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

RESOURCES, COMMUNITY,
AND ECONOMIC DEVELOPMENT
DIVISION

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B-215070

June 12, 1984

RELEASED



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The Honorable Arlen Specter
United States Senate

Dear Senator Specter:

Subject: Information on Coal Conversion Activities at Selected Powerplants (GAO/RCED-84-168)

This report responds to your April 18, 1983, request, as modified in subsequent discussions with your office, that we provide information on the coal conversion program administered by the Economic Regulatory Administration (ERA), Department of Energy, under the Powerplant and Industrial Fuel Use Act of 1978 (Fuel Use Act). Specifically, information is provided on the conversion status of electric utility boilers included in the program since the passage of the Fuel Use Act in 1978 and on the future demand for and use of coal.

Under the coal conversion program, ERA had authority to require industry to (1) convert boilers capable of burning coal from oil and natural gas to coal or other alternative fuels and (2) limit the use of oil and natural gas in existing and new boilers. This authority was removed when the coal conversion program was made voluntary by the Omnibus Budget Reconciliation Act enacted in August 1981. However, under the Fuel Use Act, ERA continues to assist companies that wish to convert voluntarily. ERA provides this assistance by issuing orders which can be useful to companies in obtaining permission from the Environmental Protection Agency to burn coal in advance of achieving full compliance with environmental rules and standards.

In September 1981, we reported that ERA's coal conversion program activities were curtailed as part of federal efforts to reduce the cost of government operations.¹ For example, in June 1981, the Congress reduced funding for ERA's coal conversion activities for fiscal year 1982 from the original

¹Less Regulatory Effort Needed to Achieve Federal Coal Conversion Goals, EMD-81-71, Sept. 8, 1981.

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request of \$31 million to \$5 million.² Staffing for the program also declined from 160 employees in fiscal year 1981 to 47 employees in fiscal year 1982. Reductions have continued, and under ERA's fiscal year 1985 budget request, the coal conversion program would be reduced further to a level of \$1.1 million and 15 staff members.

To gain a current perspective on ERA's coal conversion program, we performed audit work from October 1983 through February 1984, and we updated the results of our audit to May 1984. We interviewed ERA officials and analyzed documents and records relating to 79 boilers discussed in our September 1981 report and reviewed information that had been voluntarily submitted by industry on the coal conversion possibility of 55 additional boilers. We also obtained information relating to the future demand for and use of coal from DOE's Energy Information Administration (EIA), the focal point for energy data collection and analysis, and the North American Electric Reliability Council (NERC). (NERC was formed by the electric power industry to promote the reliability and adequacy of bulk electric power and publishes annual utility forecasts relating to electric supply and demand.) We did not independently verify the information obtained during our review.

As requested by your office, we did not obtain agency comments on this report. We did, however, discuss its contents with the Director of ERA's Coal and Electricity Division who agreed with the information presented. Except as noted above, we made our review in accordance with generally accepted government auditing standards.

In our September 1981 report, we provided information on the conversion status of 79 electric utility boilers that were included in ERA's regulatory program. We pointed out that 13 of these boilers had been converted to coal use and noted that, while the conversions were initiated by regulatory actions, they were completed through voluntary efforts of the utilities. We also stated that the prospects for voluntary conversion of existing utility powerplants to coal had improved and that coal was expected to have predominance among the fossil fuels chosen for large new electric powerplants and industrial boilers.

In our current review, we found that, as of May 1984, 45 boilers either were converted or were expected to be converted by 1988, and 34 were not going to be converted or decisions to convert had been deferred indefinitely. The status of the 79 boilers is summarized below. Enclosure I identifies each of the

²public Law 97-12, Supplemental Appropriations and Rescission Act, 1981, June 5, 1981.

boilers and compares their conversion status as reported in September 1981 to what we found their status to be in May 1984.

Summary of the Status of 79 Boilers
Included in ERA's Regulatory Program

<u>Status of boilers</u>	<u>Number of boilers</u>	
	<u>Sept. 1981</u>	<u>May 1984</u>
Converted	13	23
Plan to convert by 1988	38	22
Opposed to conversion	15	a
Undecided	13	b
Not converting	-	24
Deferred indefinitely	-	<u>10</u>
Total	<u>79</u>	<u>79</u>

^aOf the 15 boilers which were opposed to conversion in Sept. 1981, 12 are not converting; 1 is scheduled for conversion by 1988; and 2 are deferred indefinitely.

^bOf the 13 boilers which were undecided in Sept. 1981, 10 are not converting; 2 are scheduled for conversion by 1988; and 1 is deferred indefinitely.

After the program became voluntary in August 1981, companies voluntarily submitted plans to ERA on the possible conversion to coal use of an additional 55 boilers. Thirteen of these boilers are scheduled for conversion by 1989. Enclosure II identifies the boilers and shows their conversion status as of May 1984.

We obtained information from EIA and NERC on the outlook for the use of coal as boiler fuel by electric utilities. EIA projects coal use in new and existing boilers by 1995. NERC's projections go to 1992 but only include coal use in existing boilers.

In May 1984, EIA projected³ that by 1995 coal-fired generation in both new and existing electric utility powerplants will account for 55 percent of the total kilowatt hours of electricity generated in the United States. EIA also projected that nuclear power would account for 19 percent of the kilowatt hours generated; oil and gas, below 18 percent; and hydroelectric, less than 10 percent. In addition, NERC's latest report on

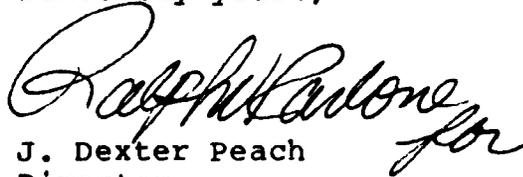
³Annual Energy Outlook 1983, EIA, May 1984.

electric power supply and demand⁴ projected that by 1992 coal use in existing electric utility powerplants will account for about 54 percent of the total kilowatt hours of electricity generated. NERC also projected that nuclear power would account for about 24 percent of the kilowatt hours generated; oil and gas, below 12 percent; and hydroelectric, less than 9 percent.

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As arranged with your office, unless you publicly announce the contents of this report earlier, we plan no further distribution until 7 days from the date it is issued. At that time we will send copies to interested parties and make copies available to others upon request.

Sincerely yours,



J. Dexter Peach
Director

Enclosures - 2

⁴Electric Power Supply and Demand, NERC, July 1983.

CONVERSION STATUS OF 79 ELECTRIC UTILITY
BOILERS INCLUDED IN ERA REGULATORY PROGRAM
AT SEPTEMBER 1981 AND MAY 1984

<u>State</u>	<u>Powerplant</u>	<u>Number of boilers</u>	<u>Conversion status</u>	
			<u>Sept. 1981</u>	<u>May 1984</u>
Ariz.	Irvington	4	Conversion planned by 1988	No change
Conn.	Bridgeport Harbor	1	Opposed to conversion	Conversion scheduled for 1985
Del.	Edge Moor	1	Conversion planned by 1988	Converted 1982
		1	Conversion planned by 1988	Converted 1983
Fla.	F.J. Gannon	4	Conversion planned by 1988	No change
Ga.	Effingham	1	Conversion planned by 1988	Converted 1982
Ga.	McManus	2	Opposed to conversion	Not converting
Ill.	Collins	2	Undecided	Not converting
Mass.	Brayton Point	3	Converted before Oct. 1980	-
Mass.	Canal	1	Opposed to conversion	Not converting
Mass.	Mt. Tom	1	Converted 1981	-
Mass.	Salem Harbor	3	Conversion planned by 1988	Converted 1983

<u>State</u>	<u>Powerplant</u>	<u>Number of boilers</u>	<u>Conversion status</u>	
			<u>Sept. 1981</u>	<u>May 1984</u>
Md.	Brandon Shores	1	Conversion planned by 1988	Conversion scheduled for 1984-85
Md.	C.P. Crane	2	Conversion planned by 1988	Conversion scheduled for 1984-85
Md.	Riverside	2	Opposed to conversion	Not converting
Md.	Wagner	2	Undecided	Not converting
Me.	Mason	3	Conversion planned by 1988	No change
Mich.	St. Clair	1	Opposed to conversion	Not converting
Mo.	Lake Road	2	Converted before Oct. 1980	-
N.H.	Schiller	3	Conversion planned by 1988	No change
N.J.	Bergen	1	Conversion planned by 1988	Not converting
		1	Conversion planned by 1988	Deferred indefinitely
N.J.	Burlington	1	Conversion planned by 1988	Deferred indefinitely
N.J.	Deepwater	1	Converted 1981	-
		2	Conversion planned by 1988	Converted 1982
N.J.	Hudson	1	Conversion planned by 1988	Not converting

<u>State</u>	<u>Powerplant</u>	<u>Number of boilers</u>	<u>Conversion status</u>	
			<u>Sept. 1981</u>	<u>May 1984</u>
N.J.	Sayreville	2	Undecided	Not converting
N.Y.	Albany	4	Undecided	Not converting
N.Y.	Arthur Kill	2	Conversion planned by 1988	Deferred indefinitely
N.Y.	Danskammer	1	Undecided	Conversion scheduled for 1986
		1	Undecided	Conversion scheduled for 1988
N.Y.	E.F. Barrett	2	Opposed to conversion	Deferred indefinitely
N.Y.	Lovett	2	Conversion planned by 1988	Deferred indefinitely
N.Y.	Northport	4	Opposed to conversion	Not converting
N.Y.	Port Jefferson	2	Opposed to conversion	Not converting
N.Y.	Ravenswood	1	Conversion planned by 1988	Deferred indefinitely
Pa.	Cromby	1	Undecided	Deferred indefinitely
Va.	Chesterfield	4	Converted before Oct. 1980	-
Va.	Portsmouth	1	Converted 1979	-
		1	Conversion planned by 1988	Converted 1982

<u>State</u>	<u>Powerplant</u>	<u>Number of boilers</u>	<u>Conversion status</u>	
			<u>Sept. 1981</u>	<u>May 1984</u>
Va.	Possum Point	1	Converted 1980	-
		1	Conversion planned by 1988	Converted 1982
Va.	Yorktown	1	Conversion planned by 1988	Conversion scheduled for 1984
		1	Conversion planned by 1988	Conversion scheduled for 1985

Source: Prepared by GAO from information obtained from the Coal and Electricity Division, Office of Fuels Programs, ERA.

STATUS OF 55 BOILERS PLANNED FOR
POSSIBLE VOLUNTARY CONVERSION
AS of May 1984

<u>Conversion scheduled between 1984 and 1989</u>			<u>Decision pending</u>			<u>Deferred indefinitely</u>		
<u>State</u>	<u>Number of boilers</u>	<u>Powerplant</u>	<u>State</u>	<u>Number of boilers</u>	<u>Powerplant</u>	<u>State</u>	<u>Number of boilers</u>	<u>Powerplant</u>
Mass.	3	Mystic	Conn.	2	Norwalk Harbor	Conn.	2	Devon
Mass.	2	New Boston	Fla.	1	Deerhaven	La.	3	Little Gypsy
Mass.	2	Somerset	Fla.	2	McIntosh	Mass.	3	West Springfield
S.C.	1	Williams	Fla.	2	Hopkins	Nev.	2	Port Churchill
Va.	2	Portsmouth	Fla.	2	Anclote	R.I.	1	South Street
Tex.	3	Pearsall	Fla.	2	Bartow	Va.	2	Possun Point
			Fla.	2	Cape Canaveral			
			Fla.	1	Fort Myers			
			Fla.	2	Manatee			
			Fla.	2	Martin			
			Fla.	2	Port Everglades			
			Fla.	2	Sanford			
			Fla.	2	Turkey Point			
			Fla.	3	Northside			
			Fla.	2	Indian River			

Source: Prepared by GAO from information obtained from the Coal and Electricity Division, Office of Fuels Programs, ERA.