



Testimony
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Representatives

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HELIUM PROGRAM

BLM's Implementation of the Helium Stewardship Act of 2013

Statement of Anne-Marie Fennell, Director,
Natural Resources and Environment

GAO Highlights

Highlights of [GAO-14-751T](#), a testimony before the Subcommittee on Energy and Mineral Resources, Committee on Natural Resources, House of Representatives

Why GAO Did This Study

The federal government and the private sector use helium, a key nonrenewable resource, for a variety of purposes, including research and manufacturing. As of September 30, 2013, BLM was storing about 9 billion cubic feet of federally owned crude helium and almost 2 billion cubic feet of privately owned crude helium in an underground federal reserve. Helium produced from the reserve represents 40 percent of the total U.S. production.

The Helium Stewardship Act of 2013 is intended to complete the privatization of the federal helium reserve in a competitive market fashion that ensures stability in the helium markets, while protecting the interests of American taxpayers. It establishes a phased process through fiscal year 2021 to dispose of the remaining helium. Phase A is a transition period of helium sales, and Phase B consists of auctions in addition to sales.

This testimony describes (1) BLM's initial implementation of the act and (2) challenges, if any, BLM faces in implementing and incentivizing tolling—when a helium refiner processes or refines another party's crude helium at an agreed upon price. GAO examined helium sales documents and BLM's proposed plan for implementing the act; visited BLM's Amarillo Field Office near the reserve to review documents and observe the helium facilities; interviewed BLM and other Interior officials; and interviewed representatives from four refiners and four nonrefiners that participated in recent sales.

GAO is not making any recommendations in this testimony.

View [GAO-14-751T](#). For more information, contact Anne-Marie Fennell at (202) 512-3841 or fennella@gao.gov.

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What GAO Found

The Department of the Interior's (Interior) Bureau of Land Management (BLM) has taken a number of actions to begin implementing the Helium Stewardship Act of 2013, including (1) estimating volumes of helium that can be produced from the federal helium reserve each year, (2) preparing for and conducting helium sales under the act's Phase A transition period, and (3) initiating planning for the act's Phase B, which introduces a competitive auction process for crude helium along with continued sales. First, BLM estimated the amount of crude helium that can be produced from the reserve each year based on a geologic model. Second, under Phase A, BLM determined sale volumes, set the sale price and required participants to disclose certain information, among other things. Third, BLM has begun planning for the required Phase B auction and sale of helium for fiscal year 2015 and a one-time sale of a portion of the helium that will be made available in fiscal year 2016. BLM plans to hold this auction and these sales in July 2014 to comply with an August 1, 2014, statutory deadline. BLM officials told us the agency plans to offer for auction or sale most of the helium estimated to be produced in fiscal year 2015 and use the remainder to meet federal users' needs and to deliver privately owned helium to refiners for processing. However, refiners disagree with the agency's approach, stating the act requires BLM to offer for auction or sale the maximum amount that it can produce from the reserve each year. BLM officials said they are taking this approach to help ensure that the agency can deliver the privately owned helium that remains in storage before the end of fiscal year 2021.

BLM faces challenges in implementing the act's tolling provision and identifying incentives. Under the provision, refiners, as a condition of sale or auction in Phases A and B, are to make excess refining capacity available at commercially reasonable rates to certain entities. In implementing this provision, however, BLM faces challenges in knowing whether refiners (1) have excess refining capacity available and (2) if so, are offering tolling services to nonrefiners at commercially reasonable rates. For example, although BLM asked refiners to report excess refining capacity as a condition of the Phase A sales, BLM did not define the term "excess refining capacity" because, according to BLM officials, they were still in the process of interpreting the act. According to refiners GAO interviewed, they used different methods to calculate the excess refining capacity they reported to BLM. In preparation for Phase B and the fiscal year 2015 auction and sale, BLM has proposed a definition of excess refining capacity, although some nonrefiners noted that it leaves room for interpretation. Regarding rates, BLM has not defined or identified criteria for determining what is a commercially reasonable rate. BLM officials said they prefer to take a "hands off" approach, allowing the companies involved and the marketplace to determine what is commercially reasonable, but it is unclear how BLM would implement the tolling provision without a definition or criteria for what is commercially reasonable. Moreover, BLM officials told GAO that they are considering various ways to incentivize tolling by refiners, but the agency's ability to create incentives is limited by the terms of existing contracts governing helium delivery that remain in effect through fiscal year 2015. GAO plans to conduct additional work after the July 2014 auction and sales on BLM's implementation of the act's tolling provision. Therefore, GAO is not making any recommendations at this time.

Chairman Lamborn, Ranking Member Holt, and Members of the Subcommittee:

I am pleased to be here today to discuss the Bureau of Land Management's (BLM) implementation of the Helium Stewardship Act of 2013.¹ Enacted on October 2, 2013, the act extends the federal helium program—which is responsible for the conservation and sale of federally owned helium—to no later than September 30, 2021. As you know, helium is an important nonrenewable natural resource that has a variety of uses. The federal government uses helium for, among other things, the space program, national security applications, and scientific research. In addition, private industry uses it for medical instruments, controlled atmospheres used in manufacturing, and leak detection, among other applications. For many of its uses, helium has no substitute.

The Helium Stewardship Act of 2013 is the third major piece of helium legislation enacted since 1960. During the 1960s and early 1970s, to fulfill the conservation objective of the Helium Act Amendments of 1960,² the Department of the Interior (Interior) purchased about 34 billion cubic feet of helium from private crude helium producers.³ Then, under the Helium Privatization Act of 1996, Interior was required to offer for sale all but 600 million cubic feet of the crude helium by January 1, 2015.⁴

We testified twice before this Subcommittee or the Committee on Natural Resources on issues related to BLM's implementation of the Helium Privatization Act of 1996.⁵ Most recently, in February 2013, we testified that there would likely be substantially more than 600 million cubic feet of crude helium remaining on January 1, 2015, since not all of the helium offered for sale under the act had sold. Furthermore, we raised questions in that testimony about the continued operation of the federal helium

¹Pub. L. No. 113-40, 127 Stat. 534 (2013), *codified at* 50 U.S.C. §§ 167-167q.

²Pub. L. No. 86-777, 74 Stat. 918 (1960).

³Crude helium is a gas containing approximately 50 percent to 85 percent helium.

⁴Pub. L. No. 104-273, 110 Stat. 3315 (1996).

⁵GAO, *Helium Program: Urgent Issues Facing BLM's Storage and Sale of Helium Reserves*, [GAO-13-351T](#) (Washington, D.C.: Feb. 14, 2013) and *Helium Program: Key Developments Since the Early 1990s and Future Considerations*, [GAO-10-700T](#) (Washington, D.C.: May 13, 2010).

program, BLM's sales price for crude helium, and what should be done with the remaining helium. The Helium Stewardship Act of 2013 was intended to complete the privatization of the federal helium reserve in a competitive market fashion that ensures stability in the helium markets while protecting the interests of American taxpayers, among other things.

As you know, the federal government has a reserve of crude helium near Amarillo, Texas, that is stored in the ground in an area of a natural gas field that has a naturally occurring underground structural dome. In addition to the federal crude helium, this reserve also holds crude helium that private companies have previously purchased from BLM but have not taken delivery of in accordance with storage contracts between the companies and BLM. BLM delivers crude helium from this reserve through a pipeline to the private companies that are connected to it. As of July 1, 2014, four such companies receive crude helium from BLM through the pipeline and refine it;⁶ these companies are commonly referred to as "refiners." Four other companies—commonly referred to as "nonrefiners"—have purchased relatively small volumes of crude helium from BLM in the past and have expressed an interest in buying larger volumes. The nonrefiners, however, cannot receive the crude helium directly because they are not connected to the pipeline. Instead, a nonrefiner must enter into an agreement with a refiner, so that the refiner can accept delivery of the crude helium and process it into pure helium on the nonrefiner's behalf. The practice of a helium refiner processing or refining another party's helium at an agreed upon price is referred to as "tolling." The Helium Stewardship Act of 2013 contains a tolling provision that requires, as a condition of sale or auction, that refiners make excess refining capacity of helium available at commercially reasonable rates to certain nonrefiners.

In light of the new circumstances presented by the Helium Stewardship Act of 2013, my testimony today will describe (1) BLM's initial actions to implement the act and (2) challenges, if any, BLM faces in implementing the act's tolling provision and incentivizing tolling.

To address these objectives, we reviewed the Helium Stewardship Act of 2013 and documentation of BLM's implementation of the act, including the helium sales conducted in January 2014 and May 2014 and the

⁶Refined helium has a varying purity of 99.99 percent to 99.9999 percent helium.

May 16, 2014, *Federal Register* notice on BLM's proposed implementation of the act.⁷ We interviewed BLM officials associated with the helium program at BLM's headquarters in Washington, D.C.; BLM's New Mexico State Office in Santa Fe, New Mexico;⁸ and BLM's Amarillo Field Office in Amarillo, Texas. We visited BLM's Amarillo Field Office to review documentation, observe the helium facilities, and interview program officials. We also interviewed (1) attorneys with Interior's Office of the Solicitor who work with the helium program in Washington, D.C., and the Southwest Regional Office in Albuquerque, New Mexico, and (2) officials with Interior's Office of Minerals Evaluation who assisted BLM with helium pricing. In addition, we interviewed the four refiners and four nonrefiners that had participated in helium sales in recent years and two additional companies that had expressed an interest in purchasing helium and connecting to BLM's pipeline. Officials with BLM's helium program concurred with the information presented in this statement and provided technical clarifications, which we incorporated, as appropriate.

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

Background

Helium is an inert element that occurs naturally in gaseous form and has a variety of uses because of its unique physical and chemical characteristics.⁹ For example, helium has the lowest melting and boiling point of any element, and, as the second lightest element, gaseous

⁷79 Fed. Reg. 28540 (May 16, 2014).

⁸In addition to New Mexico, BLM's New Mexico State Office also has jurisdiction over Kansas, Oklahoma, and Texas. The helium program is administered by BLM's Amarillo Field Office in Amarillo, Texas.

⁹Helium in this testimony refers to helium-4, the most abundant naturally occurring helium isotope. Helium-3, which has its own supply and demand issues, is not the focus of this testimony. For additional information on helium-3, see GAO, *Technology Assessment: Neutron Detectors: Alternatives to Using Helium-3*, [GAO-11-753](#) (Washington, D.C.: Sept. 29, 2011) and *Managing Critical Isotopes: Weaknesses in DOE's Management of Helium-3 Delayed the Federal Response to a Critical Supply Shortage*, [GAO-11-472](#) (Washington, D.C.: May 12, 2011).

helium is much lighter than air. Certain natural gas fields contain a relatively large amount of naturally occurring helium, which can be recovered as a secondary product. The helium is separated from the natural gas and stored in a concentrated form that is referred to as crude helium because it has yet to go through the final refining process.

The federal helium program is currently managed by Interior's BLM. As of September 30, 2013, there were about 10.84 billion cubic feet of crude helium in storage—roughly 9 billion cubic feet owned by the government, and the rest is owned by private companies. After private companies—refiners or nonrefiners—purchase helium from BLM and pay for it, the official ownership of the helium is transferred from BLM to the company on the first day of the month after payment is received, and it becomes part of the privately owned inventory in storage. BLM stores and then delivers the privately owned helium through the pipeline to refiners in accordance with the storage contracts between BLM and the private companies. As of July 1, 2014, BLM held storage contracts with 10 companies: 4 refiners, 4 nonrefiners, and 2 companies that do not store helium in the reserve but are connected to the pipeline in order to transport helium from private natural gas fields to the 4 refiners also connected to the pipeline. According to a U.S. Geological Survey report, in 2013, helium produced from the reserve represented about 40 percent of the total estimated production of helium in the United States and about 30 percent of the total estimated production worldwide.

The Helium Stewardship Act of 2013 significantly changed the federal helium program. For example, the act:

- Establishes four phases for the sale and auction of crude helium from, and eventual closure of, the reserve—Phase A: allocation transition; Phase B: auction implementation; Phase C: continued access for federal users; and Phase D: disposal of assets. Phase D is to be completed no later than September 30, 2021. 50 U.S.C. §§ 167d(a)-(d).
- Establishes a minimum quantity of crude helium that BLM is required to offer for sale or auction each fiscal year in Phases A, B, and C. Specifically, the amount of crude helium to be offered must be the lesser of (1) the quantity of crude helium offered for sale by the

Secretary of the Interior during fiscal year 2012¹⁰ or (2) the maximum total production capacity of the federal helium system, which includes the pipeline.¹¹ 50 U.S.C. § 167d(f). We refer to this as the act's minimum quantity requirement.

- Requires BLM to annually establish, as applicable, separate sale and minimum auction prices for Phase A and Phase B using, if applicable, and in the following order of priority: (1) the sale price of crude helium in BLM auctions; (2) price recommendations and disaggregated data from a qualified, independent third party who has no conflict of interest and conducted a confidential survey of qualifying domestic helium transactions;¹² (3) the volume-weighted average price of all crude helium and pure helium purchased, sold, or processed by persons in all qualifying domestic helium transactions; or (4) the volume-weighted average cost of converting gaseous crude helium into pure helium. 50 U.S.C. § 167d(b)(7). We refer to this as the act's price-setting provision.
- Requires BLM to require all persons that have storage contracts with BLM for privately owned helium in the reserve to disclose, on a strictly confidential basis, (1) the volumes and associated prices of all crude and pure helium purchased, sold, or processed by persons in qualifying domestic helium transactions; (2) the volumes and associated costs of converting crude helium into pure helium; and (3) refinery capacity and future capacity estimates. 50 U.S.C. § 167d(b)(8)(A). We refer to this as the act's disclosure requirement.

¹⁰In fiscal year 2012, BLM offered 2.1 billion cubic feet of crude helium for sale under the federal helium program.

¹¹The act defines the federal helium system as the federal helium reserve, the storage reservoir, the pipeline, and certain other infrastructure. 50 U.S.C. § 167(4).

¹²"Qualifying domestic helium transaction" means any agreement entered into or renegotiated agreement during the preceding 1-year period in the United States for the purchase or sale of at least 15 million standard cubic feet of crude or pure helium to which any holder of a contract with the Secretary of the Interior for the acceptance, storage, delivery, or redelivery of crude helium from the federal helium system is a party. 50 U.S.C. § 167(10).

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- Establishes a condition for Phase A sales and Phase B sales and auctions to refiners.¹³ Specifically, as a condition of sale or auction to a refiner under Phase A sales and Phase B, the refiner must make excess refining capacity of helium available at commercially reasonable rates to persons who acquire helium from BLM after the act's enactment. 50 U.S.C. § 167d(b)(8)(B). According to the act's legislative history, this condition was intended to maximize participation in helium sales.¹⁴ The act does not define excess refining capacity or commercially reasonable rates. We refer to this condition as the act's tolling provision.

BLM's Initial Actions to Implement the Helium Stewardship Act of 2013

Since the Helium Stewardship Act of 2013 was enacted in October 2013, BLM has taken a number of actions to begin implementing the act, including (1) estimating volumes of helium that can be produced from the reserve each fiscal year, (2) preparing for and conducting Phase A helium sales, and (3) initiating planning for Phase B sales and auctions.

BLM Estimated the Volume of Helium That Can Be Produced from the Reserve Each Year

Before BLM could determine how much helium it would sell or auction in each phase, the agency first estimated the volumes of crude helium that can be produced from storage in the reserve. As helium is produced, and the amounts remaining in storage continue to decrease, the helium becomes increasingly difficult to extract. Because of this dynamic, BLM used a geologic model to identify the most efficient way to produce the remaining helium from storage. Table 1 shows the results of BLM's modeling efforts with the estimated amounts expected to be produced from the reserve by fiscal year, reflecting the reduced volumes that BLM expects will be produced over time.

¹³The condition went into effect 90 days after the act's enactment. Since all sales held after the act's enactment occurred after the 90 days, refiners have been subject to the condition.

¹⁴S. Rep. No. 113-83, at 13 (2013).

Table 1: BLM’s Estimated Helium Production from the Reserve through Fiscal Year 2021

Production volumes in million cubic feet

Fiscal year	Helium production volume
2014	1,494.00
2015	1,320.16
2016	1,158.15
2017	997.45
2018	848.28
2019	714.43
2020	606.13
2021	537.88
Total	7,676.48

Source: Bureau of Land Management *Federal Register* notice, 79 Fed. Reg. 28540 (May 16, 2014). | GAO-14-751T

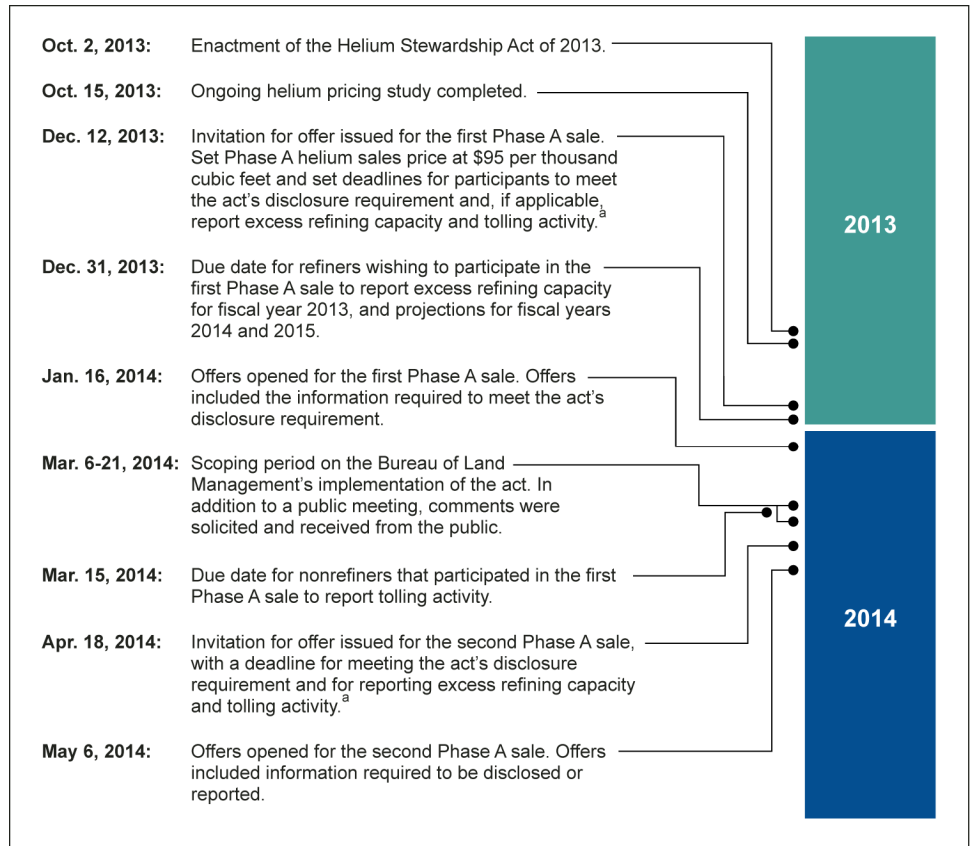
Note: BLM estimated that about 3.17 billion cubic feet of helium will remain in storage at the end of fiscal year 2021. Under the Helium Stewardship Act of 2013, Phase B ends on the date on which the volume of recoverable crude helium at the federal helium reserve (other than privately owned quantities of crude helium stored temporarily at the federal helium reserve) is 3 billion cubic feet.

In comparison, BLM offered 2,100 million cubic feet of crude helium for sale in each of fiscal years 2012 and 2013, the same amount it had offered for sale annually since fiscal year 2004.

BLM’s Implementation of Phase A Helium Sales

BLM has taken a number of actions to implement multiple provisions of the act regarding Phase A (see fig. 1). The act requires BLM to offer crude helium for sale in Phase A in such quantities and under such terms as BLM determines necessary to carry out Phase A with minimum market disruption, in addition to meeting the act’s minimum quantity requirement. Under Phase A, BLM prepared for and conducted sales by determining sales volumes, setting the sale price, and implementing the act’s disclosure requirement, among other things.

Figure 1: Timeline of Selected Phase A Events since Enactment of the Helium Stewardship Act of 2013



Source: GAO analysis of Bureau of Land Management information. | GAO-14-751T

^a50 U.S.C. § 167d(b)(8)(A) (disclosure requirement); 50 U.S.C. § 167d(b)(8)(B) (tolling provision). Excess refining capacity reports responded to both the act's disclosure requirement and tolling provision, and tolling activity reports responded to the act's tolling provision. The practice of a helium refiner processing or refining another party's helium at an agreed upon price is referred to as "tolling."

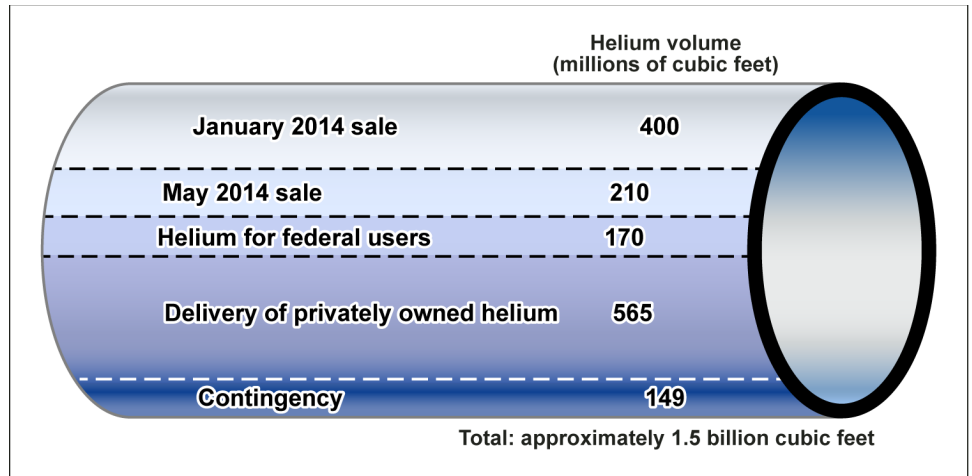
Volume

BLM offered for sale a total of 610 million cubic feet of helium in two different Phase A sales—one in January 2014 and one in May 2014. BLM officials said that they did not hold the first Phase A sale until January 2014 because they needed time to interpret the new act and develop the fiscal year 2014 sale price. In the first quarter of fiscal year 2014, BLM continued delivering helium to the refiners from their private storage balances. According to BLM officials, they considered limiting the total Phase A sales to the 400 million cubic feet sold in January 2014 so they could deliver more privately stored helium. However, these officials

said that after receiving comments requesting that BLM sell additional helium, and after considering the act's minimum quantity requirement, they decided to offer for sale an additional 210 million cubic feet of helium in May 2014. In the two Phase A sales, four nonrefiners purchased a total of 61 million cubic feet of crude helium, and refiners purchased the remainder.

By offering 610 million cubic feet for sale in fiscal year 2014, BLM did not offer for sale the full volume of crude helium that BLM's model estimated would be produced in fiscal year 2014. This estimated volume, approximately 1.5 billion cubic feet, is less than the volume of crude helium offered for sale in fiscal year 2012 (2.1 billion cubic feet). Under the act's minimum quantity requirement, BLM must offer for sale or auction in fiscal year 2014 the lesser of the "maximum total production capacity of the federal helium system" or the amount of helium offered for sale in fiscal year 2012. BLM officials told us they interpreted the "maximum total production capacity of the federal helium system" not as the full volume estimated by the model to be produced from the reserve this fiscal year, but rather as an amount equal to the production capacity of the reserve after (1) meeting federal users' needs, (2) delivering a percentage of privately owned helium stored in the reserve to refiners for processing, and (3) holding back a contingency amount for possible production problems (see fig. 2). These officials said this interpretation helps ensure that the agency can deliver the volumes of privately owned helium that remain in storage before the end of fiscal year 2021. Some refiners, however, submitted comments to BLM stating that they disagree with the agency's interpretation of the act's minimum quantity requirement. They said that the "maximum total production capacity of the federal helium system" is the amount equal to the full volume of helium that is estimated to be produced from the reserve for the year, minus an amount for federal users.

Figure 2: BLM's Proposed Apportionment of the 1.5 Billion Cubic Feet of Helium Estimated to Be Produced in Fiscal Year 2014



Source: GAO analysis of Bureau of Land Management *Federal Register* notice, 79 Fed. Reg. 28540 (May 16, 2014). | GAO-14-751T

Price

BLM set the price for the two Phase A helium sales at \$95 per thousand cubic feet—an \$11 increase over the fiscal year 2013 price—in December 2013. The fiscal year 2014 price increase resulted from a November 2012 recommendation from Interior’s Office of Inspector General that BLM implement a new helium pricing process by the end of 2013 to ensure a fair return on the sale of helium.¹⁵ In response, BLM worked with Interior’s Office of Minerals Evaluation to contract for a study on helium prices. The study was completed on October 15, 2013. The price increase was based largely on the results of this study. BLM officials told us that they used the study in setting the price for the Phase A sales

¹⁵Department of the Interior, Office of Inspector General, *Bureau of Land Management’s Helium Program*, C-IN-MOA-0010-2011 (Washington, D.C.: Nov. 9, 2012).

because they believed it satisfied both the Office of Inspector General's recommendation and the recently enacted price-setting provision.¹⁶

Information Disclosure

BLM required companies making offers in the Phase A sales to fulfill the act's disclosure requirement, in addition to requiring the refiners to report their excess refining capacity. BLM communicated these requirements in its announcements for the Phase A sales. By implementing the act's disclosure requirement in this manner, however, BLM did not receive information from all 10 storage contract holders since 2 companies did not participate in the sales. BLM officials told us they had not realized that the act required them to obtain this information from the 2 storage contract holders that did not participate in the sales. BLM and other Interior officials said that they plan to explore what storage contract holders that do not participate in sales or auctions are statutorily required to disclose.¹⁷ BLM officials told us that the companies making offers in the Phase A sales submitted the requested volume and pricing information, and BLM publicly disclosed that the refiners reported, in aggregate, a total of 50 million cubic feet of excess refining capacity available for the last 8 months of fiscal year 2014 (February 2014 through September 2014), an amount less than the 61 million cubic feet purchased by nonrefiners.

BLM's Planning for Phase B Helium Sales and Auctions

BLM has started the process of determining how it will implement Phase B, which introduces a competitive auction process for crude helium along with continued sales. In addition to the act's minimum quantity requirement, the act requires BLM to offer crude helium for sale in

¹⁶The study was initiated before the act's enactment and was not designed to satisfy the price-setting provision's requirements for a survey. Nevertheless, the study was conducted by a company long involved in the helium business with current clients that include helium companies, and it was not limited to "qualifying domestic helium transactions." In contrast, the act requires the Secretary of the Interior to establish pricing by using, if applicable, "[p]rice recommendations and disaggregated data from a qualified, independent third party who has no conflict of interest" and who conducts a confidential survey of qualifying domestic helium transactions. 50 U.S.C. § 167d(b)(7)(B). Further, we were unable to verify whether all relevant qualifying domestic helium transactions were included in the study because the company did not provide us with the underlying confidential survey data used to prepare the study.

¹⁷Under the Paperwork Reduction Act, the Director of the Office of Management and Budget must review and approve agencies' proposed collections of information from 10 or more entities. BLM has not submitted an information collection proposal to the Office of Management and Budget for the act's disclosure requirement but is exploring who is required to disclose information.

Phase B under such terms and conditions as the agency determines are necessary to maximize total recovery of helium from the federal helium reserve over the long term; to manage crude helium sales according to the agency's ability to extract and produce helium from the reserve; to carry out Phase B with minimum market disruption; and maximize the total financial return to the taxpayer, among other things.

BLM is in the process of planning for the required (1) Phase B auction of a portion of the helium that will be produced in fiscal year 2015, (2) Phase B sale of a portion of the helium that will be produced in fiscal year 2015, and (3) Phase B advanced one-time sale of a portion of the helium that will be produced in fiscal year 2016.¹⁸ BLM published its proposed implementation plan for the auction and sales in the *Federal Register* on May 16, 2014,¹⁹ for a 30-day comment period, and BLM is planning to hold the auction and sales in late July 2014 to comply with the August 1, 2014, statutory deadline. BLM officials said they planned to publish the final implementation plan in the *Federal Register* in mid-July 2014. Until the final plan is published, BLM's proposed implementation is tentative. Similar to Phase A, for the Phase B fiscal year 2015 auction and sale, as well as the fiscal year 2016 one-time sale, BLM is making decisions about helium volumes available for sale and auction, setting the sale price, and implementing the act's disclosure requirement.²⁰

¹⁸For 2014, the act requires two sales and an auction to occur before August 1. Specifically, the act only permits one auction, followed by one sale which must occur no later than August 1. 50 U.S.C. § 167d(b)(12). In addition, the act requires a one-time sale of helium from the amounts available in fiscal year 2016 that must also occur no later than August 1, 2014. 50 U.S.C. § 167d(b)(13)(A).

¹⁹The proposed implementation plan was published in the *Federal Register* as a Notice of Proposed Action rather than as a Notice of Proposed Rulemaking. BLM officials indicated that they purposefully limited the scope of the notice in an effort to avoid triggering the need for a rulemaking. The officials stated that a rulemaking would take at least 18 months, and they needed something in place in early July 2014 (about 9 months after enactment) to meet the act's August 1, 2014, deadline for the first Phase B auction and sales. At least one refiner submitted comments to BLM stating that the agency's Notice of Proposed Action contains actions that need to be subject to notice and comment rulemaking.

²⁰According to BLM officials, the information that they expect will be included in the final notice regarding projected volumes that will be made available for sale or auction for fiscal years 2016 through 2021, excluding the fiscal year 2016 one-time sale, are for planning purposes only.

Volume

As was the case with the volumes of helium made available for sale in Phase A, BLM plans to offer a total amount of helium for sale or auction each year in Phase B that would be less than the annual total helium production amounts shown in table 1. BLM officials told us they are continuing this approach based on the agency's interpretation of the act's multiple requirements for Phase B, including the minimum quantity requirement. Specifically, for fiscal year 2015, BLM officials told us they will offer for sale or auction 928 million cubic feet of the 1.3 billion cubic feet that is estimated to be produced from the reserve, and to use the remaining production capacity to accommodate federal users' needs and deliver a percentage of the privately owned helium stored in the reserve (see table 2).²¹ For the fiscal year 2016 one-time sale, BLM proposed to offer 250 million cubic feet of helium.²²

Table 2: BLM's Phase B Helium Volumes for Auction, Sale, and Private Delivery for Fiscal Year 2015

Volumes in million cubic feet

Helium recipients	Volume
Sale to refiners	835
Auction to refiners and nonrefiners	93
Subtotal	928
Federal users	160
Private storage delivery	232
Total estimated production	1,320

Source: GAO analysis of Bureau of Land Management data. | GAO-14-751T

In its proposed implementation plan, BLM stated its intent to auction 10 percent of the 928 million cubic feet that BLM will make available for

²¹The *Federal Register* notice proposed withholding a contingency amount in Phase B for possible production problems, as was done in the Phase A sales. According to BLM officials, in response to public comments they received on the proposed implementation plan, the final implementation plan will not include a withholding of a contingency amount from the volumes available for auction and sale for fiscal year 2015 because they determined it was unnecessary.

²²The act requires that the volume of helium sold in the fiscal year 2016 one-time sale be at least 250 million cubic feet and be made available consistent with the required Phase B auction quantity. 50 U.S.C. § 167d(b)(13)(B).

fiscal year 2015 to qualified bidders, including refiners and nonrefiners.²³ In Phase B, BLM is generally required to auction an increasing amount of the helium made available for each fiscal year, beginning with helium available for fiscal year 2015. Specifically, for fiscal year 2015, BLM is required to auction 10 percent of the total volume of crude helium made available for that fiscal year, but the agency is authorized to adjust that quantity in certain circumstances.²⁴ BLM officials told us they decided not to adjust the auction amount for fiscal year 2015 to minimize potential market disruption.

BLM's proposed plan includes making Phase B sale volumes available only to refiners, which is a departure from BLM's prior practice, including for Phase A. In the past, sale volumes were divided into two portions, one offered to refiners and one offered first to nonrefiners.²⁵ With the introduction of auctions in Phase B, BLM has proposed to divide the total helium made available each year into two different portions—a sale volume available only to refiners and an auction volume available to all qualified bidders, including, but not limited to, nonrefiners. Some nonrefiners have raised a concern about this approach since they would no longer be permitted to purchase any of the helium that will be offered

²³The act defines a qualified bidder as a person the Secretary of the Interior determines is seeking to purchase helium for their own use, refining, or redelivery to users. The term "qualified bidder" does not include a person who was previously determined to be a qualified bidder if the Secretary determines that the person did not meet the requirements of a qualified bidder under the act. 50 U.S.C. § 167(9).

²⁴The act generally requires BLM to auction off an increasing amount of the helium made available each fiscal year, beginning with 10 percent in fiscal year 2015 and increasing by an additional 15 percentage points annually through fiscal year 2019, with 100 percent being auctioned in fiscal year 2020. However, the act contains a safety valve, which allows BLM to adjust the quantity of helium auctioned downward or upward if certain conditions are met. Specifically, BLM is authorized to auction less helium if BLM determines it is necessary to minimize market disruptions that pose a threat to the economic well-being of the country after submitting a written justification to the Senate Committee on Energy and Natural Resources and the House Committee on Natural Resources. BLM is authorized to auction more helium if BLM determines it is necessary to increase participation in crude helium auctions or returns to the taxpayer.

²⁵For example, in the January and May 2014 sales, BLM offered 10 percent of the total volume of helium that it made available for sale to the nonrefiners, while the refiners were offered 90 percent of the total volume, excluding helium for federal users. If the nonrefiners had requested volumes that were less than 10 percent of the total volume of helium, the excess helium would then be offered to refiners. Prior to fiscal year 2014, one portion was offered only to refiners and the other portion was offered to all qualified bidders.

for sale. As a result, they stated, fewer nonrefiners are likely to end up purchasing federal helium because they may be outbid in the auction by the refiners. The act does not contain language specifying which parties are eligible to participate in the Phase B sales but, according to BLM officials, the act intended to have the auctions replace the portion of the sales that were previously available to nonrefiners.

Price

BLM's proposed implementation plan also includes a calculation of the minimum auction price for fiscal year 2015 and a formula for calculating the sales price for fiscal year 2015 and the fiscal year 2016 one-time sale. BLM officials told us they did not have time to contract for a market survey of relevant domestic transactions by an independent third party to inform these prices, one of the options provided for in the act's price-setting provision. As a result, BLM is basing its minimum auction price on the fiscal year 2014 sales price, adjusted for inflation. BLM's price for the fiscal year 2015 sale and the fiscal year 2016 one-time sale is based on the adjusted fiscal year 2014 sales price as well, but it also takes the average auction price into account. BLM officials told us they do not intend to use this approach in the future to set prices but, rather, they plan to contract for an independent market survey to inform the prices for the sale and auction of the remaining fiscal year 2016 helium.

Information Disclosure

In its May 2014 *Federal Register* notice, BLM did not directly address how it will implement the act's disclosure requirement for the fiscal year 2015 sale and auction and fiscal year 2016 one-time sale. However, BLM officials told us they intend to follow procedures similar to those used for the Phase A sales, that is, having only sale and auction participants respond to the act's disclosure requirement.

BLM Faces Challenges in Implementing the Act's Tolling Provision and Incentivizing Tolling

BLM faces challenges in implementing the act's tolling provision and incentivizing tolling. The tolling provision was intended, according to a relevant Senate committee report, to maximize participation in helium sales in Phases A and B. Without a way to have helium refined, there would be less or no interest in purchasing helium by nonrefiners. As of May 1, 2014, refiners had agreed to toll about one-quarter of the crude helium purchased by nonrefiners in the January 2014 Phase A sale.²⁶

BLM's Challenges in Implementing the Tolling Provision

The Helium Stewardship Act of 2013 provides that refiners, as a condition of sale or auction, make excess refining capacity available at commercially reasonable rates to certain entities. In implementing this provision, however, BLM faces challenges in knowing whether refiners (1) have excess refining capacity available and (2) if so, are offering tolling services to nonrefiners at commercially reasonable rates.

Excess Refining Capacity

In implementing the act's tolling provision, BLM faces the challenge of verifying whether the refiners have excess refining capacity available. Although BLM asked refiners to report excess refining capacity in January 2014 as part of the Phase A sales, BLM did not define the term "excess refining capacity" because, according to BLM officials, they were still in the process of interpreting the act. Moreover, BLM did not request information regarding how refiners determined their excess refining capacity or supporting documentation. By not defining excess refining capacity, or asking how the refiners calculated it, BLM does not know how the refiners calculated the amounts they reported and whether the four refiners calculated those amounts in the same way. In advance of the January 2014 Phase A sale, refiners reported a total of 50 million cubic feet of excess refining capacity for the last 8 months of fiscal year 2014. BLM officials and some nonrefiners told us they questioned why refiners would have so little excess refining capacity available when BLM had announced it would produce and deliver a few hundred million cubic feet less federal helium during fiscal year 2014 than it had produced and

²⁶BLM officials told us that BLM has not requested information from nonrefiners on the status of tolling the helium they purchased in the May 2014 Phase A sale since it is too soon after the sale to confirm whether tolling has occurred. These officials said they plan to request that refiners report information about the volumes of helium they tolled during all of fiscal year 2014 by September 30, 2014.

delivered—and that refiners had processed—during fiscal year 2013. However, refiners reported multiple reasons why they had limited excess capacity, including that plants connected to the pipeline also process crude helium from privately owned natural gas deposits.

In our interviews with refiners, they described different methods for calculating the excess refining capacity that they reported to BLM. For example, some refiners used formulas that accounted for multiple variables, including seasonality, interruptions, supply, total refining capacity, and existing contracts, while others used simpler formulas. Moreover, it is unclear whether BLM expected refiners to include refining plants or units that are currently nonoperational but that could become operational later in the year in their calculations of total refining capacity.

In preparation for Phase B and the fiscal year 2015 auction and sale, BLM officials said they are taking steps to improve their ability to determine whether refiners have accurately reported excess refining capacity. BLM posted a data collection form on its website on June 2, 2014, for refiners to use when reporting excess refining capacity; the form includes a definition of excess refining capacity. The form provides guidance on how BLM expects refiners to report excess refining capacity, but some nonrefiners commented to BLM that this definition leaves room for different interpretations. For example, BLM asks refiners to report “planned demand” for the applicable fiscal year in order to determine excess capacity. BLM, however, does not make clear whether such demand should already be under contract or just anticipated at the time its form is submitted. BLM also is requiring refiners to certify the accuracy of their reports of excess refining capacity on this form and to update it within 2 weeks if the reported data vary by 10 percent at any time. If a refiner fails to report excess refining capacity or to update BLM when the data change, BLM is proposing to bar that refiner from participation in helium auctions and/or sales. However, BLM has not specified for how long or from which auctions or sales such a refiner would be barred. We plan to conduct additional work after the July 2014 auction and sales on BLM’s efforts to obtain excess refining capacity data from refiners using its data collection form. Therefore, we are not making any recommendations at this time.

Commercially Reasonable Rates

BLM is also challenged in determining whether refiners that reported having excess refining capacity are offering tolling services at “commercially reasonable rates,” as required by the act. BLM did not define commercially reasonable rates for Phase A or identify criteria it would use to evaluate offered rates. As a result, BLM officials told us they

did not make determinations of whether the rates offered by refiners in Phase A were commercially reasonable. Moreover, BLM officials told us they do not intend to define commercially reasonable rates or identify criteria for evaluating such rates for the upcoming July 2014 Phase B auction and sales. Until BLM identifies criteria or a definition of what constitutes a commercially reasonable rate, it is unclear how BLM would implement the tolling provision, if necessary.

BLM officials told us they are not planning on defining commercially reasonable rates because it is more appropriate for the companies or a court to make that determination. BLM officials said they do not have complete information about the full spectrum of refiners' costs that are included in their tolling rates. Also, these officials said that refiners and nonrefiners are interpreting what is a commercially reasonable rate differently and that the officials are hesitant to be drawn into that dispute. BLM officials told us they would have a hard time finding that a rate was not reasonable if the parties involved agreed to it. These officials said they received multiple comments from refiners, nonrefiners, and helium end users that support BLM's "hands-off" approach to determining what is a commercially reasonable rate. However, some of the nonrefiners we interviewed said that they would like BLM to be more involved in setting a commercially reasonable rate. We plan to conduct additional work after the July 2014 auction and sales on BLM's implementation of the tolling provision. Therefore, we are not making any recommendations at this time.

BLM Faces Challenges Finding Ways to Incentivize Tolling

BLM officials told us that they are considering a variety of ways of delivering helium in Phase B that would incentivize refiners to toll. However, the agency's ability to create incentives is restricted by the terms of existing storage contracts that predate the act and remain in effect until September 30, 2015. Under the existing contracts—which the act does not affect or diminish—BLM's delivery of helium through the pipeline is based on the refining capacities of the four refiners in 2000. For example, if BLM delivered 100 million cubic feet of helium into the pipeline over the course of a month, that amount would be divided among the refiners per the allocations determined by their 2000 refining capacities (see table 3).

Table 3: Example of Refiners' Allocations and Delivery through the Helium Pipeline Based on 2000 Refining Capacities

Sample allocations in million cubic feet

Refiner	Pipeline allocation percentage	Sample allocation of 100 million cubic feet of helium available for delivery
1	36%	36
2	34%	34
3	26%	26
4	4%	4

Source: GAO analysis of Bureau of Land Management data. | GAO-14-751T

Therefore, for nonrefiners to actually receive helium they have purchased from BLM, one or more of the refiners' allocations would need to be reduced so it could be delivered.²⁷ This directly reduces the amount of helium that could be delivered to a refiner for its own use, potentially meaning lost revenue for that refiner. Some of the refiners we spoke with said this reduction in the volume of helium they would receive is a significant reason why they have been reluctant or unable to toll.

In planning for the fiscal year 2015 auction and sale, BLM officials told us they considered various ways to address this delivery issue within the confines of the existing storage contracts. In its May 16, 2014, *Federal Register* notice, BLM proposed reducing the total volume of helium that is subject to the delivery allocations. This approach could allow BLM to deliver any helium that nonrefiners purchased at auction separately from helium that is subject to the allocations. Under this approach, tolling could represent an opportunity for refiners to receive helium they otherwise would not be receiving. BLM and other Interior officials told us they believe the existing storage contracts provide the flexibility to BLM to make such adjustments. At least one refiner, however, has notified BLM

²⁷This is the case regardless of whether the nonrefiner purchasing the helium needs the helium to be tolled. For example, one representative from a nonrefiner we interviewed said the company is interested in building a new refinery on the pipeline and therefore would refine its own helium (and may be willing to toll for others). However, this company may not be able to receive delivery of the gas it may purchase in the fiscal year 2015 auction until after the existing storage contracts expire because of the contracts' delivery allocations.

that it finds that BLM's interpretation violates the act and the terms of the current storage contract.

Although potentially significant for fiscal year 2015, the challenges posed by the existing storage contracts may be reduced under certain market conditions. Specifically, BLM officials noted that the disincentive may be moot if refiners are not interested in receiving their full allocation of helium each month. For example, although the refiners have used their full allocations since fiscal year 2010, according to BLM officials, some refiners recently notified BLM that they are reducing their requested monthly delivery amounts from the pipeline because additional helium supplies have become available from other, private sources in other locations in the world. According to these officials, these conditions could make tolling more likely because, if refiners were accepting less helium from the federal system for their own use, they could have excess refining capacity available in their plants on the pipeline. At least one nonrefiner told us, however, that the availability of the additional supplies from other sources means they are not interested in having their federal helium tolled.²⁸

Furthermore, this challenge could be alleviated when new storage contracts are signed. BLM officials told us they plan to begin developing the terms of new storage contracts, and these contracts will go into effect in fiscal year 2016. These officials said they can modify the delivery allocations in the new contracts so that delivery of nonrefiners' helium does not result in a reduction of a refiner's delivered volume and instead would represent an opportunity for the refiner to accept delivery of helium it otherwise would not have received.

However, even with an incentive from BLM, refiners' and nonrefiners' conflicting interests will make it challenging for tolling to occur. BLM officials said that, even if refiners report having excess refining capacity, and that capacity is offered at commercially reasonable rates, the parties may still have difficulty finding mutually agreeable terms for delivering the refined helium. These officials said a major reason why more tolling has

²⁸One advantage of the federal helium system is that it provides an opportunity for companies to store their purchased helium for delivery at a later date. The BLM reserve is unique in its ability to store helium. According to BLM officials, companies that purchase crude helium from private sources must generally accept delivery of that helium when it is produced or pay for it anyway.

not occurred is that refiners and nonrefiners disagree over delivery terms. For example, some nonrefiners told us they are looking for some assurance of when and how much refined helium the refiners will deliver to them in certain months. Such an agreement might specify an overall volume to be tolled spread out over a number of months. These nonrefiners said they need some predictability so they can meet contractual obligations with their customers. However, some refiners said they cannot offer predictable volumes to nonrefiners, both because of existing obligations to their own customers and because their supplies are subject to interruptions that occur in the federal helium system, such as unexpected plant shutdowns. Some of these refiners told us they would offer to toll for nonrefiners as capacity comes available, but some of the nonrefiners we interviewed said that they are typically unable to use helium offered on short notice, in part because they need to secure commitments to provide refined helium in advance in order to satisfy their existing contracts.

Chairman Lamborn, Ranking Member Holt, and Members of the Subcommittee, this completes my prepared statement. I would be pleased to answer any questions that you may have at this time.

GAO Contact and Staff Acknowledgments

If you or your staff members have any questions about this testimony, 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 statement. Other individuals who made key contributions to this testimony include Jeff Malcolm (Assistant Director), Cheryl Arvidson, Carol Bray, Juli Digate, Leslie Kaas Pollock, and Jeanette Soares.

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