R. §§ 700-955 delineating OSM responsibilities regarding mining reclamation permits, plans and revisions on Federal and Indian lands.

Page 6, third paragraph, Page 10, first paragraph, and page 13, third paragraph: The referenced paragraphs identify lost bonuses of $2 million from recent lease sales and $60 million in potentially undervalued lease modifications. As previously mentioned in Attachment 1, the BLM would like to address the assertion about $2 million in lost bonuses. However, the report does not provide additional details regarding how the OIG calculated this figure. The BLM recommends that the OIG include a discussion in the report (either in Appendix II or as a new paragraph after the first paragraph on page 10) as to how the $2 million dollars was determined or whether the BLM State Office processing the lease sale had followed current guidance outlined in H-3070-1.

As for the $60 million in potentially undervalued lease modifications, the BLM explained in Attachment 1 that lease modification areas are considered less desirable for mining from a geologic and economic perspective by both the applicant and the BLM at the time the original lease application was processed. Therefore, the value of the coal in the lease modification area is of lesser value than the coal in the area that was originally leased. We recommend that all mention of $60 million in undervalued lease modification sales be removed from the report.

Page 6, fifth paragraph and Page 7, second and fifth paragraph: As explained in under the sections titled Office of Valuation Services (OVS) Assistance and Fair Market Value in Attachment 1, the OIG has a different interpretation of Secretarial Order 3300 and 112 DM 33 as compared to the BLM. The OIG implies that OVS must determine the minimum acceptable commercial coal lease pre-sale FMV and that BLM is out of compliance with those directives (?) by not using OVS for coal valuations. The BLM believes the OIG has misinterpreted 112 DM 33 and the Secretarial Order. As explained in Attachment 1, OVS may provide real estate (including mineral estate) valuation services to the bureaus if it is requested by the bureau. The BLM does not view the referenced directives as requiring the bureau to use OVS. The BLM recommends that this difference of interpretation be recognized in the report.

Page 8, Figure 3: The export volumes and average price per ton provided in Figure 3 reflects total coal exports from the United States. The BLM recommends that the OIG point out that exports of coal from Federal lands are a small and unknown fraction of the total exports shown. According to the Energy Information Administration, no more than 1.6 percent of Powder River Basin coal is exported. See Attachment 1 for additional information.

Page 8, paragraph 1: The OIG should use the terms "estimated pre-sale FMV" when referring to the process the BLM uses in establishing an estimate of the minimum acceptable fair market value that will be considered.

Page 9, Figure 4 narrative: The chart only depicts coal production from the Wyoming Powder River Basin production and not the number of mining companies. The title under the chart should be consistent with what the chart illustrates.

Page 12, last paragraph: Royalty rate reductions cannot be approved and maintained based upon incorrect exploration data. The BLM inspects coal mines to verify the existence of adverse geologic conditions in order to confirm that royalty rate reductions are necessary. After the royalty rate reduction is approved, the lessee and the BLM must periodically inspect, evaluate, and verify that the adverse geologic condition that justified the reduction remains pertinent. The

BLM recommends deleting the last sentence of the paragraph, which suggests a correlation between the use of exploration data used to help form the basis of the BLM's FMV determination and the approval and maintenance of royalty rate deductions.

Page 13, paragraph 1 and 2: The statement that, "BLM uses a modification primarily for mining one or more coal seams deemed less desirable, typically due to the quality of the coal and its location" is an over-simplification and does not fully explain the purpose or legal requirements for considering modifications. As discussed in Attachment 1, the BLM issues a lease modification to avoid bypass of Federal coal that is contiguous to the existing lease, (1) when it is in the interest of the U.S., (2) when there is no competitive interest, and (3) where the coal included in the lease modification cannot be mined as part of another independent operation. If the coal is bypassed, the public's interest would not be served because recovery of the resource and resulting revenue from production would not be realized. The bypassed tract becomes an isolated coal deposit that cannot be mined economically and in an environmentally sound manner if it remains separate from the existing lease. The BLM recommends that the OIG point out the bureau's responsibility for executing lease modifications in order to avoid bypassed Federal coal.

Page 16, paragraph 5: The paragraph states, "a company may attempt to bypass lower-quality coal, use inefficient mining techniques, or mine coal outside the lease boundary" as examples of potential non-compliance that might not be identified or enforced against by the BLM. While the BLM concurs with the recommendation regarding reviewing and potentially augmenting its enforcement policies, the BLM believes that OIG would benefit from understanding that there are existing tools that would allow the BLM to take action against non-royalty-related violations. We ask that you consider adding the following examples to the report:

- When a coal company attempts to bypass lower-quality coal that had previously been approved for mining as part of its BLM-approved resource recovery and protection plan, the BLM would discover the bypass during an inspection or the production verification process. The BLM, by lease stipulation, requires that the lessee mine the recoverable reserves approved in their resource recovery plan to obtain maximum economic recovery. The measure of damages in this case would be the royalty that would have been paid had the coal been mined.
- Similarly, using inefficient mining techniques would not be approved by the BLM in the resource recovery and protection plan for the lease or mine. Discovery of such methods would be a violation of the resource recovery and protection plan, and could also be a potential violation of safety or environmental regulations. BLM's inspector would advise other State or Federal regulatory entities of the potential violation so that appropriate enforcement actions could be pursued.
- The BLM requires a bond to secure payment of financial obligations. The BLM has been in consultation with the Solicitor's Office regarding the appropriateness of resolving criminal violations under Title 18 of the U.S. Code, or civil penalties as provided under the False Claims Act at 31 U.S.C. 3729(a)(1)(g).

Attachment 3

- If a company mines outside of a lease boundary, the BLM would determine the quantity and qualities of coal removed, and recommend the amount of trespass damages for the coal removal as provided in the trespass regulations found at 43 CFR 9239.

Page 17, paragraph 3: The OIG states that the BLM has no policy for cross-training inspectors. However, the BLM has an inspector certification program that provides for cross-training through a mentoring process in which a new inspector works with certified mine inspectors until the new inspector can demonstrate the ability to perform the work independently. A mine inspector can only be certified once he or she has demonstrated the ability to perform mine inspector duties for certain mine types or commodities. We recommend that the referenced paragraph be deleted.

Attachment 3

Appendix 4: Status of Recommendations

In its response to our draft report (see Appendix 3), the Department concurred with 12 of the recommendations and partially concurred with 1 recommendation. Although partial concurrence was expressed for Recommendation 5, the response was sufficient for us to consider it resolved. The table below summarizes the status of the recommendations.

Recommendations	Status	Action Required
1 – 13	Resolved; not implemented.	Recommendations will be referred to the Assistant Secretary for Policy, Management and Budget for tracking their implementation.

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