

11995  
110831

United States General Accounting Office  
Washington, D.C. 20548



FOR RELEASE ON DELIVERY  
Expected at 11:00 a.m.  
Friday, November 2, 1979

STATEMENT OF  
J. DEXTER PEACH, DIRECTOR  
ENERGY AND MINERALS DIVISION  
BEFORE THE  
SUBCOMMITTEE ON ENERGY RESEARCH,  
AND PRODUCTION  
HOUSE COMMITTEE ON SCIENCE AND TECHNOLOGY  
ON  
[OMNIBUS GEOTHERMAL LEGISLATION]

*HSE 03512*

Mr. Chairman and Members of the Subcommittee:

I appreciate the opportunity to be here this morning to discuss the proposed Omnibus Geothermal Energy Commercialization Act of 1979 (H.R. 5187) and the Omnibus Geothermal Energy Development Act of 1979 (H.R. 4471).

Geothermal development has proceeded at a slow pace. Economic, technical, and institutional constraints have impeded its development. Geothermal energy nevertheless has the potential to make a contribution to the Nation's energy needs. These proposed bills would, among other things, amend existing geothermal leasing and permitting laws, and provide additional Federal initiatives and incentives to aid the accelerated development of geothermal energy. We have done substantial work in the geothermal area. We have recently issued a report on geothermal leasing activities, and have efforts underway looking at geothermal loan guarantees and geothermal research and development activities.

*AGC 00912 SEN 06300  
HSE 02303*

007753

FEDERAL GEOTHERMAL LEASING  
ACTIVITY

First, I would like to briefly discuss our recent work involving geothermal leasing activities. At the request of the Chairman of the Senate Committee on Energy and Natural Resources, we looked at the manner in which Federal lands are leased for geothermal development. Our work was aimed at the Geothermal Steam Act of 1970; the methods used to carry it out; and whether its implementation has impeded development on Federal lands. As we stated in recent testimony <sup>1/</sup>, leasing and permitting delays are not in themselves the only, or even the primary, reasons for the slow pace of geothermal development. On the whole, economic and technical constraints are considered to be the major impediments to geothermal development. However, we certainly believe leasing improvements are needed. As we stated in recent testimony we favor certain changes that are being considered in these bills. At this point I would like to provide copies of our recent testimony, which discusses these proposed changes, for the record. Also, I am providing for the record, a copy of our report on the leasing program which was issued just a few days ago.

---

<sup>1/</sup>GAO testimony before both the Senate Committee on Energy Resources and Materials Production and the Subcommittee on Mines and Mining, House Committee on Interior and Insular Affairs on July 20, 1979, and September 6, 1979, respectively.

This, Mr. Chairman, would permit us to move on to the proposed Federal incentives and initiatives in these bills for developing and using geothermal energy in which I understand your Committee is more directly interested. For the most part, I will be focusing on the following key features:

- Provisions relating to the geothermal loan guarantee program.
- Direct loan and reservoir insurance provisions.
- Provisions for designating priority geothermal energy projects.

PROVISIONS RELATING TO THE  
GEOHERMAL LOAN GUARANTEE  
PROGRAM

We are currently reviewing the geothermal loan guarantee program at the request of the Chairman of the Subcommittee on Energy and Power, House Committee on Interstate and Foreign Commerce. Chairman Dingell's office has given us permission to disclose the nature of our work and our findings to date to facilitate this testimony. Based on that work, we have a number of comments pertaining to the geothermal loan guarantee program provisions of these bills.

The geothermal loan guarantee program, which was established in 1974 to encourage and assist the commercial development of geothermal resources, has had only limited participation and effect on accelerating geothermal development. Only four loan guarantees have been approved to date. DOE, however, expects increased interest in this program due to the tax

incentives for geothermal energy provided in the Energy Tax Act of 1978, and certain amendments made to the loan guarantee program in 1978. We believe the limited participation in this program to date, however, indicates a need to carefully consider and design incentives and initiatives so that they can help geothermal development in the most effective and timely manner.

Section 204 of H.R. 5187 and Section 305 of H.R. 4471 would raise the loan guarantee limit from 75 percent to 90 percent of the principal costs of any project if the guarantee is made for a loan to (1) an electric, housing or other cooperative or to a municipality and (2) a publicly-owned utility, including municipal utilities, geothermal utility districts, rural cooperatives, and small businesses, as defined by the Secretary of Energy, respectively. Our work has shown that the current 25 percent equity requirement of the loan guarantee program limits participation by certain parties in the program, especially those small users or producers who have difficulty in meeting this requirement. To make the program available to more participants a relaxation of the 25 percent equity requirement appears necessary.

Section 306 of H.R. 4471 would authorize a number of agencies, with the approval of the Secretary of Energy to make loan guarantees using the Geothermal Resource Development Fund which is administered by DOE. We question whether this provision is needed. Our work indicates that the program has been

plagued by administrative delays that have hampered its effectiveness. To a large extent these delays have resulted from cumbersome and redundant administrative procedures by the Department of Energy and the Department's excessive involvement in the details of program administration. Involvement by these other agencies in the program could only serve to add layers to the existing bureaucracy thereby creating additional administrative problems.

Section 309 of H.R. 4471 requires the Secretary of Energy to establish new procedures for processing of loan guarantee applications, and requires that all such applications be approved or disapproved within 4 months of the date of filing. It also requires the Secretary to expedite consideration of applications for non-electric uses of geothermal energy.

Our work has shown that there have been delays in reviewing and approving loan guarantee applications. The time required to approve the four loan guarantee projects ranged from 6.5 to 21 months. These delays frustrate and discourage geothermal developers who have significant funds tied up in these applications and projects. Delays are especially burdensome for the small non-electric producer/user who cannot afford to have his funds tied up.

Thus, the results of our work support the need for the Department of Energy to speed up its application review and approval process. DOE officials have acknowledged the problem of the lengthy review time for loan guarantee applications,

but told us that it would be impossible to process an application in 4 months. DOE recently developed and implemented a plan to shorten review time to 6 months--4 months for field review, and 2 months for headquarters review. It is difficult to say whether 4 months is or is not the appropriate period but we believe DOE's plan is a step in the right direction and we expect to make recommendations to the Secretary of Energy that would help ensure that the 6-month review time guideline is met and that no "fat" remains in the review process. We also agree that efforts should be made to expedite consideration of applications for non-electric uses of geothermal energy.

DIRECT LOAN AND RESERVOIR  
INSURANCE PROVISIONS

Both H.R. 5187 and H.R. 4471 contain provisions authorizing direct loans for geothermal development. The bill H.R. 4471 also would authorize the Secretary of Energy to establish a program to provide reservoir insurance to qualified, eligible applicants who are unable to obtain commercial insurance at reasonable premiums.

Our recent work in the geothermal program has shown that economic and technical constraints to geothermal development are of a widely varying nature. These include:

- lack of reliable detailed resource information;
- lack of proven technology for defining, extracting, and using most of the recoverable resource,

- complexities of administrative and regulatory requirements on geothermal development, and
- insufficient knowledge of possible environmental impacts and control technology.

In addition, our work has shown that a number of problems in managing the program has contributed to geothermal's slow development.

Although DOE is making some progress toward removing these constraints, much work remains to be done. In this connection, we have a draft report currently with DOE for comments which discusses the need for certain improvements in the management of the program. We have also noted that the National Energy Act of 1978 provided a number of incentives which should help to further stimulate geothermal development. However, there remains considerable uncertainty as to the extent or magnitude of the amount of geothermal energy that could result from these incentives and other actions or improvements being made by DOE.

Thus, while we generally favor financial incentives and other initiatives for promoting geothermal development and use, care must be taken to ensure that such incentives and initiatives are those which most directly overcome the constraints facing geothermal development and which thereby promise the most development for the funds expended. To this end, we believe that before initiatives such as those set forth in these bills calling for direct loans and reservoir insurance are enacted, DOE should make the Congress fully aware of the impact

each such incentive or initiative could have on all phases of geothermal development, and the estimated annual costs involved. In this way, the Congress would be in a better position to judge and decide on which incentives or other initiatives are best for aiding geothermal development.

In addition to this overall observation regarding the direct loan and reservoir insurance provisions of these bills, we have a number of specific concerns. First, these provisions would place DOE in the position of becoming a direct lender and insurer for private parties interested in developing and using geothermal energy. In our review of the geothermal loan guarantee program we noted that program participants have been frustrated by DOE's heavy involvement in the program, and the bureaucratic red tape involved in administering the program may be discouraging others from participating. We have similar concerns relative to these two provisions and would prefer that DOE operate through intermediaries, such as banks and private insurance companies. This would result in establishing more rapidly the normal business channels and relationships that will be needed to develop the geothermal industry.

We have a second concern relating to the provision for direct loans, especially the forgivable nature of these loans. Our work for Chairman Dingell has shown that the prospects for greater participation in the geothermal loan guarantee program look increasingly promising. Increased availability of venture capital, better market conditions, and gains in technology



should have a positive effect on that program's ability to attract more participants. Our concern is that the Government's involvement in making direct loans, particularly forgivable loans, could undermine the loan guarantee program efforts and the prospects for greater program participation.

PROVISIONS FOR DESIGNATING  
PRIORITY GEOTHERMAL ENERGY  
PROJECTS

Title IV of H.R. 4471 would enact the Priority Geothermal Energy Project Act of 1979. This would provide, among other things, for a coordinated, prompt, and simplified process for Federal approval of geothermal energy facilities that are determined to be in the national interest. It would authorize the Secretary of Energy to designate a proposed geothermal energy facility as a priority geothermal energy project and to establish procedures for obtaining all the Federal actions and decisions relating to such projects.

We believe there is a valid rationale for establishing a program for expediting energy projects considered to be in the national interest. There are, however, several bills being considered by the Congress which would establish such a program. These bills would also establish a Energy Mobilization Board which would set forth criteria for designating priority projects and for expediting their approval. We understand that the chances for passage for this type of legislation is highly probable.

We have recently performed an examination of the Energy Mobilization Board proposals. 1/ Based on that examination, we believe Title IV of H.R. 4471 should be limited to authorizing the Secretary of Energy to select a proposed geothermal energy facility for submission, as a candidate for an order designating it as a priority energy project, to the Energy Mobilization Board. Title IV could retain the provisions on how the Secretary would select projects but should delete all other procedures on obtaining the necessary Federal actions and decisions for carrying out the priority energy project. These procedures are contained in the separate legislation, expected to be enacted, that would establish the Priority Energy Project Act of 1979 and the Energy Mobilization Board.

- - - - -

Finally, we note with considerable interest that H.R. 4471 would require the Secretary of Energy to initiate full and complete reviews of all relevant considerations associated with the significantly accelerated development of geopressured methane and hot dry rock systems, and the need for environmental control technology to support the significantly accelerated development of all forms of geothermal energy. The Secretary would be required to submit reports to the Congress within 6 months of enactment of this bill with appropriate recommendations for any

---

1/"The Review Process for Priority Energy Projects Should Be Expedited" (EMD-80-6, October 15, 1979).

administrative or legislative action necessary to support such accelerated development.

We generally agree with the thrust of these provisions. Both hot dry rock systems and geopressured methane are reported to have a large potential for contributing to the Nation's energy needs. However, as the bill points out there is a need to review the technical, legal, institutional, and regulatory barriers associated with any accelerated development of these energy resources. We believe such a review and report should help provide the Congress with information useful in determining whether and to what extent development of these geothermal energy resources could be accelerated.

Mr. Chairman that concludes my prepared statement. We would be pleased to answer any questions at this time.

