REPORT BY THE U.S.

General Accounting Office

Large Businesses Dominated Awards Made Under DOE's Alternative Fuels Program

DOE has conducted two rounds of competition for feasibility study and cooperative agreement awards under its alternative fuels program. With respect to non-alcohol fuels technologies, large businesses dominated the awards in both rounds; small businesses received a much smaller share. While the capital-intensive nature of the projects involved and the desire to maximize alternative fuels production in the shortest possible time made selecting large businesses more likely, GAO found that DOE's evaluation process and criteria also contributed to this outcome.

For small businesses to have a greater involvement in future alternative fuels competitions, a stronger commitment to small business involvement will have to be made and associated steps taken. Such steps could include

--providing assistance in proposal writing,

--having small business advisors on proposal evaluation teams,

--establishing targets for small business participation, and

--setting aside a percentage of available funds for small business awards.

EMD-81-86
MAY 15, 1981

Request for copies of GAO reports should be sent to:

U.S. General Accounting Office
Document Handling and Information
Services Facility
P.O. Box 6015
Gaithersburg, Md. 20760

Telephone (202) 275-6241

The first five copies of individual reports are free of charge. Additional copies of bound audit reports are $3.25 each. Additional copies of unbound report (i.e., letter reports) and most other publications are $1.00 each. There will be a 25% discount on all orders for 100 or more copies mailed to a single address. Sales orders must be prepaid on a cash, check, or money order basis. Check should be made out to the "Superintendent of Documents".

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

ENERGY AND MINERALS
DIVISION

B-203152

The Honorable Thomas F. Eagleton
United States Senate
The Honorable John D. Dingell
Chairman, Committee on Energy
and Commerce
The Honorable Virginia Smith
The Honorable Richard A. Gephardt
House of Representatives

By separate letters 1/ you requested that we evaluate selected aspects of the Department of Energy's (DOE's) alternative fuels program. In response to these requests, and as agreed with your offices, we are concentrating our efforts on the alcohol fuels portion of the program. The results of that work will be presented in a subsequent report. As further agreed, we separately analyzed the awards made by DOE in technologies other than alcohol fuels. 2/ This report addresses that separate analysis.

In addressing the awards made by DOE in the non-alcohol fuels technologies, you requested that we assess the first and second rounds of DOE's feasibility study and cooperative agreement competitions to determine the percentage of funds which went to large corporations, and to evaluate the criteria used by DOE to make its selections. Relatedly, you expressed concern that small businesses may have had limited opportunity to participate in DOE's program and asked for guidance or recommendations on how to enhance opportunities for small businesses in future competitions.

In analyzing the proposers selected for awards, we compiled financial background information from individual proposals and corporate annual reports, and made extensive use

---

1/The letters were dated Dec. 12, 1980, Jan. 8, 1981, Dec. 19, 1980, and Jan. 22, 1981, respectively.

2/For purposes of this report, alcohol fuels mean ethanol or methanol produced from biomass. A listing of the technologies covered in this report is included as appendix I.

of available reference materials such as Moody's manuals, Fortune, Directory of Corporate Affiliations, and Who Owns Whom: North America. We excluded from our review the solid waste technology because most of the related awards were made to governmental bodies or educational institutions and not corporations. In the remaining technologies, we tabulated the awardees as either small businesses, large businesses, or other. In conducting its competitions, DOE had proposers classify themselves as a small business in their proposals, when applicable. 1/ We identified small business proposers based on these self-classifications. We then counted awardees such as Indian tribes and governmental bodies in the "other" category. We considered the balance of the awardees to be large businesses. To gain a perspective on the financial resources of these large businesses, we further categorized them by corporate assets.

In examining DOE's criteria and procedures, we reviewed solicitation documents, evaluation guidelines and reports, selection statements, and related documentation. Further, we interviewed DOE officials involved with evaluating proposals in the coal liquids, high-Btu coal gas, low- and medium-Btu coal gas, and oil shale technologies. We also interviewed small business proposers in these technologies, both winners and losers, to obtain their perspective on the fairness of DOE's criteria and evaluation process.

Concerning the awards made, large corporations received over 80 percent of program funding and small business proposers received a much smaller share. We found that the criteria and evaluation process used by DOE to make its selections, as well as the capital-intensive nature of the technologies themselves, contributed to this result. Relatedly, a number of small business proposers we spoke with stated that DOE led them to believe that small business proposals would be viewed favorably during the evaluation process when, based on their understanding of the process that actually took place, they believed DOE did not give serious consideration to their proposals. Overall, the experience on this program suggests that DOE did not make a strong commitment to enhancing small business participation.

1/DOE defines a small business concern as one, including its affiliates, which is independently owned and operated, is not dominant in the field of operation in which it is bidding on Government contracts, and which can further qualify under criteria set forth in regulations of the Small Business Administration.

The following sections provide background on the feasibility study and cooperative agreement portions of DOE's alternative fuels program, an analysis of the awards in terms of large and small business awardees, observations on the evaluation criteria and process used to select awardees, and our conclusions relative to these issues. We are not making recommendations at this time because our related review of the awards made in the alcohol fuels technology area is still underway. Any recommendations we may ultimately have will be contained in our report on that review.

BACKGROUND

Under various pieces of legislation, 1/ DOE was authorized and funds were appropriated to carry out a program aimed at stimulating domestic commercial production of alternative fuels. As an element of the program designed to achieve this objective, DOE twice solicited proposals for feasibility study grants and cooperative agreements in a variety of alternative fuels technologies. Feasibility study awards were to be used to accelerate assessment of the technical and economic feasibility of proposed commercial alternative fuels plants or for preliminary design work and environmental monitoring and analysis. Cooperative agreements were to be used to advance projects from the feasibility stage to construction and operation by funding activities such as preparing final designs, developing project financing, finalizing necessary permits, and, in certain cases, assisting in actual plant construction.

DOE issued first round solicitations on February 25, 1980, and second round solicitations on August 1, 1980. The first round solicitations involved $200 million in available funding and DOE eventually made 101 awards for feasibility studies and 9 awards for cooperative agreements. Of the 110 total awards, 46 were made in technologies other than alcohol fuels or solid waste. In the second round, available funding was increased to $270 million and DOE selected 56 feasibility study proposals and 23 cooperative agreement

---

1/Department of the Interior and Related Agencies Appropriations for Fiscal Year 1980 (Public Law 96-126, Nov. 27, 1979); Supplemental Appropriations and Rescission Act, 1980 (Public Law 96-304, July 8, 1980); Energy Security Act (Public Law 96-294, June 30, 1980); Federal Nonnuclear Energy Research and Development Act of 1974 (Public Law 93-577, Dec. 31, 1974).

proposals for award. Of these, 45 were in technologies other than alcohol fuels or solid waste. Thus, 91 total awards were made in these technologies, with associated funding of over $298 million.

While selections for the second round have been made, no funding has actually been provided. Final awards were being negotiated when, as part of the administration's recent budgetary initiatives, funding for the second round competition was proposed for rescission. Congressional action on the rescission proposal had not been completed at the time of our report, so it remains uncertain whether any awards from the second round competition will be made.

The proposal evaluation process remained essentially unchanged for both rounds of the competition. In each case, DOE eliminated proposals which were not responsive to the solicitations. The remaining proposals received both a technical and cost review from evaluation teams 1/ established in each technology area. Four general criteria were applied during the technical review: (1) commercial viability of the project; (2) consideration of environmental, health, safety, and socioeconomic issues; (3) technical approach; and (4) proposer capability. More specific criteria were established under these general criteria. The evaluation teams scored and ranked each proposal on technical merit and reported these evaluations along with an assessment of proposed project costs to the next level of review--the Source Evaluation Boards. 2/

The Source Evaluation Boards (one for the feasibility study competition and one for the cooperative agreement competition in each round) reviewed and finalized the technical evaluations supplied by the evaluation teams, and forwarded them in report format to the next level of review--the Senior

---

1/The evaluation teams were made up of program officials in the technology areas involved along with members from the Office of Environment.

2/The Source Evaluation Boards consisted of senior program officials and representatives of DOE's procurement office, Office of General Counsel, and Office of Environment.

Review Boards. 1/ The Senior Review Boards reviewed the evaluation reports submitted by the Source Evaluation Boards and applied eight "program policy factors" which addressed supplementary program objectives such as the need to have geographic balance and technological diversity in projects selected for awards, and the desire to have substantial involvement of small and disadvantaged businesses or Indian tribes. A complete listing of the program policy factors is included as appendix II to this report. Based on the review of the technical evaluation reports submitted by the Source Evaluation Boards and the application of program policy factors, the Senior Review Boards made their recommendations to the Under Secretary who made the final selections.

LARGE BUSINESSES DOMINATE THE AWARDS SELECTIONS

Our analysis of the awardees selected by DOE for feasibility studies and cooperative agreements in technologies other than alcohol fuels and solid waste disclosed that over 80 percent of the funds awarded or pending went to large corporations. Small businesses received a much smaller share of the funding. The number and amount of awards, and percentage of funding made to large and small businesses are shown below.

Proposer characteristic	Awards made and pending		
	Number	Amount	Percentage of funding
Large business	70	$243,600,177	82
Small business	14	44,443,576	15
Other (note a)	7	10,082,258	3
Total	91	$298,126,011	100

a/Includes Indian tribes, governmental bodies, a joint venture involving a Canadian firm, and a U.S. based subsidiary of a German corporation.

1/There was one Senior Review Board for each round. It consisted of Deputy Assistant Secretaries from the cognizant program organizations and representatives from the procurement office and Office of General Counsel.

Among awardees classified as large businesses, those with extensive assets were clearly dominant. In fact, about $194 million or nearly two-thirds of total funds awarded or pending were made to proposers with assets of $1 billion or more. Following is a breakout of large business awardees by amount of proposer assets.

Assets of large business awardees	Awards made and pending	
	Number	Amount
$5 billion or more	18	$120,106,653
Between $1 and $5 billion	19	73,550,509
Between $500 million and $1 billion	6	10,301,736
Between $100 million and $500 million	10	17,587,099
Less than $100 million	4	8,074,328
Other (note a)	13	13,979,852
Total	70	$243,600,177

a/Awardees which did not classify themselves as small businesses and on which no information on corporate assets was available.

The dominance of large corporations is also evidenced in the success rate of proposers listed among the 500 largest U.S. industrial corporations in Fortune magazine. Over half of the funds awarded or pending were for proposals made or co-sponsored by corporations on that list. Moreover, of all the proposals submitted by these corporations, 39 percent were selected for awards. Further, we observed that about one-half of the corporations on the "Fortune 500" listing that were not selected, were beaten out by proposals of other corporations on the list.

Small business proposers on the other hand were much less successful. Proposals submitted by small businesses received 15 percent of the funding awarded. Of the small business proposals submitted, only about 13 percent were selected for awards, a success rate one-third that of proposers on the

"Fortune 500" listing. In addition, almost half of the awards going to small businesses--about $21 million--went to one company. Further, an additional $4 million went to a company which is a wholly-owned subsidiary of a diversified energy company with over $300 million in assets. Although the company claimed to be a small business in accordance with DOE's procedures and, hence, was counted as a small business in our tabulations, it is interesting to note that the company does not meet DOE's definition of a small business because it is not independently owned. Finally, several other awards made to small businesses came in technologies in which there were no competing proposals from corporations listed in the "Fortune 500."

OBSERVATIONS CONCERNING EVALUATION CRITERIA AND PROCESS

The dominance of large established corporations in the alternative fuels competition is at least partially attributable to the nature of the criteria and process used to evaluate proposals. The evaluation criteria used by DOE favored proposers with established reputations and considerable resources. Further, the nature of the evaluation process made it more likely that large corporations would receive the bulk of the awards. DOE proposal evaluators suggested that the disparate successes of the large and small businesses were due primarily to the highly capital-intensive nature of many alternative fuels technologies which made it less likely that small businesses could successfully complete their projects. Nonetheless, many small business proposers believed DOE had not treated them fairly during the process and, in a number of instances, claimed that DOE's competition had hampered rather than aided their efforts to become viable participants in the emerging alternative fuels industry.

Evaluation criteria

The criteria used by DOE to evaluate alternative fuels proposals provided an advantage to large corporations with established reputations in the energy field. Under the criteria applied by DOE, demonstrating the likelihood that the proposed project could be carried through to successful commercialization was considered to be the most crucial aspect of the proposal. In this context, corporations with large technical and support staffs, considerable financial resources, and extensive past experience were in a better position to demonstrate such likelihood, receive a high technical score,

and justify an award, than a small business without such resources.

The advantage to large business proposers was present in numerous elements of the technical evaluation criteria, especially in the "proposer capability" category. This category addressed factors such as prior business experience in process plant operation and fuels marketing, and the managerial, financial, and technical capability to complete the proposed project. Clearly, large established firms were better able to score highly on these factors than small businesses with limited resources.

The advantage accorded to large corporations was not limited to the "proposer capability" category, however. For example, several important criteria in the "commercial viability" category concerned the suitability of the site and the availability of resources for the project being proposed. Proposers owning land and raw material resources were able to score higher than proposers having leases or options on the needed land and resources. Because larger corporations are more likely to have vast land and resource holdings than less well-financed small businesses, they were in a position to score better. Other criteria in the remaining categories that indirectly aided large corporations included the adequacy of the proposer's management plan and the proposer's capability to perform environmental analyses. In these instances as well, corporations with large support staffs were in a position to score higher than small businesses.

Evaluation process

The nature of the evaluation process also contributed to the better success of large corporations in receiving awards. As structured by DOE, the entire competition hinged on the preparation of a quality proposal. Because of the large number of proposals received--960 in round I and 1,085 in round II--DOE restricted the evaluation to information presented in the proposals. No site visits or supplementary discussions with proposers were permitted. In fact, this requirement was so strictly enforced that in some cases, proposers who had inadvertently omitted pages from their proposal were given deductions in their scores. By reducing the process to a competition among proposals, large corporations who are more likely to have considerable proposal writing resources and experience to draw upon, had an advantage over small business proposers. In addition, according to several small business proposers we spoke with, the cost of preparing a highly

detailed proposal, as was required on this competition, can be burdensome to small businesses with limited resources.

The mechanism established by DOE as part of the overall evaluation process to enhance the competitiveness of small business proposals was also generally ineffective. The desire to select projects involving small businesses was one of the eight program policy factors that was applied by DOE after the technical evaluations in making its selections for award. Our review, however, showed that this factor had little practical impact on the outcome of the awards. Small business proposers won and lost during the competition almost exclusively in accordance with the technical evaluations. While the small business program policy factor had little impact in the non-alcohol fuels competitions, DOE officials told us that it was emphasized to a greater extent in the alcohol fuels competition where there were more high-quality small business proposals. We are examining this matter as part of our continuing review of the alcohol fuels competition.

Viewpoint of DOE evaluators

In addition to examining the evaluation process and criteria, we also obtained the perspectives brought to the process by DOE's evaluators. We interviewed the chairmen of the evaluation teams for coal liquids, high-Btu coal gas, low- and medium-Btu coal gas, and oil shale proposals. These chairmen asserted that the main objective of the alternative fuels legislation was to maximize alternative fuels production in the shortest time possible. In performing their evaluations, therefore, they stated the key was determining the proposer's potential for bringing the proposed project through to successful commercialization. In this context, they believed selecting large corporations with established reputations and sufficient resources offered the greatest assurance of achieving that objective. The chairmen expressed their view that, in these capital-intensive technologies where plants can cost a billion dollars or more, providing funds to proposers with little chance of obtaining the remaining necessary capital made little sense. In general, they stated that small businesses simply could not raise the capital necessary to put together a commercially viable operation and had no real chance to enter the industry. Therefore, they told us they generally could not justify giving high technical evaluation scores to small businesses.

Perspectives of small business proposers

The perspectives of small business proposers concerning the evaluation criteria and process were mixed. Those small businesses that won awards were very satisfied with the process. The small businesses that were not selected, however, expressed considerable dissatisfaction. They stated that during various preproposal conferences, DOE officials actively encouraged small businesses to submit proposals and said that such proposals would be viewed favorably during the selection process. Two small business representatives told us this encouragement was the main reason they submitted proposals. After submitting proposals and being rejected, the small businesses requested debriefings seeking the reasons for their rejection. They told us that during these debriefings, contrary to the initial encouragement, DOE officials explained that the primary reason for their rejection was that because of limited resources and experience, the small business proposers had not been able to sufficiently demonstrate the capability to carry the proposed project through to successful completion. In effect, the small business proposers said they were misled into chasing a financial "carrot" that was never really meant for them.

Ironically, representatives of some of these small businesses said that DOE's alternative fuels program, as it worked out, had hampered rather than assisted their efforts to enter the alternative fuels industry. First, they told us that the several hundred thousand dollars they spent preparing their proposals could have been more constructively used elsewhere. Second, they said the failure to win a Government award can stigmatize a business and make obtaining crucial private financing less likely.

CONCLUSIONS

Our review showed that large established corporations dominated the awards during both rounds of DOE's feasibility study and cooperative agreement competitions. The criteria used to evaluate proposals and the nature of the evaluation process contributed to this outcome. DOE evaluation team chairmen told us that the capital-intensive nature of many of the technologies involved and the primary objective of the program to spur maximum alternative fuels production as quickly as possible made such an outcome inevitable.

We agree that the primary objective of the alternative fuels legislation was to develop maximum alternative fuels

capacity in the shortest possible time. It is also probable that large experienced corporations with billions of dollars in assets are, as a general rule, in a better position to achieve the objective than smaller firms without such resources. Nonetheless, DOE's solicitations and announced program policy factors encouraged small businesses to submit proposals and suggested that such proposals would be viewed favorably during the competitions.

It is clear from the results of our analysis that DOE's activities to enhance the role of small businesses in the feasibility study and cooperative agreement competitions we examined met with limited success. Further, the activities may have served to mislead small businesses into believing they had a bigger potential role than was reflected in the actual awards. For small businesses to have a greater involvement in future alternative fuels competitions, a stronger commitment will have to be made and associated steps taken. Such steps for attaining greater small business involvement could include providing assistance to help small businesses prepare better proposals, having small business technical advisors on the proposal evaluation teams, establishing targets for small business participation, or requiring that a percentage of available funds be set aside for small business.

- - - -

As agreed with your respective offices, we did not obtain official DOE comments on this report. Unless you publicly announce its contents earlier, we plan no further distribution of this report until 7 days from the date of its issuance. At that time we will send copies to interested parties and make copies available to others upon request.

J. Dexter Peach
Director

APPENDIX I

ALTERNATIVE FUELS TECHNOLOGIES COVERED BY THIS REPORT

Coal liquids

High-Btu coal gas

Low- and/or medium-Btu coal gas

Oil shale

Tar sands

Heavy oil

Unconventional natural gas

Peat

Solid-liquid mixtures

Upgrading of alternative fuel feedstocks

Non-alcohol fuels from biomass

PROGRAM POLICY FACTORS USED BY DOE IN SELECTING FEASIBILITY STUDY AND COOPERATIVE AGREEMENT AWARDEES

1. The need to expedite the commercial development of a suitable range of alternative fuels.

2. The desire to select for award or support a group of projects which represent a diversity of methods or approaches.

3. The desire to obtain maximum possible leverage in the use of Federal funds in giving non-Federal entities a broad incentive to commercialize the technology or resources.

4. The desire to proceed as rapidly as possible in the development of those projects offering the best potential for reducing the dependence on foreign supplies of energy resources.

5. The desire to select projects which seem most likely to lead to other commercial-scale projects and to cause the most expeditious overall increase in domestic production at the earliest time practicable.

6. The desire to select projects that provide for regional energy requirements and geographic balance.

7. The desire to select projects that will entail the substantial involvement of small and disadvantaged businesses and/or Indian tribes in the design, construction, and operation of alternative fuel facilities.

8. The desire to select projects which are capable of maintaining or improving the quality of the environment and of mitigating any undesirable environmental, health, or safety impacts.

(307203)

AN EQUAL OPPORTUNITY EMPLOYER

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

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE,$300

POSTAGE AND FEES PAID
U. S. GENERAL ACCOUNTING OFFICE

THIRD CLASS