United States General Accounting Office

GAO

Report to the Chairman, Environment, Energy, and Natural Resources Subcommittee, Committee on Government Operations, House of Representatives

May 1993

NATURAL GAS

FERC's Compliance and Enforcement Programs Could Be Further Enhanced

RESTRICTED--Not to be released outside the General Accounting Office unless specifically approved by the Office of Congressional Relations. 557248

RELEASED

GAO/RCED-93-122

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

Resources, Community, and
Economic Development Division

B-252344

May 27, 1993

The Honorable Mike Synar
Chairman, Environment, Energy, and
Natural Resources Subcommittee
Committee on Government Operations
House of Representatives

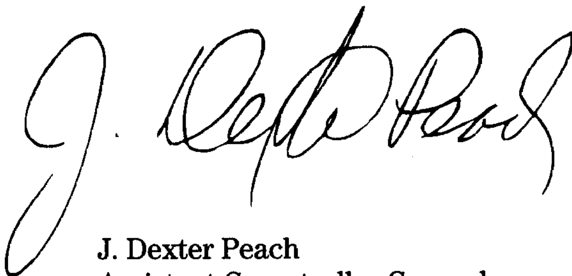
Dear Mr. Chairman:

This report responds to your request that we review the Federal Energy Regulatory Commission's (FERC) compliance and enforcement programs for the natural gas industry. Specifically, we examined FERC's efforts to ensure fair and open competition on the interstate pipeline system and compliance with environmental requirements during pipeline construction. Our report contains recommendations to FERC in both these areas.

As arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from the date of this letter. At that time, we will send copies to FERC's Chair and to other interested parties. We will also make copies available to others on request.

This report was prepared under the direction of Victor S. Rezendes, Director, Energy and Science Issues, who may be contacted at (202) 512-3841 if you or your staff have any questions. Other major contributors to this report are listed in appendix I.

Sincerely yours,



J. Dexter Peach
Assistant Comptroller General

Executive Summary

Purpose

The natural gas industry, despite increasing competition, retains many characteristics of a monopoly. To protect the public interest, the Federal Energy Regulatory Commission (FERC) has primary responsibility for regulating the sale and transportation of natural gas and the construction of pipeline facilities. The Chairman, Environment, Energy, and Natural Resources Subcommittee, House Committee on Government Operations, asked GAO to review FERC's effectiveness in enforcing the natural gas industry's compliance with applicable statutes and regulations. As requested, GAO focused on FERC's efforts to ensure compliance with (1) policies prohibiting pipeline companies from engaging in discriminatory practices that favor their own unregulated subsidiaries and (2) requirements that pipeline companies take measures to mitigate environmental damage during construction.

Background

Interstate pipeline companies transport most of the natural gas consumed annually in the United States. Under the Natural Gas Act (NGA), as amended, FERC approves the rates pipeline companies can charge for transportation of natural gas in interstate markets, the terms and conditions of their transportation and storage services, and the facilities they can construct to provide these services. In 1978, the Congress passed the Natural Gas Policy Act (NGPA), which phased in deregulation of natural gas wellhead prices. Under the NGPA, as amended, FERC's regulation of interstate pipeline companies has also decreased in some areas. For example, in certain circumstances, natural gas can be transported and pipelines constructed without FERC's prior review and approval. Nevertheless, FERC requires pipeline companies to offer certain transportation services without undue discrimination (that is, without unfairly favoring one customer over another who makes a similar request for service); file reports that provide publicly accessible information on these services; and construct pipeline facilities in accordance with environmental regulations.

Results in Brief

FERC has taken steps to decrease potentially discriminatory practices, but additional improvements could make its efforts even more effective. For example, FERC has not aggressively enforced its requirement that pipeline companies report transactions they initiate to provide transportation services for their own marketing affiliates—unregulated subsidiaries that buy and sell gas—and others, such as producers. FERC has relied primarily on independent marketers—marketers not owned or controlled by a pipeline company—and producers to monitor reports on transactions

between pipeline companies and their marketing affiliates and to complain about discriminatory practices before initiating an investigation. FERC's requirement that pipeline companies report such transactions on publicly accessible electronic bulletin boards should improve the industry's ability to monitor for discriminatory practices, but it will still be important for FERC to ensure complete and timely reporting of this information and submitting of other required reports. A recent FERC initiative to check for discriminatory practices during periodic audits of pipeline companies' records could be further enhanced if FERC based the timing and scope of these audits on already available information that could suggest which pipeline companies, if any, are engaging in such practices.

FERC has also recently improved its efforts to enforce compliance with its environmental requirements. The Commission has hired additional inspection staff and better informed its own inspection staff and the industry of FERC's environmental requirements. Nevertheless, additional improvements could enhance these efforts. For example, FERC could require that it be notified in advance of pipeline construction taking place in environmentally sensitive areas, such as streams and rivers; it already requires such notification to state authorities. Moreover, FERC could more consistently require companies to file reports on compliance with environmental requirements for all major projects, especially in areas that FERC cannot inspect because of resource constraints. Finally, by seeking authority to assess civil penalties for projects that fall under the NGA, similar to its existing authority for projects under the NGPA, FERC could gain an additional enforcement tool, particularly for cases of repeated violations.

Principal Findings

Additional Steps Could Enhance Efforts to Prevent Discriminatory Practices

The reports that FERC requires pipeline companies to file on transportation services they provide to their marketing affiliates and others are made public so that FERC and the industry can monitor for discriminatory practices. However, according to FERC's records, between January 1, 1989, and July 31, 1992, about 3,850, or 27 percent, of the reports on transactions for pipeline services under the NGA were submitted an average of 61 days late; about 3,400, or 41 percent, of the reports on transactions under the NGPA were submitted an average of 228 days late for the same period. Until GAO began its review, FERC staff had not recently referred any late filings to

the Office of General Counsel for possible enforcement action. FERC has also found that other reports it requires pipeline companies to file—reports on services to marketing affiliates—were incomplete in many cases. Without timely and complete submission of these reports, efforts by FERC and the industry to detect and deter discriminatory practices are hampered.

In April 1992, FERC began requiring pipeline companies to report data on transactions with marketing affiliates and others on publicly accessible electronic bulletin boards so that discriminatory practices can be detected and deterred. However, FERC staff determined in an audit of 43 companies' electronic bulletin boards that most did not contain the required information. Also, in March 1992, FERC staff added procedures to the Commission's regular financial audits of pipeline companies' books to (1) determine whether companies are maintaining required data on services they provide to affiliated marketers and others and (2) review these data and other information for potential discriminatory practices. However, FERC staff are not using information already available to the Commission that could indicate discriminatory practices may be occurring as a factor in scheduling audits and in determining the scope of these audits.

Efforts to Ensure Compliance With Environmental Requirements Could Be Further Improved

FERC conducted environmental compliance inspections on 79 of 271 construction projects it approved under the NGA between October 1, 1987, and June 30, 1992. In at least 37 of these projects, or 47 percent of the total inspected in this period, inspectors found violations of FERC's environmental requirements; in several cases, inspectors found repeated violations. Typical violations were failure to properly maintain erosion and sediment control devices or revegetate areas affected by construction. Some cases involved serious violations, such as improperly storing hazardous waste products used during construction.

To reduce the potential for environmental violations, FERC's policy is to target the initial compliance inspection to occur when the pipeline under construction first crosses a major or sensitive environmental area, such as a river or stream. In spite of this policy, GAO found that FERC frequently failed to conduct inspections at this time, in part because of time and resource constraints and in part because the Commission did not always know when construction was taking place. FERC policy requires pipeline companies to give state authorities 48 hours advance notice before

constructing a pipeline through a major stream, but it does not itself require similar notification.

In some cases, FERC has required pipeline companies to submit periodic reports indicating how they complied with its environmental requirements along the entire pipeline route, including portions that FERC does not inspect. This requirement resulted in detection of violations that FERC otherwise would not have known about. However, FERC has not made compliance reporting a general requirement for all major projects, which typically involve many miles of pipeline construction and require numerous environmental mitigation measures.

In many cases, FERC staff are able to bring companies into compliance by raising concerns with pipeline officials at the time of the inspection or by requesting remedial action in a letter. However, on 15 projects that GAO reviewed, FERC's records reveal repeated or multiple similar instances of noncompliance. In several of these cases, repeat noncompliance occurred despite FERC staff's actions to bring the pipeline companies into compliance. FERC does not have the authority to impose civil penalties against pipeline companies that do not comply with environmental requirements on projects undertaken under the NGA. It can issue stop-work orders or take other legal action to obtain compliance in these cases, but such actions are time-consuming and can delay gas deliveries to customers. FERC's Chair, several Commissioners, and FERC's former General Counsel (who was in office during our review) believe civil penalty authority would be a useful additional enforcement tool for projects under the NGA, similar to FERC's existing authority under the NGPA. While staff recommendations have been made to FERC to seek such authority from the Congress, no formal request has been made. According to FERC's Chair, however, the Commission would have to show a compelling need to overcome expected opposition.

Recommendations

GAO recommends that FERC's Chair take appropriate actions to (1) aggressively enforce pipeline companies' compliance with electronic bulletin board and other reporting requirements used to detect and deter discriminatory practices by pipeline companies, (2) consider information available to FERC that suggests discriminatory practices may be occurring as a factor in determining the scope and timing of audits of pipeline companies, (3) require companies to provide FERC with advance notice of construction scheduled to occur in environmentally sensitive areas, (4) require companies to submit periodic environmental compliance

reports for all major construction projects requiring environmental mitigation measures, and (5) formally seek civil penalty authority from the Congress to enforce FERC's requirements for projects approved under the NGA.

Agency Comments

GAO discussed the information in this report with FERC's Chair, former Chairman, and other Commissioners and agency officials, including the Director of the Office of Pipeline and Producer Regulation, who is responsible for ensuring compliance with reporting requirements related to policies prohibiting discriminatory practices and federal regulations for protecting the environment during construction of natural gas facilities. The officials expressed general agreement with the findings in the report but suggested some changes to improve its technical accuracy. These were incorporated where appropriate. However, as requested, GAO did not obtain written agency comments on a draft of this report.

Contents

Executive Summary		2
Chapter 1 Introduction		10
	Changes in Federal Regulation of the Natural Gas Industry	10
	FERC'S Compliance and Enforcement Program	15
	Objectives, Scope, and Methodology	16
Chapter 2 Recent FERC Actions to Prevent Discriminatory Practices Could Be Further Enhanced		19
	FERC Is Responsible for Preventing Discriminatory Practices	19
	Importance of Enforcement Increases as Regulation Decreases	21
	FERC Has Generally Relied on Industry to Detect and Report Discriminatory Practices	22
	Detection Has Been Hampered by Lack of Compliance With Planning and Reporting Requirements	23
	The Extent of Discriminatory Practices Is Unknown	26
	FERC Has Recently Acted to Improve Deterrence and Detection	29
	Conclusions	32
	Recommendations	33
Chapter 3 Additional Actions Could Improve FERC's Environmental Enforcement Program		34
	FERC Is Responsible for Ensuring Compliance With Environmental Requirements	34
	FERC Has Improved Its Program for Ensuring Compliance With Environmental Requirements	35
	FERC Does Not Always Conduct Inspections at the Appropriate Time	36
	FERC Lacks Assurance of Environmental Compliance on Uninspected Portions of Pipelines	38
	Repeated Violations Suggest Need for More Effective Enforcement Authority	40
	Conclusions	42
	Recommendations	43
Appendixes	Appendix I: Major Contributors to This Report	44
	Related GAO Products	48
Figure	Figure 2.1: Percentage of Calls to FERC's Hotline That Were Complaints About Marketing Affiliates From June 1987 to June 1992	27

Abbreviations

DOE	Department of Energy
FERC	Federal Energy Regulatory Commission
GAO	General Accounting Office
NEPA	National Environmental Policy Act of 1969
NGA	Natural Gas Act
NGPA	Natural Gas Policy Act of 1978
OGC	Office of General Counsel
OPPR	Office of Pipeline and Producer Regulation

Introduction

Federal regulation of the natural gas industry has changed fundamentally in response to increasing competition. For example, in 1989 the Congress required elimination of all federal controls over natural gas prices by January 1993 to obtain more abundant natural gas supplies at lower prices by creating competition among efficient producers.[1] In addition, the Federal Energy Regulatory Commission (FERC), which regulates the transportation and resale of natural gas by interstate pipeline companies, has promulgated rules and has taken administrative actions to limit its level of review for (1) transactions initiated by pipeline companies for the transportation of natural gas and (2) applications to construct new pipeline facilities. As market competition has increased, FERC's regulation of interstate pipeline companies has gradually decreased. However, this regulatory approach hinges on the Commission's ability to effectively enforce interstate pipeline companies' compliance with key remaining applicable regulations, such as those prohibiting discriminatory practices and those setting out environmental requirements for pipeline construction.

Natural gas is an extremely versatile and relatively clean form of energy that is abundant domestically and available at competitive prices. In 1992, the United States consumed about 19.7 trillion cubic feet of natural gas, which represented about 24 percent of the nation's energy needs. Natural gas is used to heat homes, schools, and hospitals; produce fertilizer and other consumer products; fuel motor vehicles; and generate electricity. According to the Department of Energy (DOE), U.S. natural gas consumption could increase by 19 percent, to about 23.4 trillion cubic feet in 2010.

Changes in Federal Regulation of the Natural Gas Industry

Natural gas is extracted from the ground by producers and transported to end-use markets, for the most part, through a system of underground pipelines. Natural gas can also be liquified through refrigeration and transported in containers by truck or ship. The U.S. interstate pipeline system, which connects production areas in states such as Texas, Louisiana, Oklahoma, and New Mexico with consumers across the country, consists of about 280,000 miles of pipeline.[2] The U.S. interstate pipeline system also interconnects with Canadian pipelines at the border to transport natural gas primarily from Alberta, Canada, to U.S.

[1] The Natural Gas Wellhead Decontrol Act of 1989 (P.L. 101-60) ended federal controls over natural gas prices that had begun in 1954.

[2] Intrastate pipeline companies also transport natural gas, but generally are not subject to federal regulation.

consumers.[3] Under the Natural Gas Act (NGA), FERC regulates about 150 companies that construct, own, and operate the interstate pipeline system.

In the past, interstate pipeline companies transported natural gas as part of a larger package of services that they provided to their customers—distributors that are usually local public utilities, or large end-users, such as industrial companies and electric utilities. Natural gas was and continues to be sold on either a "firm" or "interruptible" basis; that is, the customer contracted for either guaranteed delivery or accepted interruption of gas supplies during periods of peak demand, as may happen on cold winter days. In addition to transportation service, pipeline companies entered into long-term (15 to 20 years) guaranteed contracts with producers to purchase natural gas at regulated prices, which they then resold to their customers. The companies also developed underground storage facilities to better ensure gas deliveries on days when consumption is highest. Because of the significant market power interstate pipeline companies derived from being the sole provider of these services, FERC's prior approval of each transaction was necessary before the companies could initiate these services.

Legislation Resulted in Changes to Supply and FERC's Regulations

Since the enactment of the Natural Gas Policy Act (NGPA) in 1978, however, competitive market forces and FERC's regulatory responses to encourage these forces have caused pipeline companies to separate out and sell individually their natural gas acquisition, sales, transportation, and storage services. Moreover, since the enactment of the NGPA, pipeline companies are now able to initiate transactions for many of these services without FERC's prior review and approval.

The NGPA established a series of maximum lawful prices for numerous categories of gas, depending on when and where the gas was found, when customers contracted for it, and other factors. These new, higher prices led to increased production activity and contributed to significant growth in natural gas supplies. However, demand for natural gas, particularly from pipeline companies' non-captive customers—industrial firms and electric utilities that can switch to other fuels—declined. These large consumers did not want to pay for the higher-priced natural gas supplies that pipeline companies were purchasing under long-term contracts with producers. Market conditions—declining demand coupled with increased competition among producers—caused producers to begin selling natural gas at lower prices under short-term contracts (typically less than 30 days). Interstate

[3]Natural gas imported from Canada accounted for about 10 percent of total U.S. consumption in 1992.

pipeline companies attempted to retain non-captive customers by developing special marketing programs to transport lower-cost gas that these consumers could purchase directly from producers. FERC authorized these programs, which essentially permitted pipeline companies to transport lower-priced gas supplies to non-captive customers without providing the same service for local distribution companies and their captive customers—residential and commercial customers who do not have the ability to switch to other fuels. Pipeline companies did not extend these programs to local distribution companies and captive customers because the pipeline companies had contractual obligations to pay producers for higher-priced natural gas supplies. As a result, according to an industry analyst, pipeline companies were able to sell gas to local distribution companies at prices far above the maximum price that could be charged in a competitive market.

In 1984, FERC responded to this anticompetitive situation by eliminating the requirement that local distribution companies purchase a minimum amount of their natural gas supplies from pipeline companies.[4] FERC did not, however, address the pipeline companies' corresponding contractual obligation to purchase gas supplies from producers for resale to local distribution companies. Moreover, FERC did not eliminate the special marketing programs because pipeline companies argued that such programs were necessary to market large volumes of gas they were obligated to purchase from producers.

In 1985, the D.C. Circuit Court of Appeals found that FERC had not adequately considered the effect of special marketing programs on captive customers and remanded the rule for further analysis in light of the potential for discrimination between customers.[5] Subsequently, FERC issued regulations that began a fundamental restructuring of the industry by encouraging interstate pipeline companies to separate out their traditional package of services and allow all customers, including large end-users and local distribution companies to (1) purchase competitively priced gas directly from producers and (2) arrange separate pipeline transportation services.[6] As a result, customers bought less and less gas from pipeline companies. However, pipeline companies were still required to pay producers about $10 billion for the gas supplies they had previously

[4]FERC Order 380, Elimination of Variable Costs From Certain Natural Gas Pipeline Minimum Commodity Bill Provisions, 49 Fed. Reg. 22,778 (1984).

[5]Maryland Peoples Counsel v. FERC, 761 F.2d 768 (D.C. Cir. 1985); 761 F.2d 780 (D.C. Cir. 1985).

[6]FERC Order 436, Regulation of Natural Gas Pipelines After Partial Wellhead Decontrol, 50 Fed. Reg. 42,408, (1985).

contracted for but were not purchasing. FERC subsequently allowed pipeline companies to recover up to 75 percent of these costs from their customers.

Pipeline companies' natural gas sales have diminished substantially as customers have increasingly come to rely upon marketers—unregulated intermediaries that purchase natural gas from producers and transport these supplies on interstate pipelines for resale to the customers. In 1991, 84 percent, or about 15.2 trillion cubic feet, of the natural gas transported by pipeline companies was not owned by the pipeline companies but only transported by them. Most of this natural gas was purchased by natural gas marketers and transported for resale to local distribution companies and other customers.

Many of the interstate pipeline companies own a controlling interest in natural gas marketers; these subsidiary companies are known as marketing affiliates. Thus, while pipeline sales of natural gas diminished, some pipeline companies recouped lost revenues through sales made by their marketing affiliates. According to officials of the interstate pipeline trade association, pipeline companies established marketing affiliates to (1) raise additional revenues to offset their losses resulting from old contracts with producers and (2) maintain high transportation volumes on the parent pipeline system.

FERC Has Made Regulatory Changes to Promote Greater Industry Competition

Between April and November 1992, FERC issued new regulations that required pipeline companies to make a number of operational changes in order to promote greater industry competition.[7] These changes include, among other things, (1) selling pipeline company services separately to acquire gas supplies, provide transportation, and maintain storage; (2) providing customers with greater access to the pipeline system and storage facilities and more flexibility in using them to obtain competitively priced gas supplies; and (3) adopting a new method of calculating transportation rates to provide customers with clearer information on the price of natural gas. In addition, FERC policy allows pipeline companies to recover 100 percent of the costs to implement the new regulations, such as pipeline costs to break existing natural gas supply contracts with

[7]FERC issued Order No. 636, Pipeline Service Obligations and Revisions to Regulations Governing Self-Implementing Transportation Under Part 284 of the Commission's Regulations; and Regulation of Natural Gas Pipelines After Partial Wellhead Decontrol, 57 Fed. Reg. 13,267, (Apr. 16, 1992); Order No. 636-A, Order Denying Rehearing in Part, Granting Rehearing in Part, and Clarifying Order 636, 57 Fed. Reg. 36,128, (Aug. 12, 1992) and Order No. 636-B, Order Denying Rehearing and Clarifying Order Nos. 636 and 636-A, 57 Fed. Reg. 57,911, (Dec. 8, 1992).

producers. According to FERC, preliminary industry estimates of the total cost to implement this new regulation is about $5.7 billion. Between 90 and 100 percent of this cost can be passed on to customers with firm contracts, and up to 10 percent can be passed on to customers with interruptible contracts. Customers will continue to pay the pipeline company a FERC-regulated rate for the transportation service. Under FERC's new methodology for calculating rates, as noted above, the cost to transport and store natural gas could increase for customers with firm contracts, depending on a number of factors, including FERC's and pipeline companies' efforts to mitigate these cost increases.

Pursuant to various FERC authorizations, pipeline companies will continue to initiate many of the transactions to provide customers with these services without FERC's prior review and approval. For example, pursuant to section 311 of the NGPA, pipeline companies can begin transportation transactions without FERC's prior approval on behalf of intrastate pipeline companies and local distribution companies. However, since pipeline companies cannot transport natural gas to large industrial end-users and electric utilities under this authority, FERC issued "blanket certificates" beginning in 1985. These certificates allow pipeline companies to initiate transportation transactions for all customers, including local distribution companies, producers, industrial customers, and electric utilities. According to a FERC official, the industry is increasingly transporting natural gas under blanket certificates because there are fewer limitations under this authority than under section 311. Before these authorizations became available, pipeline companies were required to obtain FERC's approval for each transaction before initiating transportation. FERC's new regulations also provide blanket authorizations for storage and sales services.

FERC Has Streamlined Environmental Reviews for New Pipeline Construction

In addition to reducing its regulation over pipeline services, FERC has also sought to promote increased gas use by streamlining its review process for the construction of new pipeline facilities. As we reported in February 1992, FERC has paid particular attention to limiting its environmental review of new pipeline construction.[8] FERC promulgated regulations that enable pipeline companies to construct facilities pursuant to section 311 of the NGPA without FERC's prior approval. However, pipeline companies using this authority are subject to civil penalties for failure to

[8]Natural Gas: Factors Affecting Approval Times for Construction of Natural Gas Pipelines (GAO/RCED-92-100, Feb. 26, 1992).

follow FERC's regulations to mitigate potential environmental damage associated with new pipeline construction.

In 1989, FERC also began to change its environmental review for new pipeline facilities built under section 7 of the NGA by (1) issuing certificates approving construction subject to the pipeline company's obtaining all the necessary state and local environmental permits and (2) requiring the company to adhere to both specific and standard measures to mitigate environmental damage. FERC is also revisiting regulations that it had issued in September 1991 to streamline the certification process but had delayed implementing because of opposition to certain provisions of the new rules. Among the contested rule changes is a proposal that would allow virtually any pipeline facility to be constructed under blanket certificates subject to limited environmental impact review by FERC.

FERC'S Compliance and Enforcement Program

FERC is responsible for ensuring compliance with its regulations promulgated under the NGA and NGPA. Pursuant to its authority, FERC has issued regulations and made case-specific determinations that pertain to (1) the rates pipeline companies can legally charge for transportation and storage services, (2) the terms and conditions of these services, and (3) the facilities pipeline companies can construct to provide these services. FERC has programs to monitor the pipeline companies' compliance with these requirements. For example, FERC audits pipeline company records and financial statements to ensure that the company's rates are based on the actual cost of providing transportation and storage services. FERC establishes pipeline company transportation rates according to traditional utility regulation that requires a full review of all historical and projected pipeline costs. However, FERC is considering proposals by a few pipeline companies that would tie future increases in transportation rates to certain performance standards, such as improved customer services, rather than to increased transportation and storage costs for pipeline companies.

With the exception of establishing pipeline transportation rates and related terms and conditions, FERC, as noted above, has reduced its regulation of interstate pipeline companies' services and new pipeline facility construction in order to promote competitive forces within the industry. According to a FERC Commissioner, FERC's primary mission, as it decreases its regulation of the pipeline companies, is to ensure that competition within the natural gas industry will continue to develop and mature. Moreover, in the Commissioner's view, this objective cannot be

achieved without vigorous enforcement of the regulations, certificates, and tariffs under the Commission's jurisdiction.

Objectives, Scope, and Methodology

The Chairman, Environment, Energy, and Natural Resources Subcommittee, House Committee on Government Operations, requested that we review FERC's compliance and enforcement responsibilities for the natural gas industry. As agreed with the Chairman's office, we focused our review on the effectiveness of efforts FERC has made to ensure compliance with (1) its policies prohibiting pipeline companies from engaging in discriminatory practices in favor of their marketing affiliates or others and (2) its environmental requirements during pipeline construction.

To examine FERC's program for ensuring compliance with policies prohibiting discriminatory practices, we reviewed FERC regulations on marketing affiliates, pipeline companies' plans to comply with "standards of conduct" that FERC has established, and FERC rulemakings that included requirements that pipeline companies separate and sell their services individually and establish easy-to-use electronic bulletin boards. We reviewed industry comments on whether the pipeline companies' electronic bulletin boards should contain standardized information and a joint FERC/Department of Energy report addressing the reliability of natural gas transportation data. We also attended a conference held by FERC to discuss issues pertaining to the development of pipeline companies' electronic bulletin boards.

We interviewed FERC officials to obtain information on how FERC detects potential abuses and targets enforcement action when such practices are identified. To evaluate FERC's efforts in these areas, we analyzed data on (1) calls placed to FERC's enforcement task force hotline between June 1987 and June 1992 and (2) reports filed by pipeline companies on transportation transactions between January 1, 1989, and July 31, 1992. We also interviewed independent marketers and industry officials representing independent marketing companies. In addition, we reviewed internal staff documents, letters issued by FERC to pipeline companies for compliance violations, and cases involving allegations of discriminatory practices.

To examine FERC's program for ensuring that pipeline companies comply with environmental requirements during construction under the NGA, we interviewed FERC officials about the Commission's policies for targeting resources to ensure compliance with environmental requirements. We did

not evaluate whether the particular environmental mitigation measures FERC requires pipeline companies to take are the most effective way to reduce the impact of construction and restore affected areas.

We reviewed environmental compliance inspection reports prepared by FERC and its support services contractor, Ebasco Environmental, on 79 projects constructed between October 1, 1987, and June 30, 1992, to identify cases in which FERC found compliance violations. Because projects involving preparation of major environmental analyses are more likely to involve sensitive environmental areas, we reviewed in detail inspection reports covering 35 of these projects for which inspection reports were available. We also reviewed accompanying environmental analyses and spoke with individual project managers to identify 23 cases in which pipelines under construction crossed multiple streams and rivers, and to determine the timing of the inspections. In addition, we reviewed compliance reports that FERC requires pipeline companies to submit periodically for three projects, as well as letters FERC issued to pipeline companies citing noncompliance with environmental requirements. Finally, we interviewed federal officials from the U.S. Army Corps of Engineers, the Council on Environmental Quality, and the Advisory Council on Historic Preservation, and state officials from the New York Public Service Commission, the New York Department of Environmental Conservation, the Connecticut Siting Council, and the Utah Department of Natural Resources.

For our review of both program areas, we interviewed FERC's Chair, former Chairman, and other Commissioners and agency officials. We also spoke to representatives of interstate pipeline companies, a trade organization representing pipeline companies, and a major natural gas producer.

Our work was conducted between January 1992 and February 1993 in accordance with generally accepted government auditing standards. During our review, we discussed the information in this report with FERC's Chair, former Chairman, and other Commissioners and agency officials, including the Director of the Office of Pipeline and Producer Regulation, who is responsible for ensuring compliance with reporting requirements related to policies prohibiting discriminatory practices and environmental regulations during construction of natural gas facilities. The officials expressed general agreement with the findings of the report but suggested some changes to improve its technical accuracy. On the basis of these comments, we revised the report where appropriate. However, as

requested, we did not obtain written agency comments on a draft of this report.

Recent FERC Actions to Prevent Discriminatory Practices Could Be Further Enhanced

An interstate pipeline company can enter into hundreds of transactions annually to transport natural gas without FERC's prior review and approval. However, FERC requires pipeline companies to report information publicly on all transactions they initiate without prior review and approval. Moreover, FERC requires detailed information to be reported on all transactions pipeline companies undertake with affiliated marketers—unregulated pipeline company subsidiaries that buy and sell gas. FERC requires these reports to deter pipeline companies from discriminating against others, such as independent marketers—marketers not owned or controlled by a pipeline company—and producers, who also buy or sell natural gas and transport it on interstate pipelines. FERC has relied primarily upon independent marketers and producers to monitor reports on such transactions and complain about discriminatory practices before it initiates an investigation.

However, FERC has not aggressively enforced pipeline reporting requirements, thus hampering the ability of industry and FERC to detect such practices. In April 1992, FERC began requiring pipeline companies to make information on transportation transactions with their affiliates and others available through publicly accessible computer-based electronic bulletin boards. This requirement should facilitate monitoring, but enforcement of compliance with this and other requirements will still be important. FERC staff is also implementing a new audit program under which they will independently check for compliance with requirements related to discriminatory practices. This program could be more effective if information already available to the Commission, which could indicate possible discriminatory practices, were used to establish the timing and scope of such audits.

FERC Is Responsible for Preventing Discriminatory Practices

FERC is responsible for ensuring that pipeline companies do not engage in discriminatory practices when providing transportation services. Pipeline company marketing affiliates compete with independent marketers for sales of natural gas to customers, such as local distribution companies. According to FERC, generally a marketer is affiliated with a pipeline company if the pipeline company owns at least a 10-percent interest in the marketer's stock. Independent marketers are not owned by pipeline companies but may be owned by producers or local distribution companies. For the first 6 months of 1992, about 51 percent of the total volume of natural gas carried by interstate pipeline companies was for marketers. According to an official representing independent marketers,

most of this transportation was for marketers affiliated with pipeline companies.

According to FERC, an interstate pipeline company engages in a discriminatory practice when it gives preferential treatment to its marketing affiliate for the transportation service it provides. FERC has found that pipeline companies can discriminate in favor of their affiliates by responding to their affiliates' transportation requests more quickly than those of independent marketers and others, such as producers; providing price discounts to affiliates but not making them available to others; and giving affiliated marketers a competitive advantage by sharing with them sensitive customer information that is not made available to others.

According to FERC's former Chairman, who was in office during our review, the move towards less pervasive regulation makes it even more important to monitor results and to investigate allegations of discrimination and noncompliance. In 1987, FERC responded to industry complaints of pipeline companies' discriminatory practices by establishing a hotline that independent marketers and others could use anonymously to obtain quick resolution of their concerns. Subsequently, in 1988 and 1989, FERC also established (1) "standards of conduct" to specify acceptable relationships between pipeline companies and marketing affiliates and (2) requirements that pipeline companies file reports with the Commission that contain information on transportation transactions they enter into with marketing affiliates.[1] These reports are discussed in more detail later in this chapter.

FERC can take a number of actions to enforce compliance with its policies prohibiting discriminatory practices and with reporting requirements used to deter and detect such practices. These actions include (1) initiating a preliminary or formal investigation, (2) filing a civil complaint for injunctive relief in federal district court, (3) referring the case to the Department of Justice for criminal prosecution, or (4) imposing civil penalties for violations under the NGPA of up to $5,000 for each day of noncompliance. FERC's enforcement office independently initiates preliminary investigations to determine whether FERC regulations have been violated and to resolve complaints made to the enforcement task force hotline. The enforcement office initiates formal investigations on the Commission's request to obtain additional information needed for a

[1]FERC issued the standards of conduct for pipeline companies with marketing affiliates and reporting requirements for transportation transactions between pipeline companies and their affiliates in Order 497, entitled Inquiry Into Alleged Anticompetitive Practices Related to Marketing Affiliates of Interstate Pipelines, 53 Fed. Reg. 22,139, (1988).

hearing. Unlike preliminary investigations, formal investigations give the enforcement office authority to subpoena witnesses.

Importance of Enforcement Increases as Regulation Decreases

FERC's efforts to detect and deter discriminatory practices by pipeline companies will continue to be important as the Commission reduces its regulation over these companies. On April 8, 1992, FERC issued new regulations in Order 636 to promote a more efficient natural gas market. These regulations required pipeline companies to separate out and sell services individually, including gas acquisition, transportation, and storage. Moreover, FERC required pipeline companies to provide these services on an equal basis to all customers.

According to FERC's current Chair and other FERC Commissioners, pipeline companies still have monopoly power. Pipeline companies' monopoly power can be manifested through operational control of the pipeline system and control of information on available transportation, storage capacity, and other services. Under the new rules, pipeline companies will be able to compete with independent marketers, either directly through their own gas sales departments or indirectly through their affiliates, by charging whatever customers will pay for natural gas supplies, with the pipeline continuing to provide transportation services. According to an industry expert, pipeline companies have a financial incentive to give their own sales departments or marketing affiliates privileged access to commercially useful information. Consequently, the Department of Energy concluded in its 1992 National Energy Strategy that FERC would need to devote more staff and budget resources to enforcement activities.

According to FERC's former General Counsel, who was in office during our review, the Commission recognizes that its regulatory responsibilities are in transition from before-the-fact review and approval to after-the-fact compliance audits. According to a FERC Commissioner, FERC should become a very proactive regulatory police officer for the industry. To accomplish this goal, this Commissioner believes that FERC should reorganize once Order 636 is fully implemented and move more staff into compliance and enforcement activities.

FERC Has Generally Relied on Industry to Detect and Report Discriminatory Practices

Until recently, FERC had relied almost exclusively on members of the industry, such as independent marketers and producers, to monitor the thousands of transactions that FERC allows pipeline companies to initiate annually without prior approval. FERC also relies on industry members to report potential cases of pipeline companies engaging in discriminatory practices. According to FERC's former Chairman and other FERC officials, because of limited resources, Commission staff cannot monitor each transaction a pipeline company makes. Furthermore, FERC officials told us that independent marketers and others are in a better position than FERC staff to determine whether they are being discriminated against, because they are making the requests for transportation services. Finally, FERC officials said that the potential loss of revenues resulting from discriminatory practices gives independent marketers and producers a financial incentive to monitor pipeline transactions.

To enable independent marketers, producers, and others to detect when they may have been discriminated against, FERC requires pipeline companies that initiate many transactions without FERC's prior approval to file or make certain information available to the Commission and the public. This information includes

- plans showing how pipeline companies with affiliated marketers are complying with the Commission's standards of conduct;
- reports on self-initiated transportation transactions that specify the volumes transported, the location on the pipeline system where the natural gas is delivered, and the identity of the parties involved in the service;[2]
- reports on transactions with marketing affiliates and with the companies' own gas sales departments, now generally on publicly accessible electronic bulletin boards, as discussed below; and
- reports indicating discounted rates for transportation services.

[2]These reports include information on transactions initiated pursuant to section 311 of the NGPA and blanket certificates under the NGA.

Detection Has Been Hampered by Lack of Compliance With Planning and Reporting Requirements

Although FERC has relied primarily upon members of the industry to detect and report discriminatory practices, the Commission is solely responsible for ensuring compliance with its (1) standards of conduct for pipeline companies with marketing affiliates and (2) reporting requirements for transportation transactions. However, FERC has not aggressively enforced the pipeline companies' compliance with these requirements.

Standards of Conduct Were Implemented Slowly

As noted earlier, in June 1988 FERC issued regulations under the NGA that established standards of conduct specifying acceptable business practices between pipeline companies and their marketing affiliates. For example, under the standards, if a pipeline company offers its marketing affiliate a discount on transportation service, it must make a comparable discount available at the same time to independent marketers and others who make similar requests for service and are capable of meeting the terms of the offer. FERC required pipeline companies with marketing affiliates to submit plans within 60 days that show how they were complying with the requirements. These plans are available to the public.

However, many plans submitted were incomplete and FERC did not approve pipeline companies' final plans until over 3 years later, in February 1992. Moreover, during this period, the Commission did not conduct an investigation to determine whether pipeline companies with previously approved plans were complying with the standards of conduct. According to FERC officials, at least two factors contributed to the Commission's delay in approving and auditing pipeline companies' plans. First, there were several requests for rehearing on the order establishing the requirements that subsequently resulted in modifications to the standards. These modifications led to changes in previously approved pipeline company plans. Second, the Commission did not provide clear guidance to pipeline companies on how to draft plans demonstrating compliance with the standards of conduct. One FERC Commissioner told us, however, that FERC's review of these plans was delayed primarily because FERC's Chairman and agency staff at the time the standards of conduct were implemented did not support enforcing the requirements. As discussed below, FERC staff are now implementing pipeline company audits that will include a review of compliance with the standards of conduct.

FERC Has Not Enforced Its Reporting Requirements

As noted, FERC has relied largely on the industry to detect and report potential discriminatory practices. Even if the industry wanted to monitor pipeline transactions, its ability to do so has been hampered by a lack of compliance by the pipeline companies with the Commission's reporting requirements.

FERC Has Not Enforced Timely Submission of Transportation Reports

FERC requires pipeline companies that initiate transportation transactions under NGPA section 311 or NGA blanket certificates to file reports within 30 days after they begin such transactions.[3] However, FERC has not enforced timely submission of these reports, which tell the date that transportation service began, the parties—producers, marketers, and customers—involved, the volumes transported, and the location on the pipeline system of the gas delivery. FERC uses these reports to ensure that pipeline companies are charging approved rates to customers who are eligible to receive service under the NGPA's section 311.[4] Since FERC issued Order 436, FERC staff and members of the industry have also used these transportation reports to determine whether pipeline companies have engaged in discriminatory practices.

In 1982 and 1983, FERC took enforcement action, including the assessment of a $30,000 civil penalty, against two pipeline companies for failure to provide timely reports on section 311 transactions. Recently, however, FERC has not enforced its requirement that these reports be filed on time. According to FERC's records, between January 1, 1989, and July 31, 1992, pipeline companies initiated about 14,530 transactions under NGA blanket certificates. About 3,850, or 27 percent, of these reports were filed, on average, 61 days after the deadline and ranged from 1 to 1,717 days late. During the same period of time, pipeline companies filed reports on about 8,300 transactions under NGPA section 311. However, reports for about 3,400, or 41 percent of these transactions, were filed, on average, 228 days after the deadline and ranged from 1 to 4,159 days late.

Transportation reports that are filed late hamper the ability of both the industry and FERC to monitor pipeline companies' compliance with policies prohibiting discriminatory practices. FERC has authority under the NGPA to impose civil penalties for companies that file late reports on transportation transactions begun pursuant to section 311. However, even though 16 of

[3]FERC established this reporting requirement, known as form 549-ST, in 1979 to monitor compliance for transportation transactions initiated by companies under section 311. In 1985, FERC extended this reporting requirement to NGA transactions begun under blanket certificates.

[4]Pursuant to section 311 of the NGPA, interstate pipeline companies are limited to transporting natural gas only on behalf of intrastate pipeline companies or local distribution companies. They cannot transport natural gas on behalf of others, such as large industrial users and electric utilities.

these reports were over 3 years late, none had recently been reported to FERC's Office of General Counsel (OGC) for possible enforcement action until we made inquiries during our review. In October 1992, the Director of FERC's Office of Pipeline and Producer Regulation (OPPR) referred several cases to the Office of General Counsel for possible enforcement action. These cases are under review. In addition, since we began our review, the Director has sent a number of letters to pipeline companies requiring that the reports be submitted on a timely basis. However, overall, the Director said that other Commission priorities and limited resources have prevented more aggressive enforcement of the reporting requirements.

In the opinion of FERC's former General Counsel, the Commission does not have civil penalty authority to enforce compliance with transportation reporting requirements for transactions initiated under the NGA or to require that information be maintained on electronic bulletin boards that is not related to transactions with marketing affiliates. Thus, although this information may be useful in detecting new types of discriminatory practices that could occur in the less-regulated environment FERC envisions for the future, the former General Counsel does not believe FERC can use civil penalties to enforce compliance. At least one FERC Commissioner, however, disagrees with the former General Counsel's opinion. According to this Commissioner, FERC could develop a regulatory approach that would enable it to apply NGPA civil penalty authority to enforce reporting requirements covering NGA transactions and all of FERC's electronic bulletin board requirements. Although this issue was raised in a recent court case, the court determined that it was not the appropriate time to rule on the matter because FERC has not yet attempted to use its NGPA authority to assess a civil penalty against a pipeline company for a transaction initiated under the NGA.[5] FERC's lack of civil penalty authority under the NGA is discussed further in chapter 3.

Reports on Transactions With Marketing Affiliates Have Not Contained Required Information

FERC also requires pipeline companies to file reports on transactions with their marketing affiliates.[6] The information in these reports includes the identification of the customer requesting service, the date the request is made, the percentage of ownership the pipeline company has in the marketing affiliate, and the volume of gas to be transported. Independent marketers and others in the industry can use these reports to determine whether pipeline companies discriminate when providing transportation services to their affiliated marketers on terms and conditions that are not available to all. As noted above, in 1988 FERC also required pipeline

[5] Tenneco v. FERC, 969 F.2d 1187 (D.C. Cir. 1992).

[6] FERC Order 497 established this reporting requirement, known as form 592.

companies to make this data electronically available to the public 24 hours a day. Although FERC did not mandate the use of electronic bulletin boards at the time, most pipeline companies used them to meet FERC's requirement. FERC staff determined through a March 1992 audit of 43 pipeline companies' electronic bulletin boards that most did not contain the required information. According to a FERC official, FERC has been working with these pipeline companies to bring them into compliance, but no enforcement action has been taken. The official stated that a factor in the decision not to impose civil penalties against the companies was that at the time the audit was conducted, the order requiring pipeline companies to make information available electronically 24 hours a day was under review by a federal court of appeals.[7]

In Order 636, FERC required pipeline companies to report information on transactions with affiliates and their own gas sales departments on user-friendly electronic bulletin boards available to the public 24 hours a day. Subsequently, in a separate order, the Commission determined that once pipeline companies comply with Order 636, they will no longer need to file the reports at the Commission on transactions with affiliated marketers. Moreover, in light of all the regulatory changes in Order 636, the Commission is giving greater consideration to revising or eliminating, where appropriate, other reporting requirements. According to a pipeline trade association, pipeline companies would prefer to satisfy their reporting requirements through the electronic bulletin boards rather than incur the high cost of preparing and submitting separate paper reports each time they provide transportation service. As noted above, pipeline companies can initiate thousands of separate transportation services annually.

The Extent of Discriminatory Practices Is Unknown

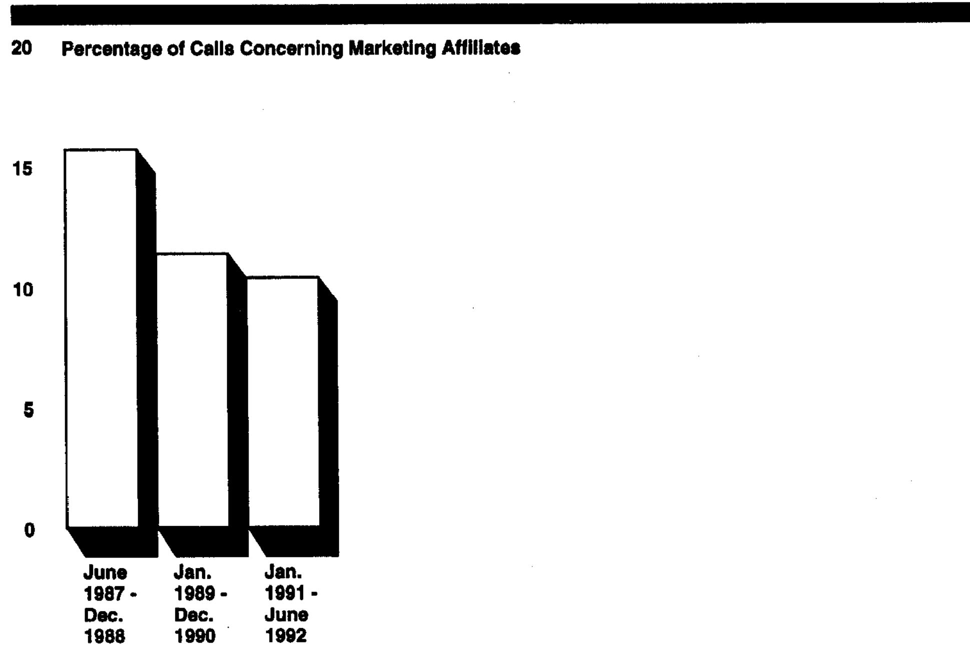
The extent to which pipeline companies engage in discriminatory practices is unknown. To the extent that discrimination does occur, however, it could increase the market power of pipeline companies and raise consumer prices.

As stated earlier, in June 1987 FERC established an "enforcement task force hotline" to provide independent marketers and others with an anonymous, informal complaint mechanism for reporting and obtaining resolution on

[7]In Tenneco v. FERC, 969 F.2d 1187 (D.C. Cir. 1992), members of the natural gas industry challenged various aspects of FERC's Order 497, entitled Inquiry Into Alleged Anticompetitive Practices Related to Marketing Affiliates of Interstate Pipelines, 53 Fed. Reg. 22,139 (1988), and Order 497-A entitled Order on Rehearing, 54 Fed. Reg. 52,781 (1989). The Court upheld most of FERC's requirements in the orders.

concerns of unfair treatment by pipeline companies. According to FERC, 402 callers placed about 700 calls to the hotline between June 1987 and June 1992. However, only 93, or about 13 percent, of these calls were complaints related to pipeline transactions with marketing affiliates.[8] Furthermore, as shown in figure 2.1, the overall percentage of calls complaining about marketing affiliates has declined over time. According to a FERC Commissioner, the declining number of calls may reflect the fact that independent marketers now better understand FERC's regulations prohibiting discriminatory practices, whereas before they were sometimes calling about every suspected pipeline company impropriety.

Figure 2.1: Percentage of Calls to FERC's Hotline That Were Complaints About Marketing Affiliates From June 1987 to June 1992



Source: GAO's analysis of FERC data.

In addition to investigating the 93 hotline calls, FERC's enforcement task force, which consists of 16 attorneys within FERC's Office of the General Counsel, investigated three formal complaints of alleged discriminatory practices. Partly because of the investigations in two of these cases, the

[8]The other calls included complaints about (1) pipeline companies' allocation of capacity, (2) electronic bulletin boards, (3) environmental matters, and (4) other regulatory program areas, such as electric power, as well as general requests for information.

Commission assessed civil penalties against pipeline companies for engaging in discriminatory practices. According to a FERC official, FERC also received 12 formal and 3 informal complaints of alleged discriminatory practices that did not require an investigation because the Commission had sufficient information to make a determination.

It is important to note that the number of calls placed to the hotline and other informal or formal complaints filed with the Commission may not accurately reflect the extent to which discriminatory practices are occurring. According to industry officials, independent marketers and others may not have enough incentive to inform FERC of possible violations. One reason cited by the officials is that FERC does not require pipeline companies that it has determined to have engaged in discriminatory practices, to compensate independent marketers for loss of potential business. According to FERC's Deputy General Counsel, FERC does not have the authority to require pipeline companies to compensate independent marketers for loss of potential business opportunities resulting from discrimination.

In addition, according to a FERC Commissioner and industry officials, some independent marketers may be reluctant to use the hotline because they fear possible reprisals from pipeline companies when they attempt to enter into future transactions. Even though FERC promises anonymity to those who call the hotline, some independent marketers believe that pipeline companies can identify them on the basis of the questions raised during FERC's investigation.

Independent marketers also believe that pipeline companies engage in complex or subtle forms of abuse, which are beyond the capabilities of the enforcement task force to address. For instance, according to one independent marketer, although pipeline companies may not discriminate when accepting bids for available transportation capacity, they can discriminate later by using their operational control of the pipeline system to allocate more available capacity to their affiliates than to independent marketers.

Finally, independent marketers told us that reporting cases of potential discriminatory practices does not always result in vigorous FERC action. According to some independent marketers, FERC has been quick to respond to hotline complaints. However, they said that FERC's enforcement task force will only investigate alleged abuses that are clearly in violation of FERC's regulations prohibiting discriminatory practices. Moreover,

according to an industry official, pipeline companies realize FERC's limitations and have become more sophisticated in their methods of discrimination.

FERC Has Recently Acted to Improve Deterrence and Detection

FERC has taken recent actions to improve deterrence and detection of pipeline companies' discriminatory practices, including (1) promulgating new rules that require pipeline companies to post timely transportation information, such as data on transactions with affiliates, on electronic bulletin boards and (2) instituting an audit program of pipeline companies' compliance with the Commission's requirements regarding discriminatory practices, including the standards of conduct for pipeline companies with marketing affiliates.

Electronic Bulletin Boards May Enhance Monitoring

Under the Commission's new regulations, pipeline companies are required to maintain user-friendly, electronic bulletin boards that (1) post timely, accurate, and complete information on all transportation transactions, including information on transactions with affiliated marketers and the pipeline companies' own gas sales department, and (2) enable those arranging for transportation services to bid for available capacity electronically via the bulletin boards. In addition, according to FERC officials and independent marketers, the requirement that pipeline companies' transactions with affiliated marketers and their own gas sales departments be posted on electronic bulletin boards will enhance the industry's ability to monitor these transactions for potential discriminatory practices. Under the new rules, independent marketers can monitor pipeline companies' transactions from their offices around the country.

A FERC Commissioner said that electronic bulletin boards will be the Commission's principal tool to monitor for discriminatory practices. FERC's former General Counsel stated that the Commission has the authority to assess civil penalties for noncompliance with some electronic bulletin boards' information requirements because they were initially promulgated under the NGPA. However, as noted previously, the former General Counsel believes that other information required on the electronic bulletin board, such as available transportation capacity—which may also be useful in detecting discriminatory practices—falls under NGA rather than NGPA authority.

Many members of the industry, particularly independent marketers and producers, believe that FERC should take additional steps to maximize the

benefits of electronic bulletin boards, including their use as an enforcement tool, and require pipeline companies to develop a standardized method of reporting information. According to an industry trade association representing major and independent producers, FERC should require standardized electronic bulletin boards. In the association's view, if each pipeline company has a unique electronic bulletin board, it will create barriers to entry for marketing participants that lack the substantial financial and technical resources to effectively monitor the different kinds of systems. Moreover, unique electronic bulletin boards could also give a competitive advantage to pipeline companies' marketing affiliates because of their real or perceived superior knowledge of the affiliated pipeline companies' bulletin boards. According to an official from a large independent marketer, the goal of FERC's Order 636 is to create a more competitive natural gas market, not a competitive market for the information the industry needs to operate efficiently or effectively.

Other members of the industry, including many pipeline companies, believe that the benefits of allowing pipeline companies to design their own electronic bulletin boards outweigh the costs of standardization. A recent joint FERC/DOE report on issues related to efficient gas transportation recommended that FERC consider standardizing the format, types of information, operation, and access to electronic bulletin boards if the industry does not make sufficient progress in resolving this issue.[9]

On February 26, 1993, the Commission held a conference to discuss the progress the natural gas industry has made in developing uniform electronic bulletin board standards. As a result of the conference, the Commission determined that the industry has not made sufficient progress in resolving disagreements among industry members regarding standardization. On March 10, 1993, FERC issued a notice identifying several areas where it believes standardization is a first step toward using electronic bulletin boards as part of a competitive natural gas industry. FERC has directed its staff to convene informal conferences involving all segments of the industry to discuss these areas and to submit a report on the results of the conferences by July 1, 1993. FERC is also requiring pipeline companies to show by November 1, 1993, how their electronic bulletin boards comply with Order 636.

Several members of the industry recognize similarities between the development of pipeline companies' electronic bulletin boards and the

[9]Natural Gas Deliverability Task Force Report, Delivery of Natural Gas in the United States—Is the Data Reliable? (DOE/FE-0258P, Sept. 3, 1992).

development of airline computer reservation systems, which travel agents use to purchase tickets for passengers. GAO has done a number of studies addressing the competitive effects of airline computer reservation systems, which are not standardized; these reports are listed in "Related GAO Products" at the end of this report. GAO found these systems to be powerful marketing tools that have contributed to an efficient airline industry. At the same time, however, computer reservation systems can be barriers to entry to new airlines and raise other anticompetitive issues.

Audit Program May Help Ensure Compliance With Standards of Conduct

FERC staff took an additional step to ensure compliance with its regulations when they began an audit program in March 1992 to determine whether pipeline companies are in compliance with its standards of conduct for marketing affiliates. According to FERC officials, the audit program includes a review of pipeline companies' books and records of transportation transactions to check for discriminatory practices. The audit program is conducted primarily by auditors from the Office of the Chief Accountant and attorneys from the enforcement task force. FERC has begun these audits on three pipeline companies, which were selected because they were already receiving financial audits on a 3-year cycle.

As of October 1992, FERC staff had completed the audit of one of the three pipeline companies and determined that the pipeline company was not in compliance with several requirements. These requirements included (1) listing all operating personnel shared with the marketing affiliate, (2) making discounts available to independent marketers at the same time they are made available to marketing affiliates, (3) maintaining at company headquarters information on discounts provided to independent marketers and (4) safeguarding sensitive information on transactions with independent marketers. According to a FERC official, OGC did not recommend an enforcement action against the company because the noncompliance was not considered to be egregious and it was the first time the company was audited for compliance with the standards of conduct. Moreover, according to the FERC staff's audit report, the pipeline company agreed to adopt all of FERC's recommended changes to comply with the requirements. The audits of the remaining two pipeline companies are in final processing.

FERC staff are not judgmentally selecting the pipeline companies to be audited on the basis of information that could suggest possible discriminatory practices, such as hotline reports or other complaints. Instead, the sequence of audits has been based on FERC's regular cycle of

pipeline company audits; FERC's Office of Chief Accountant audits the books of each interstate pipeline company every 3 years. FERC records indicate that the Commission has received multiple calls alleging that certain pipeline companies engage in discriminatory practices. According to FERC documents, for example, about 75 percent of the hotline complaints about discriminatory practices with marketing affiliates pertained to 14 pipeline companies. In addition, as noted above, FERC has information on which pipeline companies have been consistently late in filing required reports on transactions. Yet FERC did not take this information into consideration when it determined which pipeline companies to audit for compliance with the standards of conduct.

FERC's former General Counsel said that the enforcement task force successfully resolved most of the calls placed to the hotline. He nonetheless agreed that, in the absence of other information, FERC may be able to enhance the effectiveness of its audits by using the hotline complaint record as a factor in establishing the sequence and scope of its pipeline company audits. Without using such information, FERC staff may not be effectively targeting their audits of pipeline company records. For example, the one audit completed to date reviewed all of the pipeline company's transportation transactions because these transactions were relatively few in number. Other pipeline companies, however, may have too many transactions to make a complete review practical. In such cases, it may be necessary to judgmentally select transportation transactions to review. Unless FERC reviews the complaint record or reporting record for a pipeline company, it may find it difficult to determine which transactions to review as well has how many to review.

Conclusions

The success of FERC's decision to use less pervasive regulation in an evolving, competitive natural gas market depends, in part, on the quality of information exchanged by the participants and on FERC's enforcement of reporting and other requirements related to discriminatory practices. Given its resource limitations, FERC will continue to rely upon members of the industry to report cases in which pipeline companies may be engaging in discriminatory practices. FERC's recent requirement that pipeline companies develop electronic bulletin boards to display timely information on available transportation and storage capacity will better enable the industry to monitor pipeline company transactions for possible abuses. However, we believe that FERC will need to more aggressively enforce compliance with its requirements that pipeline companies post complete, accurate, and timely information on the bulletin boards. We also

believe that FERC will need to aggressively enforce compliance with its other reporting requirements, which are still necessary to ensure that pipeline companies are transporting gas to eligible customers at approved rates.

FERC's staff recently initiated a program to audit pipeline company compliance with the standards of conduct on discriminatory practices. This program will provide FERC with an independent assessment of the extent to which discriminatory practices may be taking place. However, the effectiveness of the audit program could be improved if FERC staff targets the pipeline companies they visit and the comprehensiveness of their reviews on the basis of industry complaints as well as the companies' performance in complying with the Commission's reporting requirements.

Recommendations

To better ensure that interstate pipeline companies do not engage in discriminatory practices, we recommend that FERC's Chair take the following actions:

- Aggressively enforce pipeline companies' compliance with the Commission's requirements to provide (1) complete, accurate, and timely information about available transportation capacity and transactions with marketing affiliates on publicly accessible electronic bulletin boards and (2) other related reports that FERC requires pipeline companies to file.
- Direct the Office of the Chief Accountant to consider all information available to the Commission that suggests potential discriminatory practices may be occurring when scheduling audits of pipeline companies and determining the appropriate level of review for each audit.

Additional Actions Could Improve FERC's Environmental Enforcement Program

FERC is responsible for ensuring that interstate pipeline companies comply with the Commission's requirements to limit the potential environmental damage that can result from the construction of new natural gas pipelines and related facilities. Between October 1, 1987, and June 30, 1992, the Commission approved over 270 projects to construct new natural gas pipeline facilities, including some pipelines that were hundreds of miles long. FERC's policy is to inspect the most sensitive environmental areas, typically major water bodies, along a pipeline route during construction. FERC has added inspection staff and taken other steps to improve its environmental enforcement program. Its enforcement efforts remain hampered, however, because it does not always know when construction is taking place in environmentally sensitive areas, has little assurance that all environmental requirements are being met on uninspected portions of pipeline construction, and lacks civil penalty authority to address violations, even for repeat occurrences. Failure to detect environmental violations or obtain swift corrective action can result in, among other things, polluted water bodies, destruction of wildlife, and loss of historical or cultural resources.

FERC Is Responsible for Ensuring Compliance With Environmental Requirements

FERC has a responsibility to ensure that the pipeline companies to which it grants approval to construct facilities comply with regulations under federal environmental statutes and with project-specific measures designed to mitigate environmental damage. Before constructing facilities, pipeline companies are required to show how they will comply with nine environmental statutes and executive orders. Some of these require pipeline companies to obtain permits or clearances from federal or state agencies administering the statutes or orders. For example, under the National Historic Preservation Act, as amended, which implements broad national policy encouraging preservation of the United States' historic and cultural resources, FERC requires pipeline companies to consult with state and local historic preservation officers before constructing in areas where cultural resources may exist.

The National Environmental Policy Act of 1969 (NEPA), as amended, requires that all federal agencies whose actions may significantly affect the quality of the human environment prepare a detailed analysis or environmental impact statement. Prior to developing such statements, the responsible federal agencies are required to seek comments from the public and other governmental agencies with jurisdiction and expertise on the environmental impacts of any given project and ways to mitigate damage. FERC policy requires pipeline companies to which it grants

certificates authorizing construction of facilities to comply with certain steps—known as mitigation measures—to minimize damage to the environment. These steps include mitigation measures identified by the public and other governmental agencies during the process prescribed by NEPA. These steps also include FERC's standard procedures for controlling soil erosion and for mitigating the impact of construction on streams and wetlands.

FERC Has Improved Its Program for Ensuring Compliance With Environmental Requirements

In recent years, FERC has taken several steps to improve its program for ensuring compliance with post-certificate conditions and other environmental requirements. For example, in early 1989 FERC increased the number of environmental staff members and formed two branches within its Office of Pipeline and Producer Regulation (OPPR). These two branches share responsibility for conducting compliance inspections. One branch is generally responsible for projects constructed west of the Mississippi, and the other branch for those projects constructed east of the Mississippi. Between October 1, 1987, and June 30, 1992, the two branches conducted approximately 133 compliance inspections covering 79 projects.[1]

Also in 1988, FERC entered into a contract with Ebasco Environmental, Inc., to provide a variety of support services for FERC's OPPR and Office of Hydropower Licensing. In support of FERC's environmental compliance program, this contractor conducts inspections and prepared a compliance monitoring workbook to be used by FERC and Ebasco environmental staff. Also, with assistance from FERC staff, Ebasco developed a computerized system for tracking compliance. A FERC official said that without Ebasco's assistance, FERC would be conducting fewer inspections.

Finally, over the last 2 years, FERC has held several training sessions to improve the skills of compliance inspectors and provide members of the natural gas industry with a better understanding of FERC's environmental requirements. FERC used the compliance monitoring workbook developed by Ebasco as the primary instructional material in two 2-day workshops for FERC and Ebasco environmental compliance staff. FERC and Ebasco have also conducted three of six scheduled environmental training courses being held in several cities across the country for members of the natural

[1]During this period, FERC approved 271 natural gas construction projects. Of these projects, FERC did not inspect 108 because they involved construction of minor facilities, such as gas measurement devices. Also exempted were compressor stations, which FERC does not usually inspect unless a complaint is filed or the facility is part of a larger project already being inspected. Forty-nine of the projects are scheduled to be inspected, and 35 were not constructed. The number of inspections conducted does not equal 79 because FERC usually conducts more than one site visit on each project to inspect different segments of the project or to revisit problem areas.

gas industry. Moreover, in some recent cases, FERC staff are recommending that the Commission require pipeline companies to train their subcontractors on how to comply with FERC's environmental requirements and to show how environmental mitigation measures will be incorporated into pipeline companies' agreements with subcontractors.

The above efforts have undoubtedly improved FERC's environmental compliance program. However, additional actions would provide greater assurance of compliance.

FERC Does Not Always Conduct Inspections at the Appropriate Time

FERC targets most compliance inspections to coincide with the time that a pipeline under construction first crosses a stream or river because these areas are particularly sensitive to pipeline construction. Pipelines can be constructed through several separate bodies of water or may cross a single body of water multiple times. FERC's general policy is to conduct an inspection to coincide with the first of successive crossings of major or environmentally sensitive streams or rivers to reduce the potential for repeated noncompliance on subsequent crossings.[2]

In 18, or about 78 percent, of 23 projects we reviewed in detail that involved successive crossings of major or sensitive streams or rivers, FERC either did not conduct an inspection on the first crossing or was unable to confirm whether such an inspection took place.[3] According to FERC's records, inspectors eventually found noncompliance related to construction across streams and rivers in 7 of the 18 cases. In some instances, FERC's environmental staff members were unable to confirm that an inspection occurred when the pipeline first crossed a body of water because they do not collect and maintain this type of information.

FERC officials told us that because environmental staff are responsible for evaluating the environmental impact of proposals to construct natural gas facilities and determining whether compliance is being met for more than one project, time and resource constraints sometimes prevent them from conducting an inspection on the initial crossing. As noted above, FERC's agreement with Ebasco includes a provision that allows FERC to use the

[2]FERC defines major streams as bodies of water that are greater than 10 feet wide or 2 feet average depth, but not more than 100 feet wide. Rivers are defined as being greater than 100 feet wide. Environmentally sensitive streams and rivers include those inhabited by cold-water fish, such as trout.

[3]Although 35 of the projects for which FERC conducted compliance inspections involved preparation of an environmental impact statement or major environmental assessment, only 23 of these projects involved successive crossings of major or sensitive streams or rivers.

contractor to conduct inspections, even on short notice. The Director of OPPR told us that other priorities affect the use of this resource as well.

In some cases, FERC may not be conducting inspections at the most appropriate time because inspectors do not know when construction on the initial crossing will be taking place. For example, it is FERC's policy to conduct an inspection on the first of multiple crossings of a single major or environmentally sensitive body of water. However, FERC did not conduct its initial inspection on Wappingers Creek, which was crossed three times within a 1-mile area in Dutchess County, New York, during construction of a project known as the Iroquois pipeline, until contractors had already completed two crossings and had dug trenches for about 40 percent of the third. New York State and U.S. Army Corps of Engineers (Corps) officials, who conducted separate inspections to determine compliance with their own requirements, found that at the first crossing the pipeline company did not properly maintain devices to reduce the potential for sedimentation—suspended soil particles that can suffocate aquatic insects and cover breeding areas where fish spawn.[4] After finding similar problems during the second crossing of Wappingers Creek, the New York State Public Service Commission, which also granted a certificate authorizing construction of the Iroquois pipeline, issued a stop-work order.

FERC's certificate authorizing construction of the Iroquois pipeline required the pipeline company to comply with standard procedures for reducing the impact of construction on environmentally sensitive streams and rivers. These procedures include, among other things, installing sediment control devices at all streambanks and performing daily inspection and repair of such devices when necessary. However, compliance inspection reports prepared by Ebasco show that while the pipeline was being built across Wappingers Creek, construction did not fully comply with FERC's procedures.

New York State filed a lawsuit for $13.6 million against the company and three contractors responsible for constructing the Iroquois pipeline. The lawsuit alleged 136 environmental violations, including improper construction that damaged streams and wetlands. The lawsuit was later settled for $2 million. Some of the alleged violations cited in the lawsuit

[4]The Corps is responsible for issuing permits under section 404 of the Clean Water Act in those states that have not been authorized by the Environmental Protection Agency to issue their own section 404 permits. The act requires that pipeline companies obtain a section 404 permit to carry out dredge and fill activities in navigable waters. The Corps conducts inspections to ensure compliance with section 404 permit conditions.

may also be violations of the certificate FERC granted authorizing construction of the pipeline. FERC has not yet taken any action in this case.

FERC's environmental staff told us that they determine when to schedule compliance inspections on the basis of their knowledge of when pipeline companies are authorized to construct in certain areas. They keep in constant contact with the companies through frequent telephone conversations. However, according to a FERC environmental project manager, FERC did not know when construction would be occurring the first or second time the pipeline crossed Wappingers Creek. Furthermore, FERC had not been informed of problems occurring during construction on the creek until after it was crossed for the second time by the pipeline.

One of FERC's standard mitigation measures is to have pipeline companies notify state authorities 48 hours in advance of construction in a major stream. However, FERC does not require the same notification for itself. According to FERC officials, FERC adopted the mitigation measure in response to states' comments that pipeline companies did not provide information about when construction affecting environmentally sensitive areas, such as streams and rivers, would occur. Requiring pipeline companies to provide such notification to FERC as well would provide greater assurance that FERC is aware of when construction affecting sensitive environmental areas will occur and provide the opportunity to schedule an inspection to coincide with the activity.

FERC Lacks Assurance of Environmental Compliance on Uninspected Portions of Pipelines

FERC does not have assurance that pipeline companies always comply with its environmental requirements and mitigation measures during construction on uninspected portions of pipeline facilities. According to FERC officials, FERC does not have the resources to inspect every mile of pipeline under construction. As mentioned earlier, FERC's general policy is to target compliance inspections to coincide with construction when the pipeline crosses the first of multiple major or sensitive streams or rivers. However, in several cases we reviewed, FERC staff learned that companies were not complying with requirements along segments of the pipeline that FERC was not inspecting or at times when inspectors were not present. In some cases, FERC staff learned of serious instances of noncompliance.

As previously noted, FERC has two environmental branches, one that is primarily responsible for construction occurring west of the Mississippi, and the other that is primarily responsible for construction occurring east of the Mississippi. FERC required pipeline companies to submit weekly and

monthly compliance reports prepared by themselves or their environmental contractors on three projects constructed west of the Mississippi that involved preparation of environmental impact statements. FERC uses these reports to ensure that all environmental mitigation measures are being taken. However, in the same geographical area, FERC is not always requiring pipeline companies to submit compliance reports covering all mitigation measures for projects that involved preparation of major environmental assessments. Major environmental assessments are less detailed than environmental impact statements but are also issued for public comment. However, projects involving preparation of major environmental assessments generally involve sensitive environmental areas and numerous mitigation measures.

As a result of the compliance reports prepared by pipeline companies or their contractors, FERC's environmental staff have found noncompliance on pipeline segments that were not inspected, or which occurred after or between inspections. Some instances of noncompliance have been serious. For example, in one case FERC staff found that a pipeline company's contractor did not design or use erosion and sediment control devices as required by the mitigation measures. As a result, excessive and uncontrolled turbid water was released downstream from the crossing. As mentioned earlier, suspended soil particles in streams or rivers can suffocate aquatic insects and are detrimental to breeding grounds where fish spawn.

During the course of our review, FERC's environmental branch responsible for projects constructed east of the Mississippi recommended that the Commission require a pipeline company to submit biweekly compliance reports. According to a FERC official, the branch also intends to recommend that the Commission require such reports for all future projects involving environmental impact statements and major environmental assessments. However, neither of FERC's environmental branch chiefs have made it a formal policy to recommend the reports. By consistently requiring pipeline companies to provide these reports for all projects that require preparation of major environmental analyses, FERC would have greater assurance that companies are complying with environmental requirements on portions of pipeline construction that FERC is unable to inspect.

Repeated Violations Suggest Need for More Effective Enforcement Authority

According to FERC's records, FERC inspectors found noncompliance in about half of the projects constructed under the NGA that they inspected over an approximately 5-year period. In several cases, pipeline companies repeatedly failed to comply with FERC's environmental requirements. However, as previously mentioned, while FERC has authority to impose civil penalties against companies that do not comply with environmental requirements during construction of facilities authorized under the NGPA, it does not have such authority for construction authorized under the NGA.

Repeated noncompliance with FERC's environmental requirements suggests the need for more effective enforcement authority under the NGA. According to FERC's records, during the period October 1, 1987, through June 30, 1992, FERC staff found some form of noncompliance with FERC's environmental requirements in 37, or 47 percent, of 79 projects constructed under the NGA that were inspected. The instances of noncompliance found included failure to properly maintain erosion and sediment control devices, insufficient seeding to revegetate areas cleared during construction, and improper storing or handling of hazardous wastes, such as hydraulic fluids and engine grease.

In 15, or 41 percent, of the cases in which FERC found noncompliance, pipeline companies committed repeated or multiple similar violations at various points throughout the project, sometimes despite FERC staff's requests that such problems be corrected. For example, according to a FERC official, during construction of an 837-mile pipeline from near Opal, Wyoming, to Bakersfield, California, the Kern River Gas Transmission Company repeatedly violated requirements to reduce erosion, sedimentation, and other impacts on several rivers, despite FERC's attempts to bring the company into compliance. Utah eventually temporarily revoked one of the company's stream-crossing permits for unreasonable and unnecessary effects on aquatic life, inadequate sediment control, and several other violations of the conditions associated with the permit. An official of the responsible state agency told us that the permit was revoked because FERC was not taking effective action in response to the noncompliance.

To bring pipeline companies into compliance when violations are detected, FERC inspectors raise concerns with company officials while in the field and the Director of OPPR or his designee issue letters requesting explanations for violations and remedial action. However, as previously mentioned, pipeline companies do not always correct practices that result in noncompliance.

FERC Does Not Have Authority to Impose Civil Penalties for Construction Under the NGA

FERC does not have authority to impose civil penalties against pipeline companies for noncompliance with environmental requirements and mitigation measures in conjunction with construction under the NGA, even for repeated violations. For example, during construction of the Iroquois pipeline, FERC documented numerous instances of noncompliance, some of which were serious. But it did not have authority to impose civil penalties to bring about corrective action. However, as reported earlier, New York State settled for $2 million in penalties for environmental violations that took place within the state.

In contrast, FERC does have authority to impose civil penalties to enforce environmental requirements for construction pursuant to section 311 of the NGPA. Under section 311, FERC allows construction of pipeline facilities for the purpose of transporting gas on behalf of a third party, such as a local distribution company. This type of construction does not require FERC's prior approval and accounts for much less construction than construction conducted under the NGA. However, pipeline companies are required to provide FERC with 30 days' advance notice of intent to construct major facilities pursuant to section 311. They must also comply with FERC's basic environmental requirements. Pipeline companies that construct projects under this authority are subject to civil penalties of up to $5,000 per day for noncompliance with FERC's environmental requirements. FERC has used its civil penalty authority under the NGPA. The largest fine imposed under this statute was $11 million against the Transcontinental Pipeline Company for failure to complete an archeological survey before construction of a pipeline in Mobile Bay, Alabama. As a result, 48 archeological sites were either damaged or destroyed.

Even without civil penalty authority under the NGA, FERC can enforce compliance with its environmental requirements through several other mechanisms. These mechanisms include requiring a pipeline company to shut down construction on segments where it is not in compliance; obtaining a court injunction to stop construction; and seeking remedies, restitution, or return of profits resulting from unlawful acts. In addition, according to one FERC Commissioner, the Commission can hold pipeline companies accountable for environmental and other violations through the rates FERC allows them to charge customers for transportation and storage services. FERC staff also told us that FERC can revoke certain privileges from pipeline companies, such as authority to initiate actions without prior approval. Although some of these measures have been used on occasion, according to FERC officials, they are extreme and difficult to

employ. For example, shutting down construction could be counterproductive because it might delay delivery of gas to customers awaiting gas service. Several of the Commissioners we spoke with, including FERC's former Chairman and General Counsel, said that civil penalty authority would provide a useful enforcement tool. The Deputy General Counsel told us that FERC has civil penalty authority to enforce most of its other requirements and that it has been particularly helpful in hydroelectric regulation. The current Chair also supports such authority but believes FERC would need to demonstrate a compelling need in order to overcome expected opposition.

According to a FERC official, FERC staff have recommended to the Commission on several occasions over the years that civil penalty authority be sought from the Congress to enforce compliance with environmental requirements during construction authorized under the NGA. However, according to the Director, OPPR, no documentation regarding the recommendation or its disposition could be located in FERC files. The Director informed us, however, that he continues to believe that civil penalty authority would enhance FERC's enforcement efforts. FERC's former Chairman and General Counsel told us that during recent deliberations on the Energy Policy Act of 1992, FERC staff held informal discussions with congressional staff on this issue. However, the natural gas provisions of the act were largely deleted before its passage.

Conclusions

FERC is responsible for ensuring that the pipeline companies to which it grants approval to construct facilities comply with requirements designed to limit the impact of construction on the environment. In recent years, FERC has taken steps to improve its environmental compliance program. However, FERC could further improve its compliance program by requiring pipeline companies to notify it in advance of construction in all environmentally sensitive areas. In addition, FERC could make inspection of such construction a priority, particularly when a pipeline is crossing these areas for the first time. By requiring more pipeline companies to submit environmental compliance reports covering all of the mitigation measures identified in the order approving construction, particularly on major projects, FERC could have greater assurance that requirements are being met on segments not scheduled for inspection, or between or after inspections. FERC has authority to take certain actions to enforce compliance with its environmental requirements. It can, for example, seek injunctions to halt construction and require remedies and restitution. However, these methods are rarely used in cases of environmental

violations because of the potential adverse effect on customers awaiting gas service, or because they are otherwise considered inappropriate. By seeking civil penalty authority under the NGA similar to existing authority under the more recent NGPA, FERC could arm itself with an additional and, in some cases, a more effective tool for dealing with repeated violations. Such authority would also provide an additional tool to enforce reporting requirements promulgated under the NGA, as discussed in chapter 2.

Recommendations

To further improve FERC's environmental compliance program, we recommend that FERC's Chair take the following actions:

- Require pipeline companies to provide FERC with notification similar to that already made to states in advance of construction affecting environmentally sensitive areas, such as streams and rivers, and give priority to inspecting such construction activity, particularly if it involves the first crossing of these areas.
- Develop a formal policy requiring all pipeline companies whose construction projects involve preparation of environmental impact statements or major environmental assessments to submit weekly or biweekly environmental compliance reports on all mitigation measures identified in FERC's order approving construction.
- Seek civil penalty authority from the Congress to enforce compliance with requirements under the NGA and use such authority, particularly in cases of repeated violations.

Major Contributors to This Report

Resources, Community, and Economic Development Division, Washington, D.C.

Gregg A. Fisher, Assistant Director
Brian T. McLaughlin, Assignment Manager
Charles E. Wilson, Jr., Evaluator-in-Charge
Steve J. Schamberger, Staff Evaluator

Office of the General Counsel

Michael G. Burros, Senior Attorney

Related GAO Products

Comments on "Airline Competition Enhancement Act of 1992" (GAO/T-RCED-92-71, June 18, 1992).

Computer Reservation Systems: Action Needed to Better Monitor the CRS Industry and Eliminate CRS Biases (GAO/RCED-92-130, Mar. 20, 1992).

Natural Gas: Factors Affecting Approval Times for Construction of Natural Gas Pipelines (GAO/RCED-92-100, Feb. 26, 1992).

Natural Gas: Factors Affecting the Time It Takes to Approve Construction of Natural Gas Pipelines (GAO/T-RCED-91-73, June 27, 1991).

Airline Competition: Pending Legislation Helps to Address Serious Competitive Problems (GAO/T-RCED-91-54, May 15, 1991).

Energy Reports and Testimony: 1990 (GAO/RCED-91-84, Jan. 1991).

Energy: Bibliography of GAO Documents January 1986 - December 1989 (GAO/RCED-90-179, July 1990).

Competition in the Airline Computerized Reservation System Industry (GAO/T-RCED-88-62, Sept. 14, 1988).

Natural Gas Regulation: Pipeline Transportation Under FERC Order 436 (GAO/RCED-87-133BR, June 9, 1987).

Airline Competition: Impact of Computerized Reservation Systems (GAO/RCED-86-74, May 9, 1986).

(308854)

Ordering Information

The first copy of each GAO report and testimony is free. Additional copies are $2 each. Orders should be sent to the following address, accompanied by a check or money order made out to the Superintendent of Documents, when necessary. Orders for 100 or more copies to be mailed to a single address are discounted 25 percent.

Orders by mail:

U.S. General Accounting Office
P.O. Box 6015
Gaithersburg, MD 20884-6015

or visit:

Room 1000
700 4th St. NW (corner of 4th and G Sts. NW)
U.S. General Accounting Office
Washington, DC

Orders may also be placed by calling (202) 512-6000
or by using fax number (301) 258-4066.

PRINTED ON RECYCLED PAPER

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

Official Business
Penalty for Private Use $300

First-Class Mail
Postage & Fees Paid
GAO
Permit No. G100