



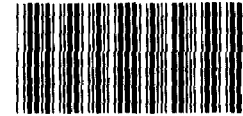
UNITED STATES GENERAL ACCOUNTING OFFICE  
WASHINGTON, D.C. 20548

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ENERGY AND MINERALS  
DIVISION

March 11, 1982

B-198431



117807

The Honorable James B. Edwards  
The Secretary of Energy

Dear Mr. Secretary:

Subject: Concerns Over Plans to Construct an Experiment  
Test Area and Laboratory Building for the  
Solar Energy Research Institute (EMD-82-57)

The General Accounting Office has been monitoring the Department of Energy's (DOE's) efforts to establish a permanent facility for the Solar Energy Research Institute (SERI) <sup>1</sup>/ in Golden, Colorado, which includes the construction of an experiment test area and laboratory building. We recently learned that DOE has decided to proceed with plans to construct the experiment test area and laboratory building. We are concerned whether this test area and laboratory building will be fully utilized in the years following construction, particularly in light of the uncertainties regarding the future of Federal solar energy programs brought on by recent declining budgets. It appears inconsistent that DOE will be constructing them when the programs to be served by these facilities are being reduced.

SERI began operations in July 1977 in leased office buildings. Because these buildings were built as offices and not laboratories, DOE and SERI officials believed that the leased office buildings limited SERI's ability to fulfill its objectives. They also believed that many costly modifications would be needed to use the buildings as laboratories. Therefore, DOE supported the construction of a permanent facility for SERI.

DOE's original plan for the permanent facility consisted of a main laboratory/office complex and a nearby experiment test area and support facilities which included a laboratory building.

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<sup>1</sup>/SERI is authorized by the Solar Energy Research, Development, and Demonstration Act of 1974 (Public Law 93-473, Oct. 26, 1974) to perform research, development, and other functions necessary to promote solar energy.

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DOE planned to construct the permanent facility on 300 acres of land to be donated by the State of Colorado 1/ specifically for the facility. The facility was initially estimated to cost \$127 million. This amount was later reduced by DOE to \$75 million. The facility was to be constructed in various phases with initial efforts including the construction of the experiment test area and support facilities.

The fiscal year 1979 appropriations for DOE included \$3.0 million for the design efforts related to SERI's permanent facility. Additional appropriations of \$6.9 million and \$5.0 million were provided for further design work on the permanent facility in fiscal year 1980 and fiscal year 1981, respectively, for a total of \$14.9 million. No funds were appropriated for the facility in fiscal year 1982.

The administration's budget for fiscal year 1982 called for substantial cuts in funding for the permanent facility and for the DOE solar programs, portions of which were to be carried out at SERI. In light of these cuts, DOE took actions in February 1981 to defer activities on the permanent facility. DOE initiated steps to reassess the role and mission of SERI and assess the size and cost of the permanent facility. In September 1981, there were indications that DOE was planning to defer activities on the permanent facility indefinitely because of further pending budget reductions.

However, in a November 10, 1981, press release you announced DOE's decision to proceed with plans to construct the experiment test area and laboratory building. DOE plans to use prior years' appropriations for the construction. Of the \$14.9 million appropriated, approximately \$8.6 million remains available after initial design related expenditures. DOE plans to use approximately \$6.1 million of the remaining \$8.6 million to construct the laboratory building and the rest for site improvements for the experiment test area, contingencies, and engineering fees. Construction is planned to begin in March 1982 and expected to be completed in February 1983.

We have expressed concerns in the past over DOE's efforts to construct the experiment test area and laboratory building. We stated these concerns in a report to you dated April 27, 1981, on the subject "Concerns Over Efforts to Put in Place a Permanent Facility for the Solar Energy Research Institute (EMD-81-68)." In the report, we stated that further design efforts on the experiment test area and associated support facilities, which include

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1/The deadline imposed by the State of Colorado for transferring the title of the land to DOE was February 1, 1982. The State initiated the transfer of the title in January 1982.

the laboratory building, should not proceed without adequate justification.

In a letter dated September 3, 1981, DOE responded to our report pointing out that it believed the construction of the experiment test area and support facilities was adequately justified. DOE, however, agreed that the size and scope of the construction should be consistent with the current and projected work planned for SERI. DOE added that "this approach should minimize possible underutilization of the facilities in the future."

Our current concern is whether the experiment test area and laboratory building will be fully utilized in the years following construction. We obtained the justification for the construction and discussed it with DOE officials responsible for administering the activities to be carried out in the test area and laboratory building. The justification indicates that the test area is to provide capabilities for operating and testing full-size solar systems under actual outdoor conditions. The laboratory building is to house specialized research equipment and facilities for experiments. DOE's justification for the laboratory building shows that initially it will be used primarily for DOE's work in alcohol fuels. The laboratory building will also be used for DOE's biomass work. DOE officials stated that the laboratory building will, however, incorporate sufficient flexibility to accommodate other solar research programs should program needs change.

We question DOE's decision to construct the experiment test area and laboratory building because of the current uncertainties surrounding the future of Federal solar energy programs. Not only has funding for DOE's overall solar energy programs declined, but more notably, funding for the alcohol fuels and biomass activities, which are to be carried out in the laboratory building when constructed, has also decreased. The following table illustrates the magnitude of these declines and the prospect for further cuts.

Funding Levels (note a/)

	<u>FY 1981</u>	<u>FY 1982</u>	<u>Proposed FY 1983</u>
	------(in millions)-----		
DOE's total solar energy programs	\$431.0	\$247.4	\$71.7
Funds included for alcohol fuels activities	18.0	10.0	2.9
Funds included for biomass activities	30.9	19.5	6.6

a/Operating expenses only. No additional funds have been provided in either the FY 1982 or FY 1983 budgets for constructing the SERI permanent facility.

With these declines, funds provided to SERI from the DOE solar energy programs have similarly been reduced from approximately \$100.4 million in fiscal year 1981 to about \$41.6 million in fiscal year 1982. Funds to be provided in fiscal year 1983 are uncertain because of the pending congressional action on the budget.

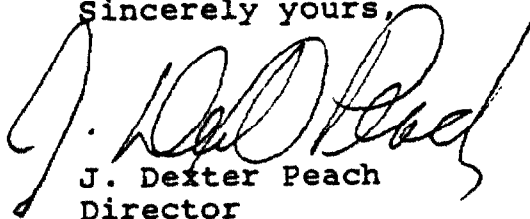
Clearly, based on these budget declines, the administration's commitment to the solar energy programs is waning, and the outlook for continued Federal support seems uncertain. DOE recognized the precarious situation brought on by the budget cuts when it earlier deferred activities on the permanent facility. In the face of these uncertainties, however, DOE has decided to proceed with plans to construct the experiment test area and laboratory building. Although DOE had indicated in its response to our earlier April 1981 report that it would take steps to ensure the experiment test area and laboratory building will be fully utilized, we are nevertheless concerned whether future funding will be sufficient to support that objective.

In view of the current uncertainties brought on by the past and proposed budget cuts in the Federal solar energy programs and particularly in the alcohol fuels and biomass activities which the laboratory building is to accommodate, we would appreciate being informed of your rationale for proceeding with the construction of the experiment test area and laboratory building. We would also appreciate being apprised of the steps that you have taken or plan to take to ensure that the experiment test area and laboratory building will be supported and fully utilized during the years following construction. Furthermore, we are interested in knowing the extent to which DOE has considered using other existing facilities that may become available due to the budget

cuts in the solar as well as other DOE programs, instead of constructing these new facilities.

In view of DOE's plans to begin construction in March 1982, we request your prompt response to this letter. Because of the interest indicated by a number of congressional committees in matters dealing with the SERI permanent facility, we plan to make copies of this letter and your response available to those committees.

Sincerely yours,

A handwritten signature in black ink, appearing to read "J. Dexter Peach". The signature is written in a cursive style with a large initial "J" and a long, sweeping underline.

J. Dexter Peach  
Director