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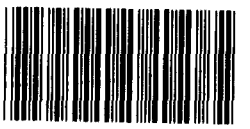
Report to the Chairman, Environment, Energy, and Natural Resources Subcommittee, Committee on Government Operations, House of Representatives

February 1992

NATURAL GAS

Factors Affecting Approval Times for Construction of Natural Gas Pipelines



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United States
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Resources, Community, and
Economic Development Division

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February 26, 1992

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

Dear Mr. Chairman:

The administration's 1991 National Energy Strategy and bills before the Congress encourage the expanded use of natural gas to help meet the nation's energy needs. Natural gas has advantages over other sources of energy: it is abundant domestically, can be substituted for imported oil, and raises fewer environmental concerns than other fossil fuels. Your letter of August 29, 1990, expressed concern about the length of time that the Federal Energy Regulatory Commission (FERC) takes to approve applications to construct natural gas pipelines. You requested that we review FERC's process for approving these applications and efforts to streamline the process.

On June 27, 1991, we testified before your Subcommittee on the preliminary results of our review and identified five factors that FERC and industry officials said affect processing time.[1] This report updates the information in our testimony on the length of time FERC takes to approve applications and provides additional analysis of the factors associated with processing time.

Results in Brief

FERC approved 171 applications to construct natural gas pipelines and related facilities between October 1, 1987, and February 28, 1991. The median processing time was about 1 year. However, 78 applications, or 46 percent, took longer than 1 year, with 13 taking 2 or more years to complete.

According to FERC and industry officials, five principal factors increase processing time. The first of these factors, unresolved policy issues, can be grouped into the following categories: open access transportation, which allows customers to purchase gas supplies directly from producers rather than pipelines and guarantees nondiscriminatory pipeline transportation

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

fees; rate design; competition; and the importation of natural gas. The second factor officials cited was projects involving multiple applicants. The third factor was environmental reviews, which are published for public comment. Such reviews include environmental impact statements (the most comprehensive form of analysis) and less detailed formal environmental assessments. The last two factors mentioned by these officials were incomplete applications and intervention by competitors or other parties such as landowners, environmentalists, and public interest groups.

For applications with unresolved policy issues, we estimate that open access transportation increased processing time by 218 days on average and rate design issues increased processing time by 163 days on average. For applications involving multiple applicants, processing time increased by 58 days on average for each additional applicant within a project. We could not distinguish the influence of the other factors because of the interrelationships between them.

FERC has taken or proposed actions to streamline its approval process. Several legislative initiatives have also been proposed to speed or eliminate the need for FERC's approvals. Irrespective of these actions, however, FERC could further improve its approval process by (1) better informing and training its staff and others on policy changes, (2) negotiating generic agreements with other federal agencies on their environmental reviews of pipeline applications, and (3) strengthening its management information system.

Background

Under the Natural Gas Act of 1938, as amended, FERC approves applications to construct interstate pipelines and related facilities, such as compressor stations to move natural gas. Natural gas competes with other fuels, such as electricity and oil, that are transported by facilities that historically have not required federal approval for construction. According to the Department of Energy and others, FERC's expeditious processing of applications to construct pipelines is necessary to help ensure the maximum use of natural gas.

Traditionally, in order to construct interstate natural gas pipelines, companies have sought from FERC certificates of public convenience and necessity, which grant approved rates and convey eminent domain under section 7 of the Natural Gas Act. Important considerations in FERC's decision to grant this traditional certificate of approval include analyses of

proposed markets and supplies for natural gas; consumer protection issues, including rate impacts; and potential environmental or cultural-resource damage from pipeline construction. FERC's approval of pipeline construction is a major federal action that requires an environmental analysis as specified in the National Environmental Policy Act of 1969.

Time Taken to Process Applications

Between October 1, 1987, and February 28, 1991, FERC's median processing time was 344 days to approve 171 applications to construct new natural gas pipelines and related facilities.[2] Processing times ranged from 57 to 1,420 days. Seventy-eight applications, or 46 percent, took longer than 1 year; 13 took 2 or more years to complete—several of these were part of larger projects. Four construction applications—including two in the Northeast, where the need for additional supplies of natural gas has been a significant issue over the last decade—took up to 4 years from the date each application was first filed until FERC issued a certificate of approval. Intense competition and amendments to the original proposals contributed to this lengthy processing time. In addition, on October 1, 1991, six applications had been pending for more than 2 years. (App. I presents details on the time FERC takes to approve applications for certain types of pipeline construction.)

Several Factors Affect Application Processing Time

FERC and industry officials identified five principal factors that affect the time FERC takes to process applications for new pipeline construction:

- Unresolved policy issues. FERC has tended to address policy issues in individual applications rather than generically. According to FERC and industry officials, this approach can delay construction approval for individual applications.
- Multiple-applicant pipeline projects. Projects that involve more than one applicant or pipeline company are either filed jointly at FERC or formed later by a consolidation of competing applications filed at different times during FERC's review process. Such projects tend to increase the complexity of the process and slow it down.
- Environmental reviews. Major environmental reviews can be time-consuming. FERC usually initiates such reviews shortly after

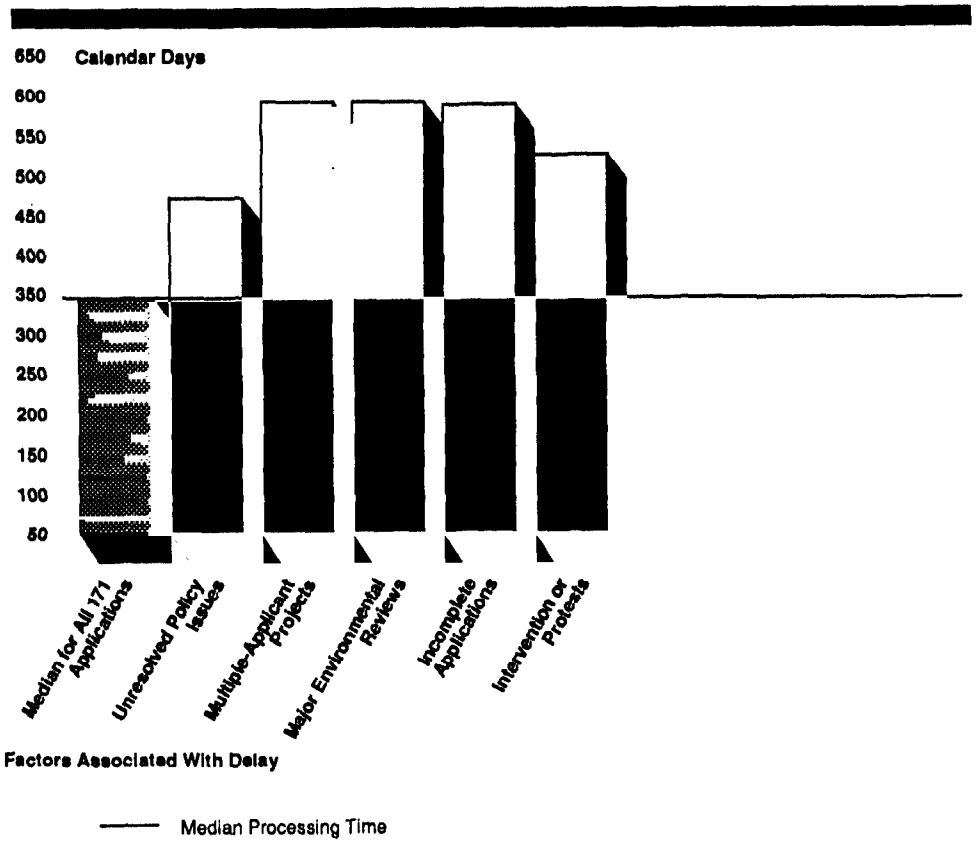
[2]Natural gas pipeline facilities constructed without FERC's review of a specific application are not reflected in the total. According to FERC officials, between 1987 and 1991, pipeline companies used the Commission's "blanket certificate" rule to construct about 5,100 minor facilities such as metering stations, which measure gas flows. Blanket certificate rules are applied to relatively minor facilities that require little or no FERC review before construction.

applications are filed, and environmental analysis comprises the longest continuous phase of the approval process. Major reviews, however, are almost always associated with large, complex pipeline projects that would more than likely result in lengthy processing times.

- Incomplete applications. Some applications filed by pipeline companies do not contain all the information FERC needs to proceed with its review. Such omissions require FERC to prepare and issue formal deficiency letters requesting more data. For the period of our review, FERC issued one or more deficiency letters for 92 applications, or about 54 percent of the total processed.
- Interventions or protests. Competitors or others can file applications to serve the same market or intervene legally to raise issues that require additional FERC consideration. Interveners can also include concerned landowners, environmentalists, or other interested parties.

We compared the median time FERC took to approve the 171 applications with the time it took when one or more of the above factors was present. As shown in figure 1, we confirmed that FERC generally took longer to issue certificates when one or more of these factors was associated with the application.

Figure 1: Median Processing Time When Certain Factors Are Present



Note: Major environmental studies include environmental impact statements and formal environmental assessments.

Source: GAO analysis of FERC data.

We also used regression analysis—a statistical technique for determining the degree of association between two variables while holding all others constant—to estimate the separate effect of each factor on FERC's processing time. Our analysis showed that because of statistical interdependence among these factors, only the effects of two unresolved policy issues and projects involving more than one applicant or pipeline could be estimated separately.

Major environmental reviews also contribute to increased processing time, but we were unable to quantify the separate effect of such reviews because of the interdependence of this factor with other factors. We could not distinguish the specific influence of two other factors—incomplete applications and interventions by competitors—but our results indicate

that at least one and possibly both of these factors also increased processing time. (App. II contains a detailed description of our statistical analysis.)

Specifically, the analysis showed that FERC took, on average, 166 days to approve applications that did not include any of the factors we tested for. This is the estimated time that it takes to approve, for example, a single, uncontested application for a minor facility, such as a metering station used to measure gas flows, which does not require a major environmental review. FERC exceeded this time, on average, by an additional

- 218 days for each unresolved policy issue related to open access natural gas transportation on pipelines,
- 163 days for each unresolved policy issue related to rate design, and
- 58 days for each additional applicant or pipeline associated with a project.[3]

Our regression analysis also analyzed the effect of other factors associated with processing time, such as the type of facility to be constructed—pipeline or compressor—and the approving authority—the Commission or the program director for natural gas pipelines. The Commission delegates approval authority for some applications to the Director, Office of Pipeline and Producer Regulation, who, in turn, can further delegate this authority. According to our analysis, these factors added to processing time

- 87 days when the Commission rather than the program director approved the application,
- 82 days for applications to construct pipelines (as opposed to applications for minor facilities), and
- 93 days for applications to construct compressor stations.

Actions Have Been Taken and Proposed to Speed Pipeline Approvals

FERC has taken actions to expedite pipeline construction approval, including (1) placing time limits on the filing of numerous potentially competitive applications; (2) adopting a two-phased decision approach that limits consideration of the competitive issues to phase one of the process, which in turn enables pipeline companies to arrange financing and place equipment orders earlier; (3) requiring fewer data on markets and supply if the applicant accepts more of the risk for not recovering its

[3]Estimates produced by our regression analysis are subject to variation. On the basis of our results, for example, we can be 95-percent confident that the additional processing time due to each additional policy issue related to open access transportation ranges between 173 and 264 days; 218 falls in the middle of this range (see app. II).

construction costs through FERC-approved rates; and (4) conducting early conferences with all interested parties to resolve technical issues.

FERC has also promulgated new regulations that would limit the level of its review for some applications.[4] According to FERC officials, the environmental review is the most time-consuming phase in the process for approving natural gas pipeline construction. FERC's new regulations would address this issue by shifting the responsibility for the development and coordination of environmental reviews, even for potentially very large projects, to the applicant and other federal and state agencies.[5] However, pipeline companies and others, such as the Council on Environmental Quality (CEQ)—an office within the Executive Office of the President responsible for providing guidance to federal agencies on the proper implementation of the National Environmental Policy Act—have opposed FERC's action to limit the Commission's involvement in preparing environmental reviews. As a result, FERC has delayed indefinitely the implementation of its new regulations in order to address these concerns. (FERC's environmental review process is discussed in more detail in app. III.)

Several bills before the Congress are aimed at streamlining the approval process and speeding pipeline construction, including proposals to (1) eliminate the need for FERC's approval under certain circumstances; (2) allow applicants, or contractors paid by applicants, to prepare environmental reviews; and (3) allow FERC Commissioners to hold nonpublic meetings on general policy issues.

Detailed evaluations of these proposals were not part of the scope of our review. However, it is likely that adoption of FERC's proposals or legislative proposals, particularly those that limit or eliminate FERC's approval, would address the factors discussed above and shorten the time required to begin construction.

[4]FERC published Order No. 555 (56 Fed. Reg. 52,331), entitled Revisions to Regulations Governing Authorizations for Construction of Natural Gas Pipeline Facilities, on Sept. 20, 1991.

[5]In its August 1990 notice of proposed rulemaking (55 Fed. Reg. 33,027, Aug. 13, 1990), FERC planned to raise the cost limit for blanket certificates from $16.6 million to $25 million, but its final rule omitted any cost limit and eliminated the exclusion of major natural gas pipeline facilities.

Additional Actions Could Further Improve Processing Time

Irrespective of the actions already taken or proposed, FERC could improve its performance in processing applications by

- better informing and training staff about changing policy issues and their implementation,
- negotiating generic agreements with other federal agencies to better coordinate their environmental and cultural-resource reviews for pipeline construction, and
- strengthening FERC's management information system.

Staff Training and Guidance on Policy Changes Could Be Improved

FERC's Chairman and the other Commissioners are responsible for formulating policy. FERC's staff is responsible for understanding and implementing the new policies. However, as FERC's Chairman acknowledged in testimony before your Subcommittee, policy changes are not always properly communicated to FERC staff. Unless policies are properly communicated, FERC staff and the industry may not understand how to implement them. Also, FERC's policies are not static, but are subject to change based partly on the changing composition of the five-member Commission and the nature of competition in the industry.

As noted above, unresolved policy issues are one of the factors associated with lengthy processing time. FERC's implementation of an optional certificate program, originally designed to speed approval of pipeline construction, is an example of how policy is sometimes poorly formulated, communicated, and implemented. Under this authority, pipeline companies do not get FERC-approved rates to help recover their construction costs because FERC does not review market and supply data.

According to FERC officials, poorly written regulations for the optional certificates, which staff did not understand, led to difficulty in implementing this new policy and slowed the processing of these applications. The officials said that this, in turn, led to less than expected use of such certificates. Although FERC adopted implementing regulations in 1985 for optional certificates—then called optional expedited certificates—it did not issue the first certificate until 1988. As of February 28, 1991, FERC had approved only eight other optional certificates. Also, the median processing time for these nine certificates was 528 days, which exceeded the median processing time for all applications by 184 days.[6] FERC officials also noted that another reason for this lengthy processing time

[6]The median time taken to process FERC's optional certificates includes the time FERC took to prepare an environmental impact statement for facilities initially proposed as separate traditional certificates but ultimately approved as optional certificates.

was that most of these applications were to construct large pipelines, which required major environmental reviews.

FERC's October 1, 1991, letter to your Subcommittee described efforts it has made since the June 27, 1991, hearings to improve communications on policy issues between the Commission and its staff at all levels, including such initiatives as holding officewide and branch-specific staff meetings. These measures should help, but the Commission could better ensure that FERC staff properly understand and implement its policies by formalizing these communications, making them a matter of record, and establishing a regular and systematic training program, including classroom orientation and instruction.

Interagency Agreements Could Speed Environmental Reviews

Even if, as discussed earlier, FERC is successful in shifting responsibility for the development and coordination of some environmental reviews to applicants, other federal agencies, and state agencies, it will likely continue to develop and coordinate other reviews. FERC maintains that the time taken by other federal agencies, such as the Department of the Interior, to review the potential damage caused by pipeline construction to the environment and cultural resources has been a major cause of processing delays. To reduce the time necessary to complete these reviews, FERC has sought additional authority in proposed legislation that would enable it to impose deadlines on other agencies' reviews.

Data provided by FERC at your Subcommittee's June 27, 1991, hearing, however, showed that the agencies' tardiness was not a major cause for delay. Only 45, or 26 percent, of the 171 approved applications required that environmental reviews be coordinated with other agencies. For each of these reviews, at least one federal agency responded after FERC's deadline for receipt of comments; the longest delay was 90 days. However, the median delay caused by late review comments from other federal agencies was only 9 days. To put this delay in perspective, the median environmental review time for these applications was 272 days and the overall median processing time was 590 days.

According to officials from the Advisory Council on Historic Preservation (an independent federal agency), the Department of the Interior, and CEQ, some delays occur because FERC seeks agency review of environmental documents at a late stage in application processing and establishes extremely tight deadlines for large and complex projects. These officials also testified that the National Environmental Policy Act encourages

interagency cooperation through agreements, sometimes referred to as programmatic agreements or memorandums of understanding, that spell out each agency's responsibilities. To the extent that other federal agencies delay environmental reviews, such agreements could help.

Collectively, these federal agency officials testified that interagency agreements could resolve generic issues and enable the agencies to focus their limited staff resources more quickly on the substantive issues in the review. According to CEQ's General Counsel, interagency agreements that establish programmatic treatment of environmental issues would provide flexible blueprints for decision-making and the analytical framework for considering project-specific issues, and can only help speed FERC's decision-making and make the process more consistent, fairer, and less costly.[7] A natural gas pipeline trade association also recently recommended that FERC enter into such interagency agreements.

Improvements Are Needed in FERC's Management Information System

FERC's management information system—the Key Indicator Case Tracking System (KICTS)—and similar systems in the program offices, including the office responsible for processing pipeline applications, were developed to enable the agency to evaluate the performance of specific programs and to manage work load and resources. KICTS, however, does not enable FERC to effectively evaluate its application review process because the system does not retain the original target dates for key phases in the review process after the phases are completed. If the data were retained, FERC could assess its performance in meeting target dates and identify areas needing improvement. In addition, FERC does not track other key data, such as the timeliness of applicants' responses to FERC's data requests or the timeliness of environmental review comments provided by other federal agencies. Although FERC maintained that late reviews by other federal agencies slowed its review process, it could not easily produce information to support this assertion.

At your request, on July 25, 1991, we met with FERC officials, including representatives of the Chairman and the Executive Director's Office and the program director for natural gas pipelines, to discuss needed changes to KICTS. We discussed GAO's concerns and proposed solutions. FERC officials agreed that an effective and well-utilized management information

[7]FERC negotiated 11 interagency agreements between 1974 and 1991 on environmental reviews for natural gas pipelines; however, these agreements were specific to individual applications rather than generic in scope. These agreements include seven memorandums of understanding negotiated between 1974 and 1989 and four programmatic agreements reached in 1991—the most recent on July 19, 1991.

system is important and reported to you their intention to make changes along the lines that we had discussed. These changes have not yet been implemented, but FERC officials indicated that they would be made by March 15, 1992.

Conclusions

During the period of our review, FERC's median processing time for approval of construction applications was about 1 year, but some approvals took much longer. FERC has taken or proposed a number of steps that could shorten the time it takes pipeline companies to receive approval to begin construction. In addition, the Congress is considering a number of legislative proposals aimed at speeding or eliminating the need for FERC's approval. A number of these actions could shorten the time required to begin pipeline construction. Nevertheless, FERC could take additional steps to further improve its timeliness and performance in processing applications.

More effective communication of policy changes, including the use of related training programs, could speed the processing of applications through greater understanding on the part of FERC staff of how such changes affect specific applications. Interagency agreements with other federal agencies that spell out roles, responsibilities, and time frames for action could expedite environmental and cultural-resource reviews and better protect such resources, particularly in those instances in which FERC limits its review. Finally, FERC could better evaluate and improve its processing of applications by strengthening its KICTS management information system. The system could be modified to (1) retain original and subsequent target dates for completing FERC actions or approval phases and (2) capture dates related to the timeliness of applicants' responses to data requests and other federal agencies' actions on coordinated environmental reviews.

Recommendations

We recommend that the Chairman of FERC take the following actions:

- Develop better methods of communicating FERC policy decisions, including (1) clear, written explanations of the Commission's policy changes for FERC staff and the public and (2) regular and systematic classroom training for FERC staff;
- enter into interagency agreements with federal agencies that (1) resolve potential generic issues, (2) spell out the duties and responsibilities of each party with respect to environmental reviews for natural gas pipelines,

and (3) establish time frames for completing these duties and responsibilities; and

- amend KICTS to (1) retain original and subsequent target milestone and completion dates and (2) capture the timing of industry responses to FERC's data requests and the performance of federal agencies in meeting dates established for completing pipeline environmental reviews.

We conducted our review between October 1990 and December 1991 in accordance with generally accepted government auditing standards. We did not perform a reliability assessment of FERC's management information system, but as discussed earlier we identified certain weaknesses in this system. These weaknesses, however, did not affect the reliability of the data that we used in our analysis. Appendix IV describes the scope and methodology of our review.

We discussed the material presented in this report with FERC officials and have incorporated their views where appropriate. However, as requested, we did not obtain written comments from FERC on a draft of this report.

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 of this report to the Chairman, Federal Energy Regulatory Commission; congressional energy committees and subcommittees; and other interested parties. We will also make copies available to others on request.

This work was conducted under the direction of Victor S. Rezendes, Director, Energy Issues, who may be reached at (202) 275-1441. Other major contributors to this report are listed in appendix V.

Sincerely yours,

J. Dexter Peach
Assistant Comptroller General

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Abbreviations

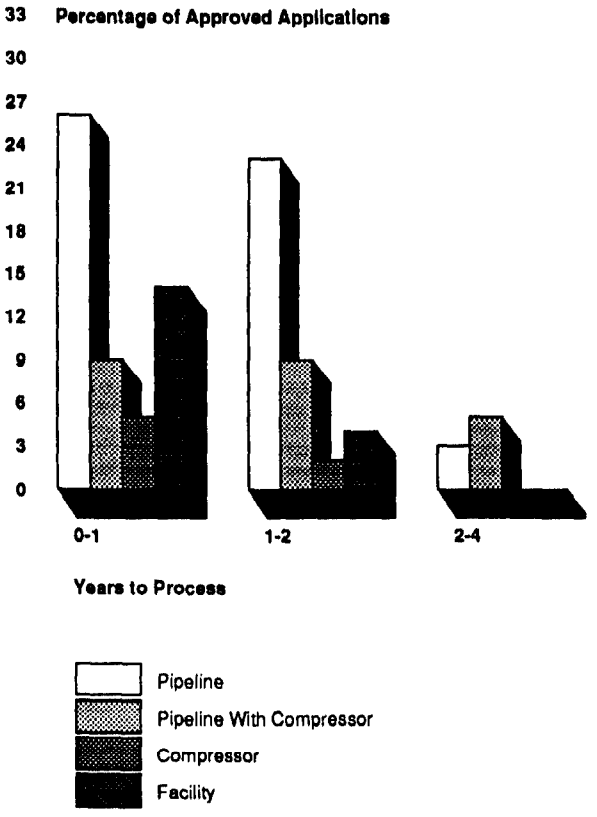
CEQ	Council on Environmental Quality
FERC	Federal Energy Regulatory Commission
GAO	General Accounting Office
KICTS	Key Indicator Case Tracking System
OLS	Ordinary Least Squares

FERC's Median Processing Time for Various Types of Projects

The Federal Energy Regulatory Commission's (FERC) median processing time for 171 applications to construct natural gas pipelines and related facilities approved between October 1, 1987, and February 28, 1991, was 344 days. Construction applications vary widely in scope and complexity. Applications can be for pipelines ranging from several hundred feet to several hundred miles long, compressor stations used to move the gas, other facilities such as metering stations to measure gas flows, or any combination of the three. The range of time it took FERC to approve applications was from 57 days for a 2.8-mile pipeline with one compressor station to 1420 days for a 43.9-mile pipeline with one compressor station and four metering stations.

The median processing time varied by 246 days depending on the type of construction—464 days for pipelines with compressors, 360 days for pipelines, 316 days for compressors, and 218 days for other facilities. As figure I.1 shows, FERC took longer to process applications to construct pipelines and pipelines with compressors than it took to process applications for compressors alone or other facilities.

Figure I.1: Time Required to Process Various Types of Construction Applications



Source: GAO analysis of FERC data.

Table I.1 shows the actual numbers of construction applications, by type of facility, that FERC approved in under 1 year, under 2 years, and between 2 and 4 years.

Table I.1: Time Required to Process Various Types of Construction Applications

Type of construction	Years	Number	Percentage of total
Pipeline	0-1	45	25
	1-2	39	23
	2-4	5	3
Pipeline with compressor	0-1	15	9
	1-2	15	9
	2-4	8	5
Compressor	0-1	9	5
	1-2	4	2
	2-4	0	0
Facility	0-1	24	14
	1-2	7	4
	2-4	0	0
Total		**171**	**100**

Source: GAO analysis of FERC data.

Factors Associated With Processing Time for Applications to Construct Natural Gas Pipelines and Related Facilities

We examined data on 171 applications to construct new natural gas pipelines and related facilities approved by FERC between October 1, 1987, and February 28, 1991. We used regression analysis to identify factors that affect application processing time and to estimate the extent of the association. Our analysis indicated that several factors are associated to a statistically significant degree with longer processing times. However, interdependence among some of the factors prevented us from distinguishing their separate influence on processing time.

Identifying Factors Associated With Delay

We interviewed FERC officials, including the Chairman and other Commissioners; industry officials; and other experts to identify factors associated with processing time. Collectively, they said that five principal factors contributed significantly to FERC's processing time: unresolved policy issues, multiple-applicant projects, environmental reviews, incomplete applications, and interventions by competitors or others. As our review progressed, we decided to analyze two other factors: the level at which the application was approved within FERC and the type of facility constructed. We also analyzed the type of certificate issued and whether the application was processed under FERC's "open season" procedures for numerous potentially competitive applications.[1] These nine factors are described in detail below.

Unresolved Policy Issues

FERC, in its management information system, assigned fifteen generic policy issue codes to applications processed during the period of our review. We determined and FERC officials confirmed that these codes could be grouped into four categories, as follows: (1) open access transportation of natural gas, (2) rate design, (3) competition, and (4) importation of natural gas.

Open Access Transportation. The natural gas industry has been undergoing a major transition since FERC implemented its open access orders in 1985, enabling end-users to purchase and transport gas from multiple sellers other than pipelines, which had been the traditional suppliers. According to FERC Commissioners and industry officials, this transition has not been smooth. Open access has raised many issues that the Commission has had difficulty resolving, such as whether to allow an interstate pipeline company to bypass state-regulated distributors and provide natural gas directly to major end-users.

[1]FERC's open season procedures established time frames for the filing of potentially competitive applications and methods for combining separate applications for the same market into larger projects.

Rate Design. FERC, as part of its congressional mandate, must determine that new pipeline construction meets the criteria of public convenience and necessity. Inherent in this decision is an analysis of the proposed construction costs and how these costs will be billed to rate-paying customers. Since 1985 FERC has experienced greater difficulty with these decisions because the natural gas market is becoming increasingly complex. The number of parties now participating in the sale and transportation of natural gas makes it more difficult to judge the prudence of proposed construction projects and assign their costs.

Competition. The natural gas industry has also become more competitive since FERC issued its open access orders. Not only has competition within the industry grown, but natural gas has become increasingly competitive with other forms of energy, such as fuel oil, for residential heating. This level of competition has raised and made more complex those issues that FERC must consider when approving new pipeline construction for a particular market.

Importation of Natural Gas. Canada, like the United States, has abundant supplies of natural gas. Canadian gas producers have increasingly responded to market opportunities in the United States, particularly in those states that are contiguous to or near the Canadian border. Competition between Canadian and domestic gas producers for these markets has been intense, partly because FERC and the Canadian National Energy Board used different rate designs, which affected the rates consumers pay. FERC recently decided to change its rate design so the design is now comparable to the rate design used in Canada.

Multiple-Applicant Projects

Projects, as discussed later, have more than one applicant or pipeline. In the case of competitive applications, either FERC would have to choose one application from among those filed to serve a particular market, or the applicants would reach a settlement and decide to combine elements of their respective proposals into a joint project. In a few cases, multiple-applicant pipeline projects were filed at FERC. According to FERC's Chairman, reviewing interdependent applications increased overall processing time.

Environmental Reviews

The complexity of the environmental review varies with the application. The three types of review are: (1) environmental impact statements, (2) formal or major environmental assessments, and (3) informal or minor environmental assessments, which are not published for comment as are

the other two types. FERC also categorically excludes some facilities from environmental review.

Incomplete Applications

According to FERC's Chairman, not all applicants "do their homework" adequately before submitting the material required in a filing. In some cases, an application may be followed by competing applications that are filed hastily by other companies eager not to lose a business opportunity. Or, circumstances may require applicants to amend their initial filing while it is being processed, but the applicant may fail to provide adequate information for FERC to assess the amended proposal.

Intervention

Competitors or other parties may intervene—a legal form of participation—in the process. For applications, competition was usually manifested in interventions by other natural gas companies that wanted to serve the same market or suppliers of other fuels worried about encroachment on their markets from natural gas. Intervention might also take place through the filing of competing applications. Other parties—including end-users, landowners, and local jurisdictions—sometimes intervened to oppose a proposed pipeline project because it could negatively affect their existing levels of service, rates, or property. FERC is required to consider formal intervention by third parties in reviewing applications for natural gas construction projects.

Approval Level

The Commission delegates authority to FERC's program director for natural gas pipelines to approve minor or noncontroversial applications. For instance, the program director can approve applications to construct pipelines, compressors, or metering stations that involve minimal impact on the environment and current pipeline company service obligations, and that are not opposed by other parties.

Type of Facility

FERC officials said that applications to construct natural gas facilities, such as pipelines and compressor stations, generally take more time to process than applications for other facilities, such as interconnection points or metering stations. (See app. I.) Environmental issues related to the routing or physical location of pipelines and compressors can increase the processing time for these facilities.

Type of Certificate

Under section 7 of the Natural Gas Act, FERC approves applications to construct interstate pipelines and related facilities. For pipelines and other facilities exceeding $16.6 million, FERC reviews applications and can award either a traditional section 7 or an optional certificate of approval. The traditional certificate, which grants approved rates and conveys eminent

domain authority to obtain right-of-way for the pipeline route, requires FERC to analyze market, supply, technical, and environmental data. The optional certificate was intended to expedite FERC's review by requiring that FERC staff analyze only environmental data.

Open Season Procedure

As noted earlier, FERC established the open season procedure to expedite the processing of numerous potentially competitive applications to serve the same market. FERC has twice used this procedure to expedite application processing—for 72 applications to serve the Northeast market and for 13 applications to deliver gas supplies from Mobile Bay, Alabama, to onshore pipelines.

The Variables in GAO's Analysis

To determine whether and to what extent the above factors affected processing time, we gathered data, as discussed below, from 171 FERC application files and other documents for the period October 1, 1987, to February 28, 1991. We defined a "project" as a group of applications that were dependent on each other, so that processing time for one application was contingent on the processing time of all applications within the project. We combined the data corresponding to such applications and treated the project as a single application.[2] This reduced the 171 applications to 146 applications for our analysis. We also dropped 17 applications that lacked sufficient data related to all the factors. We conducted our regression analysis on the 129 remaining applications.

The principal problem in constructing our analytical model was to identify variables in FERC's application files and other documents that would correspond as directly as possible to the factors we were told affected processing time. We identified 19 variables that related to the nine factors described above. We questioned FERC's Director of Economic Policy about our choice of variables for the statistical analysis and he agreed with our selections. Some of these variables corresponded directly to one or another of the nine factors, while the relationship of other variables to the factors was less direct. The 19 variables, in addition to the variable that measures the time taken to process applications, are described below. The abbreviation for each variable described below is used in our regression equations.

DAYS, which served as the dependent variable in the regression analysis, measured the number of days between the date an application was filed

[2]When we combined applications that were part of a project, we aggregated the relevant data. For example, we totaled the number of interveners, length, cost, etc., unless there was overlap.

and the date of certification. In some cases, a pipeline company filed both a traditional section 7 and an optional application, at different times, to construct substantially the same project. In those cases, we measured DAYS as the difference between the certification date of the approved application and the earliest filing date among the original applications.

FERC identified various unresolved policy issues associated with applications and assigned a code for each of these issues. We classified the codes into the following four categories, which served as our unresolved policy issues variables:

- the industry's transition to open access pipeline carriage of natural gas (TRN),
- rate design (RAT),
- competition among interstate natural gas pipeline companies and between natural gas and other fuels for markets (CMP), and
- imports of Canadian gas (IMP).

For each of these four variables, the values we assigned correspond to the number of relevant codes appearing in the files. We expected these policy issues to increase DAYS.

ENV indicated the type of environmental review. We assigned a value of 1 to ENV if FERC performed an environmental impact statement or a formal environmental assessment of the facilities proposed in the application and a value of 0 if FERC performed an informal environmental assessment or determined that pipeline or facilities in the application could be categorically excluded from environmental review.[3] We expected environmental impact statements and formal environmental assessments to increase DAYS.

COMB indicates the number of approved applications that were part of a project. For an application that is not part of a project, COMB takes the value of 1. COMB is also related to competitive factors. In some cases FERC combined competing applications through its open season process. We expected the complexities associated with integrating the review of multiple applications within a project to increase DAYS.

[3]Data were available on how many days elapsed between the beginning and the end of the environmental review for each application. We compared the average and the range of days for environmental impact statements, formal environmental assessments, informal environmental assessments, and categorical exclusions. There was considerable overlap between environmental impact statements and formal environmental assessments on the one hand and informal environmental assessments and categorical exclusions on the other hand, so we decided to group the former two and the latter two together.

INTV signified the number of third parties that intervened in the application process. However, the variable does not differentiate between third parties who intervened in favor of or in opposition to the application. We found that third parties intervened either simply to receive information regarding applications, to support the applicant's proposal, or to oppose certification. The latter category might include other natural gas companies that wanted to serve the same market or environmentalists who opposed the construction project. Interveners might also be suppliers of other fuels who feared encroachment on their market from natural gas and who intervened to contest the need for additional gas supplies. Therefore, INTV is related to several of the factors mentioned above. We expected INTV to increase DAYS.

RSP signified the total number of responses by the applicant to some of the interveners (so RSP is a subset of INTV). We learned that applicants are more likely to respond in writing to those interveners whose protests present more serious challenges to the application. Our interviews with agency officials and review of application files indicated that high INTV and RSP values generally meant considerable intervention by competing business interests. We expected RSP to increase DAYS.

LTR signified the number of deficiency letters that FERC sent to the applicant to point out unsatisfactory information or to request further information. We used LTR as a measure for incomplete applications and expected it to increase DAYS.

SESN signified whether the application was processed under FERC's open season procedure, in which time limits are placed on filing numerous potentially competitive applications in order to reduce processing time. Those applications processed and approved under this procedure were assigned a value of 1; those applications that were not processed in this manner were assigned a value of 0. Most applications processed under the open season procedure required environmental impact statements or formal environmental assessments. Thus, SESN may be related to ENV. We had no prior expectations as to whether SESN would increase or decrease DAYS.

WHO signified whether the Commission approved the application, in which case we assigned it a value of 1, or whether the program director for natural gas pipelines approved it, in which case we assigned it a value of 0. We expected applications approved by the program director to take fewer DAYS because they involved no protesting interveners, were generally for

smaller pipelines and facilities, and did not require formal environmental reviews. According to FERC officials, achieving consensus among the five Commissioners on key policy issues is another reason it takes the Commission longer to approve applications than it takes the program director.

CRT signified whether FERC approved the application as a traditional section 7 certificate, in which case it was assigned a value of 1, or as an optional certificate, in which case it was assigned a value of 0. We expected that traditional section 7 certificates would increase DAYS because, unlike the optional certificates, such certificates require FERC staff to review detailed information on gas supplies and markets.

PIPE, PUMP, and FCLTY signified the type of proposed construction activity. These denoted, respectively, pipeline, compressor station, and all the other types of facilities, such as metering stations, gas storage stations, and interconnection points. If an application proposed pipeline construction, we assigned PIPE a value of 1; otherwise we assigned it a value of 0, and so on. An application can include all three types of construction projects. We expected FCLTY to contribute less to DAYS than PIPE and PUMP did. However, we did not have expectations about whether PIPE or PUMP would contribute more to DAYS.

LGTH measured the length of pipeline when this variable appeared in the application. For those applications that did not include pipeline, we gave length a value of 0. Some of the applications approved by FERC were only for compressor stations or metering stations, which required no pipeline construction. We assumed that the longer the pipeline, the greater the chance of running into problems related to rights-of-way, "not-in-my-backyard" opposition, local jurisdictional regulations, and environmental issues. Therefore, LGTH is probably related to the variables ENV and INTV. We expected LGTH to increase DAYS.

COST measured the approved cost to construct pipelines or other facilities. We expected COST to be closely related to LGTH. COST would be meaningful for applications to construct compressors and related facilities in which no pipeline was included. In such a case, LGTH would take on a value of 0, but COST could be quite large. We expected COST to increase DAYS.

DNSTY measured the average population density in the states in which the proposed construction was to be located. Pipeline officials told us that it is

more difficult to locate natural gas pipeline in more densely populated locations, such as the Northeast. We therefore expected DNSTY to increase DAYS.

INC measured per capita income in the state in which the construction was proposed. In cases in which construction was proposed in more than one state, we used a simple average across the states. This variable was included because we assumed that "not-in-my-backyard" and environmental objections to natural gas construction projects were probably stronger in more affluent locations. Therefore, INC may also be related to INTV and ENV. We expected INC to increase DAYS.

The occurrence of these variables in our data set of 129 applications varied. For example, as shown in table II.1, eight of the 129 applications had unresolved policy issues related to open access transportation. Furthermore, a variable can occur more than once in an individual application. For example, the number of unresolved policy issues appearing in an applications ranged from one to five.

Table II.1: Occurrence, Median Value, and Range of the Variables

Variable	Occurrence	Median Value[a]	Range[b]
DAYS	129	348	72-1,699
TRN	10	0	0-5
RAT	11	[c]	[c]
CMP	36	0	0-3
IMP	14	0	0-2
ENV	23	[c]	[c]
COMB	18	1	1-7
INTV	116	6	0-184
RSP	49	0	0-15
LTR	76	1	0-15
SESN	14	[c]	[c]
WHO	101	[c]	[c]
CRT	123	[c]	[c]
PIPE	96	[c]	[c]
PUMP	35	[c]	[c]
FCLTY	53	[c]	[c]
LGTH	97	3[d]	0-1,060
COST	129	$5[e]	$0.01-$769
DNSTY	129	100[f]	5-730
INC	129	10,288[g]	8,141-14,090

[a]The midpoint value for each variable occurring in the 129 applications.

[b]Range based on minimum and maximum values for each variable occurring in the 129 applications.

[c]Not applicable.

[d]Measured in miles.

[e]Dollars in millions.

[f]Population per square mile.

[g]Income per capita in dollars.

Source: GAO analysis of FERC data.

GAO's Regression Analysis

We used regression analysis to determine if the above variables are related to application processing time and, if so, to estimate the extent of their impact. The model that we estimated was the following:

Equation 1: $DAYS = C + a_1x_1 + ... + a_{19}x_{19} + e$,

where DAYS is the dependent variable as defined above, C is a constant term, a's are coefficients, x's are the 19 variables, as defined above, and e is a random error term. We estimated equation 1 using Ordinary Least Squares (OLS), a standard technique in regression analysis.

Estimation results for equation 1 are presented in Table II.2. The first coefficient listed, C, denotes the constant term in the equation. Its estimated value, 145, may be interpreted as the base number of days FERC takes to approve an application. The coefficients listed for the other variables are their estimated contribution to processing time. For instance if the application involves a pipeline (PIPE = 1), expected processing time increases by 59 days; a traditional section 7 certificate (CRT = 1) reduces expected processing time by 74 days; and each deficiency letter (LTR) adds 32 days.

Table II.2: Regression Analysis Results for Equation 1

Variable	Coefficient estimate	Standard error	T-statistic	90-percent confidence interval
C	145.22	213.76	0.68	-209.19 to 499.63
TRN	226.43	29.11	7.78	178.16 to 274.69
RAT	152.82	69.32	2.21	37.89 to 267.75
CMP	8.26	36.13	0.23	-51.65 to 68.17
IMP	-13.57	51.59	-0.26	-99.11 to 71.97
ENV	67.38	75.24	0.90	-57.37 to 192.13
COMB	20.43	39.93	0.51	-45.77 to 86.63
INTV	0.35	1.04	0.33	-1.39 to 2.08
RSP	4.02	13.82	0.29	-18.89 to 26.94
LTR	32.34	13.30	2.43	10.29 to 54.39
SESN	7.35	86.42	0.09	-135.94 to 150.63
WHO	90.89	39.42	2.30	25.53 to 156.26
CRT	-73.69	124.45	-0.59	-280.03 to 132.65
PIPE	58.65	42.10	1.39	-11.15 to 128.44
PUMP	37.43	44.90	0.83	-37.02 to 111.87
FCLTY	-8.53	38.68	-0.22	-72.66 to 55.60
LGTH	-0.33	0.41	-0.80	-1.01 to 0.36
COST	0.40	0.46	0.87	-0.36 to 1.16
DNSTY	-0.06	0.13	-0.46	-0.28 to 0.16
INC	0.01	0.02	0.49	-0.02 to 0.04
Summary statistics				
Adjusted R^2 = 0.6335				
F-statistic = 12.65				

Source: GAO analysis of FERC data.

The table also lists estimated standard errors, t-statistics, and a 90-percent confidence interval for each coefficient. The standard error is used to calculate confidence intervals associated with a given coefficient estimate. A 90-percent confidence interval for a coefficient is its estimated value plus or minus a multiple of its estimated standard error; the multiplication factor in this case is 1.658. For example, there is a 90-percent probability that the true value of the LTR coefficient falls between 10 and 54 days. The t-statistic is equal to the coefficient estimate divided by its standard error. Coefficients with t-statistics greater than 1.658 in absolute value are significantly different from zero at the 10-percent level.

The adjusted R^2 statistic measures the proportion of the variability in the dependent variable, DAYS, that is explained by the estimated equation. The F-statistic tests the significance of the explanatory variables as a group. The value of the F-statistic as reported in table II.2 indicates significance at the 1-percent level.

A statistical examination of the explanatory variables in equation 1 revealed interactions among some of our explanatory variables. These interactions in our data set are to be expected, considering that there are overlaps in what some of our variables measure. On the basis of our conceptual knowledge of the factors affecting application processing time, comparisons of regression results from different specifications of the model, and statistical multicollinearity diagnostics, we believe that the variables in the following groups are related:

- INTV, RSP and LTR. It is reasonable to assume that a relatively large number of third-party interveners (INTV) should result in a relatively large number of responses to interveners (RSP). The relationship between LTR and the two other variables is less apparent. A possible explanation is that FERC officials do not scrutinize uncontested applications as closely as they do applications with a relatively large number of interveners. A large number of interveners may alert FERC officials to the need for additional information to process an application, resulting in the issuance of deficiency letters (LTR). Our analysis confirmed that there is a significant statistical relationship among INTV, RSP, and LTR.
- CMP, COMB, and RSP. CMP denotes unresolved policy issues related to competition. COMB denotes the combination of a number of individual—often competitive—applications into a single project. RSP denotes the number of responses by the applicant to interveners, some of whom are competitors for the same market. Our analysis confirmed a significant statistical relationship between CMP and the other variables.
- LGTH and COST. These two variables are very highly correlated, with a correlation coefficient of 0.94. In our data set, applications for longer pipelines tended to be associated with higher COST figures than applications for shorter pipelines.
- INC and DNSTY. States in our data set with higher per capita income tended to be more densely populated. The correlation coefficient between the two variables is 0.71.
- SESN and ENV. All but 2 out of 14 applications processed under the open season procedure required an environmental impact statement or a formal environmental assessment. Our analysis confirmed a statistically significant relationship between SESN and ENV.

- Our regression diagnostics also indicated that INC, CRT, and the constant coefficient, C, displayed multicollinearity, possibly involving other variables.

On the basis of the above and our conceptual understanding of the process, we estimated an alternative model specification which excluded some of the interdependent variables. Estimation results for this second model, equation 2, are presented in table II.3.

Table II.3: Regression Analysis Results for Equation 2

Variable	Coefficient estimate	Standard error	T-statistic	90-percent confidence interval
C	104.85	55.42	1.89	12.96 to 196.75
TRN	218.14	27.45	7.95	172.63 to 263.65
RAT	162.87	63.59	2.56	57.44 to 268.31
IMP	-13.45	48.58	-0.28	-93.98 to 67.10
ENV	102.40	57.92	1.77	6.37 to 198.43
COMB	57.77	31.89	1.81	4.90 to 110.64
RSP	26.90	9.10	2.96	11.81 to 41.99
WHO	86.60	39.12	2.21	21.74 to 151.45
PIPE	81.82	40.85	2.00	14.09 to 149.55
PUMP	93.37	39.01	2.39	28.70 to 158.05
FCLTY	16.19	36.25	0.45	-43.92 to 76.29
LGTH	-0.07	0.12	-0.55	-0.27 to 0.14
Summary statistics				
Adjusted R^2 = 0.6278				
F-statistic = 20.63				

Source: GAO analysis of FERC data.

Table II.3 indicates that all the coefficient variables in equation 2, except for IMP, FCLTY, and LGTH, are significantly different from zero at the 90-percent confidence level. The presence of interdependence among some of the variables, however, means that some of the coefficient estimates do not reflect the independent contribution of the corresponding variables. For example, because LTR, RSP, and INTV are interdependent, RSP's coefficient estimate probably reflects the effect of some

combination of the three variables, and not the effect of RSP independent of the two others.

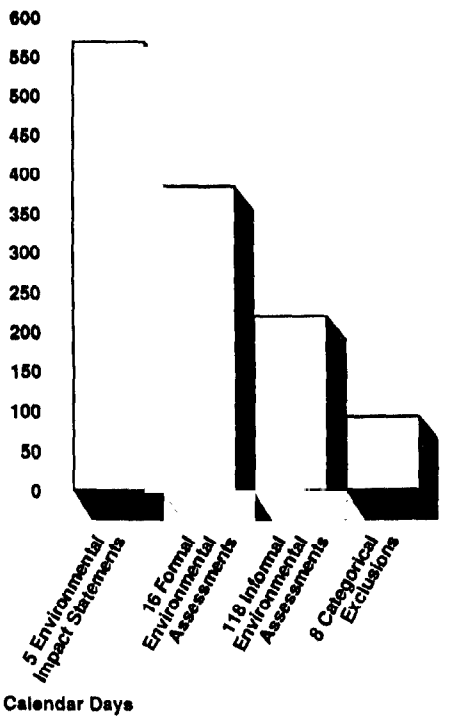
FERC's Environmental Review Process

According to Federal Energy Regulatory Commission (FERC) officials, the environmental review is the longest continuous phase in FERC's process for approving natural gas pipeline construction. For the 171 applications we reviewed, FERC prepared only 21 environmental documents—5 environmental impact statements and 16 formal environmental assessments—that were published for comment by federal agencies and others. These documents applied, in some cases, to multiple-applicant projects, which included 45 applications, or about 26 percent of the total. FERC reviewed the remaining 118 applications on an informal basis without comment and excluded 8 others from environmental review altogether.

FERC's median time to complete its environmental reviews for the period of our review was 568 days for environmental impact statements, 384 days for formal environmental assessments, and 220 days for informal environmental assessments. FERC took a median of 93 days to exclude categorically from environmental review eight applications it approved.[1] (Fig. III.1 shows the median time FERC took to complete its environmental reviews.)

[1]FERC staff also reviewed and categorically excluded from environmental analysis 677 facilities that pipeline companies constructed subject to a 45-day notice period, as specified in FERC's blanket certificate rules. These facilities did not receive detailed FERC review. According to FERC, the average time it took to make this determination was about 30 days.

Figure III.1: Median Environmental Review Times



Note: The total number of environmental reviews does not equal 171 because some environmental impact statements and formal environmental assessments considered multiple applications.

Source: GAO analysis of FERC data.

FERC's Proposed Actions to Streamline the Environmental Review Process

FERC has promulgated new rules to streamline its environmental review process. As discussed in our report, however, FERC has delayed implementation of these changes, in part because of concerns raised by the Council on Environmental Quality (CEQ) and others. The new provisions would allow virtually any pipeline facility to be constructed without FERC's case-specific review.[2] FERC changed the existing rules to (1) raise the existing cost limit for pipeline facilities that can be constructed automatically without notice to FERC from about $6 million to $10 million and (2) remove an existing $16.6 million cost limit and enable pipeline companies to construct virtually all natural gas facilities, including pipelines, compressors, and other facilities such as metering stations, after giving a 30-day prior notice to FERC, if no competitors or others protest.

[2]Under FERC's blanket certificate rule, pipeline companies prepare their own environmental reviews and certify to FERC that they have complied with all applicable statutes and regulations.

FERC officials, however, do not anticipate that many large pipeline projects will be constructed under this procedure. They said that given the nature of competition in the natural gas industry, it is highly unlikely that protests would not be filed within the notice period for large pipeline projects. Any protests could make such projects subject to FERC's traditional case-specific review.

The Commission's new rules would shift FERC's responsibility for preparing substantive environmental and cultural-resource reviews, even of potentially very large projects, to the applicant and other federal and state agencies.[3] The rules require the applicant to comply with all applicable environmental statutes as well as to coordinate independently with and receive permits or other clearances from other responsible agencies. FERC also established procedures for reconciling a limited number of minor issues related to the environmental review.

Limiting the instances in which FERC must prepare formal environmental reviews could speed its processing of applications. However, pipeline companies are concerned that FERC's decision to remove itself from the preparation of environmental reviews would delay, not expedite, pipeline construction. According to a CEQ official, the pipeline companies believe that without active FERC involvement, other agencies, in most cases, will define the scope of the environmental reviews too broadly and establish an inordinate number of costly steps to mitigate possible damage to the environment and cultural resources. In addition, the pipeline companies believe that most environmental reviews prepared by applicants will require FERC reconciliation, which will further delay pipeline construction.

Furthermore, CEQ shares the concern of pipeline companies that because FERC would not get actively involved in determining the scope of environmental reviews, burdens for the companies will increase and pipeline construction will be delayed. CEQ, in recent comments on FERC's new rules, stated that FERC can assign tasks to applicants to facilitate compliance with various environmental requirements but cannot delegate its independent environmental review responsibility for determining that the proposed construction activity is in compliance with the National Environmental Policy Act.

[3]As part of FERC's effort to streamline its certification process, FERC issued interim guidance for draft environmental assessments prepared by applicants on Sept. 12, 1991. FERC anticipates that these assessments and other documentation it expects to be filed with the application would obviate the need for FERC staff to prepare maps and related graphics, conduct extensive independent analysis, and undertake widespread consultation with other federal agencies.

Moreover, CEQ is concerned that FERC would abandon some essential safeguards for ensuring an environmental review process open to the public and place at risk "sensitive environmental areas" located on private property. Specifically, CEQ is troubled that FERC will allow construction to occur automatically without providing citizens with a mechanism to protest. Furthermore, although CEQ favors FERC's new requirement that pipeline companies notify the public through local newspapers about proposed pipeline projects, it is concerned that these notices do not specify FERC's roles and responsibilities in the environmental review of the proposed pipeline or facility.

Options that limit FERC's independent environmental review could lead to environmental or cultural-resource damage similar to that which occurred when a pipeline company damaged and destroyed Indian artifacts in Mobile Bay, Alabama.[4] Under the new rule, however, FERC could prevent a pipeline company from constructing facilities under the blanket certificate authority if it determines that the company has misused the process, e.g., by causing environmental or cultural-resource damage.

[4]FERC assessed a $25.5 million civil penalty against one pipeline company for violations it committed while constructing pipeline without FERC review near Mobile Bay, Alabama. The construction caused substantial damage to cultural resources.

Scope and Methodology

To accomplish our review, we gathered data on 171 applications to construct pipelines and related facilities approved by FERC between October 1, 1987 and February 28, 1991. The information we presented at the Subcommittee's June 27, 1991, hearing was based on our review of 125 pipeline construction applications. FERC, however, testified that it had approved 222 applications during the period of our review. We subsequently met with FERC officials to reconcile this discrepancy and added 46 applications to the 125 we reviewed for a new total of 171 approved applications. We excluded 51 other applications considered by FERC because these applications included replacement of existing facilities or other facilities that did not involve new construction, construction of minor equipment that did not require the same level of review, and amendments to existing applications. Despite our inclusion of additional applications, the overall median processing times we presented did not substantially change.

The data we gathered for each application included information contained in FERC's management information system—the Key Indicator Case Tracking System (KICTS)—and data obtained from several Commission documents on factors contributing to processing time, such as policy issues, environmental reviews, related applications, and the number of interveners. We subjected this data to various methods of statistical analysis, including regression analysis. We also reviewed many of the comments FERC received on its August 2, 1990, interim and proposed rules on pipeline construction, and the final rule, which was issued on September 20, 1991.

We interviewed FERC's Chairman, present Commissioners and a former Commissioner, staff officials, and the project manager for FERC's environmental support services contractor. In addition, we spoke to federal and state agency officials from the Department of Interior, the U.S. Fish and Wildlife Service, the Environmental Protection Agency, the Council on Environmental Quality, the Advisory Council on Historic Preservation, and the Department of Energy, as well as Alabama and Massachusetts Historic Preservation officers and the Chairman, Natural Gas Committee, National Association of Regulatory Utility Commissioners. We also interviewed representatives of the natural gas trade associations, individual pipeline companies, and a public interest research agency. To assist in our analysis, we employed as a consultant Richard J. Pierce, Paul J. Kellner Professor of Law, Columbia University School of Law. Professor Pierce practiced before FERC and has written numerous articles concerning natural gas regulation.

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Related GAO Products

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

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

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

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

Federal Energy Regulatory Commission Has Expedited Case Processing; Additional Improvements Needed (GAO/RCED-83-51, June 10, 1983).

Additional Management Improvements Are Needed to Speed Case Processing at the Federal Energy Regulatory Commission (GAO/EMD-80-54, July 15, 1980).

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