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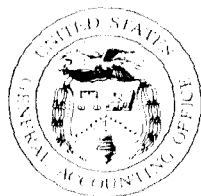
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Report to the Honorable  
Barbara A. Mikulski, U.S. Senate

May 1991

# FOSSIL FUELS

## DOE's Effort to Provide Clean Coal Technology to Poland



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

Resources, Community, and  
Economic Development Division

B-243706

May 22, 1991

The Honorable Barbara A. Mikulski  
United States Senate

Dear Senator Mikulski:

The Support for East European Democracy (SEED) Act of 1989 required the Secretary of Energy to cooperate with Polish officials to retrofit a coal-fired powerplant in Poland with advanced clean coal technology that has been successfully demonstrated in the United States. The project's goal is to demonstrate a cost-effective technique to control sulfur dioxide (SO<sub>2</sub>) emissions that can be used at other powerplants in Poland. The act required that the retrofit be carried out by United States companies using United States technology and equipment manufactured in the United States.

Your October 31, 1990, letter raised questions about changes the Department of Energy (DOE) made to its original definition of a United States firm, and about reductions DOE made to its original SO<sub>2</sub> emission requirements for the project. You stated that such changes might result in foreign-owned rather than American-owned firms providing the technology and that the technology might not be the best this country could offer to the Polish people. You requested that we review the reasons for these changes.

On March 19, 1991, we briefed your staff on the preliminary results of our review and agreed to prepare this report to you summarizing the results of that briefing.

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## Results in Brief

DOE revised its original definition of a U.S. firm to eliminate the requirement that at least 50 percent of the firm's voting stock be owned by U.S. citizens because of comments it received from coal industry representatives before bids were solicited. These comments indicated that a less restrictive definition would enable more companies to bid for the contract. Our review of the SEED legislation showed that DOE has discretion in defining what constitutes a U.S. company, and we agree with DOE's Office of General Counsel that DOE's revised definition—a corporation incorporated under the laws of the United States—is consistent with the legislation. DOE also said that additional complexities could arise from a more restrictive definition, such as difficulty in determining the nationality of owners of firms whose stocks are publicly traded.

DOE lowered the emission reduction level from 70 percent to 65 percent of SO<sub>2</sub> emitted because of its concern that there might not be adequate competition for the contract. It believed that a lower emission reduction level would increase the number of companies eligible to compete for the contract. According to DOE, this change was discussed with Poland's representatives, who voiced no concern. Lowering the SO<sub>2</sub> reduction level to 65 percent made no difference in the number of powerplants that would meet emission reduction requirements if the technology demonstrated is used at other powerplants in Poland.

DOE officials estimate that as a result of these changes an additional 10 companies would be eligible to compete for the project. DOE plans to award the contract in the fall of 1991.

## Background

The SEED Act, signed into law on November 28, 1989, established a \$928 million assistance program for Hungary and Poland, which is earmarked for specific programs or projects. Section 502(f)(3) of the SEED Act authorized DOE to spend \$10 million to retrofit a coal-fired powerplant in the Krakow, Poland, region with advanced clean coal technology that has been successfully demonstrated in the United States. DOE defines clean coal technology as any advanced coal-based system that removes harmful emissions from coal before, during, or after the combustion process or that converts coal to a cleaner burning liquid or gaseous fuel.

On March 15, 1990, DOE and Polish officials signed an agreement for retrofitting the powerplant. The agreement stated that a Bilateral Steering Committee—consisting of six members, three designated by Polish officials and three by DOE—will be established to oversee all phases of the project, including selection of the project site. At the Bilateral Steering Committee's first meeting, on April 4, 1990, it was agreed that the Skawina Power Station will be the project site and boiler number 11 will be the unit to be modified. On June 1, 1990, DOE held a public pre-solicitation conference for all interested parties that included potential contractors and suppliers. The purpose of the conference was to discuss the objectives of the project, factors to be considered in evaluating the proposals, and to obtain comments before issuing the request for proposal. DOE issued the request for proposal on August 28, 1990, and anticipates selecting the successful offeror on May 31, 1991; in accordance with the terms of the request for proposal, it will award the contract within 6 months. After the selection and before contract award, the successful offeror is required to negotiate a host site agreement with Poland under which Poland will provide, among other items, contract

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labor, site preparation and access, and any permits required for the installation.

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## DOE Revised the Definition of a U.S. Company to Increase the Number of Eligible Bidders

The SEED Act stated that the project must be carried out by U.S. firms. DOE's original definition of a U.S. firm, which was presented at the public pre-solicitation conference, included company ownership. Specifically, DOE defined a U.S. firm as a corporation incorporated under the laws of the United States and not a subsidiary of a foreign firm, i.e., a firm in which more than 50 percent of the voting stock is owned by non-U.S. citizens or firms. The revised definition of a U.S. firm, a corporation incorporated under the laws of the United States, was included in the request for proposal dated August 28, 1990. DOE officials told us that they decided on the broader definition of a U.S. firm on the basis of comments received from participants at the pre-solicitation conference held on June 1, 1990. The commenters believed that a less restrictive definition would enable more companies to bid on the contract.

DOE did not make a transcript of the June 1 public pre-solicitation conference, but according to the DOE official who made the presentation defining a U.S. firm, DOE received oral comments from two participants and written comments from a law firm representing an association of companies advocating the use of clean coal technologies. They questioned the requirement that the majority of the firm's stock must be owned by U.S. citizens. This official told us that the participants stated that this requirement might eliminate good companies with good technologies from the competition. Our review of the written comments showed that they questioned whether the restrictive definition might disqualify so many potential participants that there would not be enough competition.

The Director of the Environmental Control Division at DOE's Pittsburgh Energy Technology Center, who is the Technical Manager for this project, estimated that, as a result of the revised definition, about six more companies would be eligible to bid on the contract. He estimated that without the revised definition and also the change in the SO<sub>2</sub> emission reduction level, discussed earlier in this report, fewer than five companies would have been eligible to submit proposals. He based his estimates on his working knowledge of the industry, but he did not have a formal written analysis to support it. In addition, in order to be eligible to bid on the contract, one company that needed a change in the definition of a U.S. firm also needed to have the SO<sub>2</sub> emission reduction level lowered.

Officials in DOE's Office of General Counsel who reviewed the legislative history of the SEED Act did not identify a requirement for the more restrictive definition. These officials told us that, in the absence of a requirement for a restriction in a law or a treaty, they generally recommend a broad definition of a U.S. firm because of the potential for law suits challenging a more restrictive approach. They added that the Clean Coal Technology Demonstration Program is not restricted to U.S.-owned companies. Therefore, participation by foreign-owned companies is permitted.

Our review of the SEED Act and its legislative history also did not reveal any requirement that the contract be restricted to a company owned by U.S. citizens nor did either express intent to that effect. Therefore, the definition of a U.S. firm included in the request for proposal—a corporation incorporated under the laws of the United States—is consistent with the legislation.

The DOE Project Director for the U.S./Poland Clean Coal Project said that an additional benefit of changing the definition is avoiding the complexities of determining the ownership of a company. He said, for example, that if a majority ownership by U.S. citizens were required, DOE would somehow have to identify the percentage of a company's ownership by U.S. citizens at the time the contract is awarded. Furthermore, if a company's stock is publicly traded and the stock is held by mutual funds or other companies, the company may not know the citizenship of its stockholders.

The Project Director said that the Polish Bilateral Steering Committee representatives did not indicate a concern with the change in the definition of a U.S. firm. He said that Polish representatives were present at the pre-solicitation conference and have reviewed the request for proposal. We noted that the March 15, 1990, agreement included the restrictive definition of a U.S. firm. DOE and Poland formally amended the project agreement on September 11, 1990, to adopt the revised definition.

We contacted other government agencies that deal with foreign countries to obtain their comments on the issue of defining a U.S. firm. Officials at the Departments of Commerce and the Treasury and at the Export-Import Bank of the United States said the less restrictive definition is consistent with the definitions used in programs at their agencies. For example, the Export-Import Bank's direct loan and financial guarantee programs are available both to U.S. corporations organized or

residing in the United States and to foreign corporations doing business in the United States. According to an official from the Department of Commerce's International Trade Administration, the Trade Administration does not have a formal written policy defining a U.S. company because of the variety of situations in which it could become involved. As a general rule the Trade Administration follows a policy of assisting companies that use U.S. employees and materials, but it has no rule that the majority of the company must be U.S. owned. An official at the Department of the Treasury, which negotiates bilateral treaties with many other countries, stated that in general the treaties attempt to avoid any such restrictions. For example, the treaty with Poland on business and economic relations, which has been signed by both parties but not yet ratified, provides that each country shall permit investments and related activities on a nondiscriminatory basis.

## DOE Lowered the Level of Sulfur Dioxide Emission Reduction Requirements to Increase Competition

DOE lowered from 70 percent to 65 percent the level of emission reduction for sulfur dioxide (measured in pounds of SO<sub>2</sub> per million British thermal units) that the technology must be capable of obtaining. Its purpose was to make more companies' technologies eligible for consideration for the contract. According to DOE officials the 65-percent reduction level will meet the SO<sub>2</sub> reduction requirements established by Poland for the same number of powerplants as the 70-percent level. DOE estimated that the revised reduction level will enable about five additional companies to become eligible to submit bids.

DOE's Project Director told us that the initial SO<sub>2</sub> reduction level of 70 percent was established on the basis of information provided to DOE by Polish officials. The data furnished by Poland showed the SO<sub>2</sub> reduction percentage required for each powerplant in Poland for the period from 1990 through 1997, and for 1998 and thereafter. DOE officials also stated, however, that technology capable of reducing SO<sub>2</sub> emissions by either 70 percent or 65 percent will meet Poland's reduction requirements if installed on all powerplants in the 1990-1997 period and for all but one powerplant in 1998 and beyond, as shown in appendix I. Therefore, lowering the requirement to 65 percent made no difference in the number of powerplants that would meet Poland's emission reduction requirements.

The 70-percent reduction level was proposed at the June 1 pre-solicitation conference. Although DOE received no official oral or written comments on this level, the Technical Project Manager and the Project

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Director told us that informal oral comments from some companies' representatives led them to believe that the number of companies competing at the 70-percent level might not be adequate. As indicated previously, DOE estimated that without the changes fewer than five companies would have been eligible to submit proposals. DOE therefore reduced the SO<sub>2</sub> reduction level to 65 percent, which it estimated would increase by about five the number of companies eligible to bid. The Technical Project Manager's estimate of the number of additional companies that would be eligible to bid as a result of the revised SO<sub>2</sub> reduction level was based on his knowledge of the industry and the capabilities of the technologies available. As discussed previously, one of these companies also required the change in the definition of a U.S. firm in order to be eligible to bid.

According to the Project Director, this change was discussed with a Polish member of the Bilateral Steering Committee, who did not indicate that he had a problem or concern with it. The Project Director said that he knows Poland's position because in September 1990, during a site visit by U.S. companies to Poland, he gave a copy of the request for proposal, which contains the 65-percent SO<sub>2</sub> reduction level, to a member of the Bilateral Steering Committee and reviewed it in detail with him. He said that when he discussed the revised emission reduction level, the Polish member did not express any concerns.

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We performed our work at DOE headquarters in Washington, D.C., and at the Pittsburgh Energy Technology Center in Pittsburgh, Pennsylvania. To ascertain the reasons for changes in the definition of a U.S. firm and in the requirements for reducing the SO<sub>2</sub> reduction level, we interviewed DOE officials at headquarters and in Pittsburgh and obtained data from their files. We also reviewed the legislative history of the SEED Act and interviewed representatives of DOE's Office of General Counsel concerning their interpretation of the legislation. In addition, we contacted officials at the Departments of Commerce and the Treasury and at the Export-Import Bank of the United States concerning the definition of a U.S. firm.

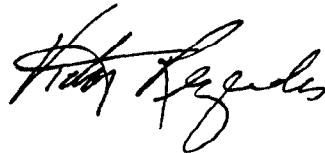
We performed our work between January and March 1991 in accordance with generally accepted government auditing standards. As requested by your office, we did not obtain official agency comments on this report. However, we did discuss a draft of the report with DOE's Project Director, and he agreed that the information presented is accurate.



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As arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 7 days from the date of this letter. At that time we will send copies to the Secretary of Energy and other interested parties. Should you need further information, please contact me at (202) 275-1441. Other major contributors to this report are listed in appendix II.

Sincerely yours,



Victor S. Rezendes  
Director, Energy Issues

# Emission Reduction Levels for Powerplants in Poland

No.	Powerplants	Required reduction of SO <sub>2</sub> in tons			
		1990-97		1998 and after	
		Tons	Percent	Tons	Percent
1	Siersza P	57,330	62.8	67,554	74.0
2	Jaworzno II	15,302	45.0	20,913	61.5
3	Siersza F	8,583	42.5	12,044	59.5
4	Jaworzno III	56,986	40.0	82,630	58.0
5	Jaworzno I	4,150	36.0	6,340	55.0
6	Polaniec	46,444	31.0	77,156	51.5
7	Ostroleka B	10,575	22.0	21,360	45.2
8	Skawina	6,978	15.4	18,397	40.6
9	Ostroleka A	1,218	13.0	3,655	39.0
10	Konin	6,083	12.0	6,083	12.0
11	Laziska	8,769	11.3	29,495	38.0
12	Gdansk II	457	2.3	6,370	32.0
13	Lagisza	780	1.6	15,113	31.0
14	Blachownia	a	a	4,897	25.5
15	Bialystok II	a	a	2,816	25.0
16	Turow	a	a	45,806	22.3
17	Wroclaw	a	a	3,712	22.0
18	Pomorzany	a	a	1,707	21.0
19	Katowice	a	a	708	20.0
20	Kozienice	a	a	26,535	20.0
21	Belchatow	a	a	65,240	19.1
22	Szczecin	a	a	798	17.0
23	Bedzin	a	a	1,045	15.5
24	Gdynia III	a	a	840	15.0
25	Gdynia I	a	a	266	13.0
26	Torun Grebocin	a	a	249	11.0
27	Dolna Odra	a	a	8,224	10.5
28	Gorzow	a	a	897	10.0
29	Olowianka	a	a	111	10.0
30	Halemba	a	a	852	7.0
31	Rybnik	a	a	5,341	5.5
32	Chorzow	a	a	335	5.5
33	Gdynia II	a	a	20	5.0
34	Zeran	a	a	7,397	3.0
35	Bielsko-Biala	a	a	46	0.5
36	Patnow	b	b	b	b

<sup>a</sup>These powerplants already meet Poland's SO<sub>2</sub> emission reduction requirements in the 1990-97 period.

<sup>b</sup>Emission reduction requirements for this powerplant are relatively low, but they have not been calculated pending a decision on whether or not to reactivate part of the plant.

Source: U.S. Department of Energy.

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