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UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

ENERGY AND MINERALS
DIVISION

B-114812

June 15, 1981

The Honorable James G. Watt
The Secretary of the Interior

Dear Mr. Secretary:

Subject: [Continuing Need for a National
Helium Conservation Policy] (EMD-81-91)

On March 7, 1979, we issued a report to the Congress entitled "Unique Helium Resources Are Wasting: A New Conservation Policy Is Needed" (EMD-78-98; see enc. II). We recommended enactment of new legislation redefining the Nation's helium conservation program to take cognizance of the changing needs for helium and to establish the objective of conserving helium resources to meet national requirements. We also recommended that the Secretary of the Interior, while working with the Congress for the development of a new helium policy, undertake steps necessary to conserve in the most efficient manner the helium from the Tip Top Gasfield in Wyoming--by far the Nation's largest known nondepleting reserve.

Since our report's issuance, no significant Federal helium conservation action has been taken. The previous administration did not fully agree with our recommendations. Also, bills focusing on helium's energy-related uses were introduced in the 96th Congress, but not enacted into law. Similar legislation has just been introduced in the Congress this year.

The purpose of this letter is to call the helium conservation issue to the attention of the present administration. We continue to believe the Department of the Interior should take the lead in helping to shape corrective legislation which would assure adequate long-term national supplies of helium. We also believe the next 2 to 4 years will be time critical for helium conservation at Tip Top.

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BACKGROUND

As you know, helium is currently used for a number of scientific and technical purposes, and may be essential to the future development and implementation of several energy-related technologies presently being researched. Helium resources are rapidly decreasing as their most economical sources--natural gas fields--are depleted, and as uncaptured helium is released to the atmosphere through the burning of natural gas. Of further concern is the fact that the natural gas with the greatest helium content is now being produced and will be substantially depleted within the years 1990 to 1995.

In 1960, with helium demand on the rise, primarily in the aerospace industry, the Congress passed the Helium Act. The act authorized the Secretary of the Interior to acquire lands; to implement helium purchase contracts; and to construct or acquire plants, pipelines, and other facilities for the production, storage, and sale of helium. It also required Federal agencies to purchase their major helium requirements from the Secretary to the extent supplies were readily available.

As part of this Federal helium conservation program, in 1961 the Bureau of Mines entered into 22-year helium purchase contracts with four private producers. Under the contracts, the companies financed, constructed, and operated five new helium extraction plants. The Bureau of Mines constructed a common collector pipeline to transport the helium to the Government's underground storage facility at Cliffside Gasfield in Texas. All private helium production purchased by the Government has been conserved. Federal needs have been met by production from two Federal extraction plants.

The Bureau's estimate that the program would support itself through helium sales did not hold true, however. In 1973, the four helium purchase contracts were effectively terminated after the Department determined that available and expected supplies of helium were sufficient to provide for essential Government activities, and after the Federal helium fund debt grew into the hundreds of millions of dollars. Since then, the helium suppliers have pursued lengthy damage suits against the Government for breach of contract.

As of 1979, when our report was issued, the Federal helium conservation program was virtually standing still. Because of the legal and financial problems, and the lack of a mandate to conserve for national needs, little Federal conservation was taking place. Because of the long-term nature of the investment and other disincentives, very little private conservation was taking place either.

OUR REPORT'S RECOMMENDATIONS

Our 1979 report concluded that until the helium litigation and financial problems of the Federal helium program were resolved, and until the Government took responsibility for total national and not just Federal agency needs, helium resources would continue to be lost. We recommended therefore that a new policy be enacted to better conserve helium for national needs. We specifically recommended that the Congress, with the aid and assistance of the Departments of the Interior and Energy, consider action on several alternatives for additional conservation:

- Insuring the conservation of potentially large nondepleting helium resources with priority consideration given to determining and acting on the most efficient means to conserve the helium in the Tip Top Gasfield in Wyoming.
- Removing the deterrents to the private storage of helium and eliminating the waste of helium from existing facilities.
- Authorizing additional measures, such as a new purchase program, should the first two approaches prove insufficient.

THE PRESENT SITUATION--DEPLETION
CONTINUES AND FEDERAL ACTION IS NEEDED

In the 2 years since we made these recommendations, the Government has not acted to support a new helium policy for national needs. Helium depletion continues as natural gas is produced, the largest private helium extraction plant is still not operating, and very soon only one Federal plant will produce the gas. Furthermore, minimal Government and private conservation efforts have barely added to the existing helium stockpile since 1979.

Research and development funding cutbacks¹ in the proposed 1982 Federal budget have touched on several helium-related technologies. However, funding for magnetic fusion, a potentially large user of helium, has increased and, in our view, the other cuts do not indicate that the ongoing Federal commitment to developing helium dependent technologies will soon end.

The prospects for future conservation have been aided by the settlement of long-running litigation that has constantly hampered past conservation efforts. Two of the four breach of contract damage suits against the Government have been settled--at a cost of about \$50 million. Prospects are good that the other suits will be settled in 1 to 2 years. Also, the helium value litigation which also impeded conservation seems to be well on the road to settlement.

A far more important consideration to future conservation, however, is the private exploratory drilling programs underway in the Tip Top Gasfield, preparatory for a 1984 or 1985 production startup. Of the Nation's total nondepleting helium reserves of 88 billion cubic feet, 45 billion cubic feet are estimated to be in Tip Top. In fact, the Bureau of Mines is reasonably optimistic that much more natural gas and thus more helium is in Tip Top than is currently listed as reserves. Until 1978, Tip Top was expected to lie dormant until the year 2000 or later. But the prospects of rising gas prices altered the plans of its principal developer, the Mobil Oil Corporation.

A Bureau of Mines decision on how to deal with the helium conservation aspects of opening this field to production awaits the outcome of technical and legal studies, and more definitive production plans on what may be a very large gas reserve. Nevertheless, the giant size of the field places a special burden on the Bureau and the Department of the Interior to assure that its helium is not wastefully depleted.

In commenting on our 1979 report, the Department took the position that Tip Top's potential for helium conservation is being adequately accounted for under the existing program. However, we continue to doubt the Department's ability to fund and support a long-range storage program for Tip Top helium under the existing program, because of its financial problems and because of Interior's position that the helium program should be limited to providing for Federal agency needs. We believe that the Department's commitment to a national policy and elimination of the current program's financial problems are needed to enhance the feasibility of a long-term Tip Top conservation effort. We also believe that the Department should monitor the Tip Top situation closely and prepare the necessary legislative and financial groundwork for Tip Top conservation.

NEED FOR FEDERAL POLICY INITIATIVES

Bills were introduced in both sessions of the 96th Congress focusing on energy-related uses of helium, but none have been enacted into law. Identical legislation (H.R. 3877) was just introduced in this session of the 97th Congress.

Based on our earlier report and recent followup work, we support a number of the specific measures H.R. 3877 would take or allow, including the write-off of the existing helium fund debt. This debt, currently standing at over a half of a billion dollars, is traceable to the outmoded financial structure established by the 1960 Helium Act. The fiscal problems probably contributed significantly to the end of the Federal purchase program in 1973 and have discouraged new conservation efforts. The Congress could alleviate this problem by dismissing the debt of the 1960 program. Future revenues could be forwarded directly to the Treasury.

We also support H.R. 3877's proposals to conserve from existing helium extraction plants, establish long-range conservation goals for helium, and require Federal agencies to purchase helium from the private sector. However, we are concerned about the bill's transfer of all helium responsibilities to the Department of Energy; the absence in the bill of a specific reference to conserving Tip Top Gasfield helium in order to meet helium reserve goals; the absence in the bill of a tax provision to encourage private helium storage, and the future focus on a new helium purchase program. A copy of our comments on last year's helium bill (H.R. 7336), which is identical to H.R. 3877, is attached.

CONCLUSIONS AND RECOMMENDATIONS

The helium management dilemma outlined in our 1979 report remains equally challenging today. No adequate national helium conservation policy exists, though the need for one grows as the Tip Top field nears production. The next 2 to 4 years are time-critical for conserving helium. Proper congressional focus on this issue, encouraged by your Department's interest in and support for appropriate corrective legislation, could do much to assure adequate national supplies of helium in coming decades.

In 1980 the Congress enacted the National Materials and Minerals Policy Research and Development Act. It establishes the Executive Office of the President as the locus of policymaking in this area. However, the Executive Office has not yet determined how it intends to implement the materials and minerals policy coordination functions assigned it by the 1980 act. During the interim, we urge the Department of the Interior to take the lead in promoting a unified Executive Branch helium policy position and supporting the enactment of a new national helium conservation policy.

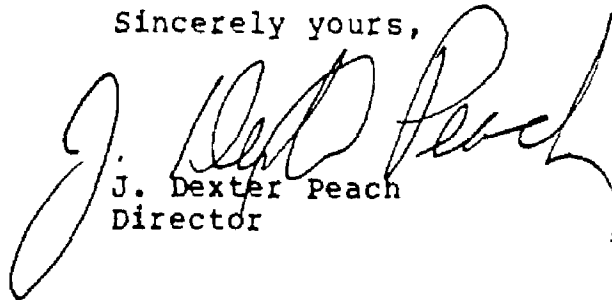
We believe the Department of the Interior should give immediate attention to ensuring that the long-range conservation of the Tip-Top Gasfield is not limited to fulfilling Federal agency needs, and is not impeded by the financial problems of the present helium program. Accordingly, we repeat our earlier recommendation that you take the necessary steps to conserve helium from the Tip Top Gasfield in the most timely and efficient manner, including the preparation of a comprehensive conservation plan and related budget requests. We also recommend that the Department develop and make available to the appropriate congressional committees its views on legislation to restructure the Nation's helium conservation program along lines which assure adequate long-range national helium supplies.

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As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written statement on actions taken on our recommendations to the House Committee on Government Operations and Senate Committee on Governmental Affairs not later than 60 days after the date of the report; a like statement to the House and Senate Committees on Appropriations should accompany the agency's first request for appropriations made more than 60 days after the date of the report.

We are sending copies of this report to the Acting Director, Bureau of Mines, to congressional committees which are interested in helium, and to the Secretary of Energy.

Sincerely yours,



J. Dexter Peach
Director

Enclosures - 2



COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

October 7, 1980

B-114812

The Honorable Harley O. Staggers
Chairman, Committee on Interstate
and Foreign Commerce
House of Representatives

Dear Mr. Chairman:

As you know, GAO issued a March 7, 1979 report entitled: "Unique Helium Resources are Wasting: A New Conservation Policy Is Needed" (EMD-78-98). At your request, GAO officials testified on March 8, 1979, on the need for a new helium policy before the Subcommittee on Energy and Power of the House Committee on Interstate and Foreign Commerce. Included in that testimony and a follow-up letter were our comments on H.R. 2620, a helium policy bill that was introduced on March 6, 1979.

The helium conservation objectives of H.R. 2620 have been incorporated into a new bill, H.R. 7336, that was introduced May 13, 1980. Although your committee has already reported on this bill in House Report 96-1022, other committees are still considering the bill. This letter which is being sent to all of these committees, contains our comments on this latest helium legislative initiative.

H.R. 7336, if enacted, would repeal the existing Helium Act and become the Helium-Energy Act of 1980. A Helium Reserve Office would be established in the Department of Energy (DOE) to administer the act. Under the law the Secretary of Energy could buy all helium offered to him for sale at \$1.00 per thousand cubic feet for storage in a helium reserve. Repurchase rights would remain with the gas producer. The Secretary would be responsible for managing and maintaining helium storage and related facilities in order to meet the objectives of the act.

GAO continues to support legislation to establish a new helium conservation policy. In addition, we support a number of specific measures H.R. 7336 would take or allow including (1) the write-off of the existing helium fund debt; (2) efforts to conserve from existing helium extraction plants; (3) the establishment of long-range conservation goals for helium; and (4) the requirement of Federal agencies to purchase helium from the private sector.

However, we do have concerns about the following areas:

- (1) The bill's transfer of all helium responsibilities to DOE.
- (2) The absence in the bill of a specific reference to conserve Tip Top Gasfield helium in order to meet helium reserve goals.
- (3) The absence in the bill of a tax provision to encourage private helium storage.
- (4) The future focus on a new helium purchase program.

The following sections describe these concerns in more detail.

Transfer to DOE

While energy technologies are presently seen as potentially large users of helium, helium's unique attributes may also require its use in a wide range of technologies. We question whether DOE's management of the helium conservation program would be sensitive to a wide spectrum of potential needs. DOE, in addition, has not supported helium conservation for any purpose and is opposed to H.R. 7336. Further, we believe that the Department of the Interior is the appropriate agency to oversee management of a natural resource--especially one that has a number of potential uses. However, DOE should increase its focus on the helium conservation needed to meet important future energy uses.

For these reasons, we did and continue to recommend that the primary responsibility for Federal helium conservation remain within the Department of the Interior. We also recommend that the Department of Energy assume increased helium conservation responsibilities including the analysis of energy-related helium demand and the assumption of funding responsibility for helium conserved for energy needs.

Need For Special Consideration of the Tip Top Gasfield

An important helium conservation step is not specifically provided for in H.R. 7336. We believe that the bill should require and authorize funding for the conservation of the Federally leased Tip Top Gasfield in Wyoming. The Tip Top field is a unique high grade helium rich deposit and the conservation of the over 70 billion cubic feet of helium that may be in Tip Top, plus the over 40 billion cubic feet already in Government storage would

ensure that the bill's helium reserve goal of 85 billion cubic feet by 1990 would be met.

The Department of the Interior has not yet planned how it will manage Tip Top's conservation, even though the Mobil Corporation plans to begin producing gas from the field in 1983. According to the Bureau of Mines, it is having difficulty obtaining needed test drilling information from Mobil, and this is delaying their planning process.

In our helium report we calculated that about 15 billion cubic feet would be available from existing extractors before 1990, when demand will exceed supply. Thus, under the proposed purchase program the helium reserve would only be raised to 55 billion cubic feet. Furthermore, such a purchase program may be delayed by administrative and legal problems. Therefore we recommend that the legislation focus on the potential vast helium reserves of the Tip Top Gasfield and provide for its conservation. Interior should be given the responsibility of providing for the Congress within six months or so a strategy which would set forth the program to be used to recover the helium from Tip Top.

Need For Tax Authority

GAO also believes that any new helium law should clearly remove existing tax disincentives to private storage. Helium is extracted by some natural gas companies as part of an integrated process that produces a fuel product. Removing helium and other noncombustible gases, such as nitrogen from the gas, increases its fuel value. If the helium is removed and the producer cannot sell it, he can either vent it or store it. If the producer elects to vent the helium, he can deduct the cost of extracting and venting as part of his cost of fuel production. This procedure provides an immediate cost recovery incentive. But, if he stores it, in effect converting the helium to an asset, he cannot deduct the cost of extraction until he sells it. Under Federal income tax law, the entire cost of producing helium must be capitalized if it is stored as an asset. This tax treatment conforms to normal accounting practice as reflected in the tax code.

GAO recommended in our March 1979 helium report that the Federal Internal Revenue Code be amended so that the cost of helium produced for conservation need not be capitalized but rather can be immediately written off as a production expense. Of course, when the helium is ultimately sold the costs cannot be claimed a second time.

The language in the bill implementing the Helium Reserve is unclear about the write-off of helium extraction expenses for tax purposes. Section 403 implies, but does not make clear, that gas producers selling helium to the Government for \$1.00 per thousand cubic feet would be allowed to write-off extraction expenses for income tax purposes. The inability to write-off extraction expenses for tax purposes at the time incurred is a significant deterrent to private storage and warrants specific attention in any new helium legislation.

Need for a New Purchase Program

In our March 1979 testimony, we endorsed the need for a new helium policy that would increase conservation through incremental steps--the most important of these being the conservation of Tip Top and the encouragement of private sector storage. We also discussed the need for on-going analysis of helium demand-supply projections which may lead to the justification for a new helium purchase program.

While we encourage efforts to conserve the helium that has been wasting from existing extraction plants, the purchase program that would be established by H.R. 7336 would not likely provide an incentive for the construction of new helium extraction capacity. The program would only save the 15 billion cubic feet that is available from existing fields where extraction plants are already in place. A much higher sales price would be needed to encourage construction of new extraction capacity. If Tip Top helium alone is conserved the 1990 helium reserve goal established in the bill would likely be met. GAO recommends, however, that the new legislation require the Department of the Interior with input from the Department of Energy, to conduct a continuing analysis of helium demand-supply relationships, specifically looking toward a decision point when the sales price should be increased in order to conserve additional amounts of helium.

Conclusion

As stated in our March 8, 1979 testimony, GAO believes that the enactment of tax and other measures to encourage private facilities to store helium, the introduction of measures to conserve non-depleting fields, and a determination of the means to conserve the helium in the Tip Top field are preferable first steps for additional helium conservation. Of all of these, priority should be given to conserving Tip Top, by far the most important new source of helium in the United States. H.R. 7336, if enacted with specific attention directed toward conserving Tip Top, would go a long way towards enhancing helium conservation

concerns. In addition, the groundwork needs to be laid to develop an adequate on-going supply-demand analysis which should lead to the economic justification for a new helium purchase program in the future.

Please let us know if we can be of further assistance as you consider this legislation.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "James G. Stealy".

Comptroller General
of the United States

BY THE COMPTROLLER GENERAL

Report To The Congress

OF THE UNITED STATES

Unique Helium Resources Are Wasting: A New Conservation Policy Is Needed

Large amounts of unique, nonrenewable helium are lost each year as its most economical source, natural gas, is used as fuel. The Government should act on available alternatives to conserve helium because of its large continuing investment in helium-dependent, energy-related, technologies. These technologies may sharply increase demand after the year 2000 when helium resources are expected to be scarce.

Before available conservation alternatives can be adequately considered, the Congress needs to legislate a policy which would establish Federal responsibility for conserving helium for national needs. The present helium program is at a standstill, limited in scope, and hampered by legal and financial problems to such an extent that no new helium conservation efforts are likely to occur without congressional action.

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EMD-78-98
MARCH 7, 1979