

Transportation Regulatory Policies and Procedures (44 FR 11034, February 26, 1979).

Issued in Jamaica, New York, on August 7, 1980.

Lonnie D. Parrish,
Acting Director, Eastern Region.

[FR Doc. 80-24671 Filed 8-15-80; 8:45 am]

BILLING CODE 4910-13-M

14 CFR Part 39

[Docket No. 80-EA-20; Amdt. 39-3885]

DeHavilland DHC-7; Airworthiness Directives

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: This amendment issues a new airworthiness directive, applicable to DeHavilland DHC-7 type airplanes and requires repetitive inspections of the main landing gear upper lock strut assembly for cracks. This results from findings of the failure of the landing gear, possibly being attributable to lock failures.

EFFECTIVE DATE: August 21, 1980. Compliance is required as set forth in the AD.

ADDRESSES: DeHavilland Service Bulletins may be acquired from the manufacturer at Downsview, Ontario, Canada M3K 1A5.

FOR FURTHER INFORMATION CONTACT: L. Lipsius, Airframe Section, AEA-212, Engineering and Manufacturing Branch, Federal Building, J.F.K. International Airport, Jamaica, New York 11430; Tel. 212-995-2875.

SUPPLEMENTARY INFORMATION: There has been a report of a DHC-7 having an accident when the right main gear folded during a landing roll-out after failure of the lock strut. The rule requires a dye penetrant or eddy test inspection followed by daily visual inspections. Upon incorporation of DeHavilland Modification No. 7/1838, the inspections may be discontinued. Since a situation exists that requires the immediate adoption of this regulation, it is found that notice and public procedure hereon are impracticable, and good cause exists for making this amendment effective in less than 30 days.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, Section 39.13 of Part 39 of the Federal Aviation Regulations, 14 CFR 39.13 is amended, by adding the following new Airworthiness Directive:

DeHavilland: Applies to all DHC-7 series airplanes certificated in all categories.

To prevent possible retraction of the main landing gear due to failure of the main landing gear upper lock struts, accomplish the following:

(a) Within 10 hours in service after receipt of this AD, unless already accomplished, conduct a one-time inspection of the unpainted area as noted in paragraph (b) for cracks using eddy current technique or dye penetrant methods with at least a 4-power glass, or equivalent.

(b) Chemically remove paint around the strut within a 1-inch band below the boss on each main landing gear upper lock strut assembly, P/N Menasco 15709-5, where the spring-loaded cable attaches.

(c) Visually inspect the area noted in paragraph (b) for cracks each day at intervals not to exceed 24 hours, after receipt of this AD, using at least a 4-power glass.

(d) If a crack is found, the upper lock strut must be replaced before further flight with a part of the same part number or equivalent, inspected and found airworthy in accordance with either method prescribed in paragraph (a) or equivalent. Continue to inspect in accordance with paragraph (c). Refer to DeHavilland Maintenance Manual PSM 1-7-2, Chapter 32-10-16.

(e) Report positive findings, including crack length, to the Chief, Engineering and Manufacturing Branch, FAA, Eastern Region, within 5 days of inspection. (Reporting approved by the Office of Management and Budget under OMB No. 04-RO174).

(f) Compliance with this airworthiness directive may be discontinued following incorporation of DeHavilland Modification No. 7/1838 in DeHavilland Service Bulletin No. 7-32-21, Revision A, dated May 2, 1980.

(g) Equivalent inspection procedures and parts must be approved by the Chief, Engineering and Manufacturing Branch, FAA, Eastern Region.

(h) The aircraft may be flown in accordance with FAR 21.197, with the landing gear locked in the full extended position, to a base where the inspection or part replacement can be performed.

(i) Upon submission of substantiating data by an owner or operator through an FAA Maintenance Inspector, the Chief, Engineering and Manufacturing Branch, FAA, Eastern Region, may adjust the compliance times specified in this AD.

Effective Date: This amendment is effective August 21, 1980.

(Secs. 313(a), 601, and 603, Federal Aviation Act of 1958, as amended, 49 U.S.C. 1354(a), 1421, 1423, and 1431(b); Sec. 6(c), Department of Transportation Act, 49 U.S.C. 1655(c) and 14 CFR 11.89)

Note.—The Federal Aviation Administration has determined that this document involves a regulation which is not significant under Executive Order 12044 as implemented by Department of Transportation Regulatory Policies and Procedures (44 FR 11034, February 26, 1979).

Issued in Jamaica, New York, on August 7, 1980.

Lonnie D. Parrish,
Acting Director, Eastern Region.

[FR Doc. 80-24670 Filed 8-15-80; 8:45 am]

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14 CFR Part 39

[Docket No. 80-EA-26; Amdt. 39-3882]

Gulfstream American—Models G-164B, 164C, and 164D; Airworthiness Directives

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: This amendment issues a new airworthiness directive (AD), applicable to Gulfstream American G-164B, C, and D type airplanes. It requires an inspection for elongation of the aileron cable attachment holes in the bellcrank assembly. This deficiency results from a possible improper press fit of the bushings in the assembly, and could result in dislodgment of the bushing. The deficiency could cause a loss of flight control of the airplane.

EFFECTIVE DATE: August 18, 1980. Compliance is required as set forth in the AD.

ADDRESSES: Gulfstream American Service Bulletins may be acquired from the manufacturer at P.O. Box 147, Elmira, New York 14902.

FOR FURTHER INFORMATION CONTACT: A. Maila, Airframe Section, AEA-212, Engineering and Manufacturing Branch, Federal Building, J.F.K. International Airport, Jamaica, New York 11430; Tel. 212-995-2875.

SUPPLEMENTARY INFORMATION: Since a situation exists that requires the immediate adoption of this regulation, it is found that notice and public procedure hereon are impracticable, and good cause exists for making this amendment effective in less than 30 days.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, § 39.13 of Part 39 of the Federal Aviation Regulations, 14 CFR 39.13 is amended, by adding the following new Airworthiness Directive.

Gulfstream American: Applies to Gulfstream Models G-164B S/N 1B thru 656B, G-164C S/N 1C thru 44C, and G-164D S/N 1D thru 16D. Compliance is required as indicated, unless already accomplished.

To detect elongation of the aileron cable attach holes and to eliminate the possibility of bushings becoming dislodged from the aileron bellcrank, accomplish the following

within then next 25 hours in service after the effective date of this AD.

a. For airplanes that have not been altered in accordance with the original issue of Gulfstream American AG-CAT Service Bulletin No. 75, comply with the inspection and alteration specified in the bulletin, Revision A, Parts A, B and C, or an approved equivalent.

b. For airplanes that have already been altered in accordance with the original issue of the bulletin, accomplish the alteration specified in the bulletin, Revision A, Part D, or an approved equivalent.

c. Equivalent inspections, alterations, and replacement parts must be approved by the Chief, Engineering and Manufacturing Branch, FAA, Eastern Region.

d. Upon request, with substantiating data submitted through an FAA Maintenance Inspector, the compliance time specified in this AD may be adjusted by the Chief, Engineering and Manufacturing Branch, FAA, Eastern Region.

Effective date: This amendment is effective August 18, 1980.

(Secs. 313(a), 601, 603, Federal Aviation Act of 1958, as amended (49 U.S.C. 1354(a), 1421, 1423); sec. 6(c), Department of Transportation Act, 49, U.S.C. 1655(c); 14 CFR 11.89)

Note.—The Federal Aviation Administration has determined that this document involves a regulation which is not significant under Executive Order 12044 as implemented by Department of Transportation Regulatory Policies and Procedures (44 FR 11034; February 26, 1979).

Issued in Jamaica, New York, on August 1, 1980.

Murray E. Smith,
Director, Eastern Region.

[FR Doc. 80-24867 Filed 8-15-80; 8:45 am]

BILLING CODE 4910-13-M

14 CFR Part 71

[Airspace Docket No. 80-ARM-02]

Establishment of Transition Areas

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: This amendment establishes 700 foot and 1,200 foot transition areas at Pembina, North Dakota to provide controlled airspace for aircraft executing the new VOR runway 33 standard instrument approach procedure developed for the Pembina Municipal Airport, Pembina, North Dakota.

EFFECTIVE DATE: 0901 G.m.t., October 30, 1980.

FOR FURTHER INFORMATION CONTACT: Robert E. Greene, Operations, Procedures and Airspace Branch, Air Traffic Division, ARM-500, Federal Aviation Administration, Rocky Mountain Region, 10455 East 25th

Avenue, Aurora, Colorado 80010; telephone (303) 837-3937.

SUPPLEMENTARY INFORMATION:

History

On Thursday, April 17, 1980, the FAA published for comment (45 FR 26079) a proposal to establish a 700' and 1,200' transition area at Pembina, North Dakota. The only comments received as a result of this circular expressed no objections.

The Rule

This amendment to Subpart G of Part 71 of the Federal Aviation Regulations (FAR's) establishes 700' and 1,200' transition areas at Pembina, North Dakota, to provide controlled airspace for aircraft executing the new VOR runway 33 standard instrument approach procedure developed for the Pembina Municipal Airport, Pembina, North Dakota.

Drafting Information

The principal authors of this document are Robert E. Greene, Operations, Procedures and Airspace Branch, Air Traffic Division, and Daniel J. Peterson, office of Regional Counsel.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, Part 71 of the Federal Aviation Regulations (14 CFR Part 71) is amended effective 0901 G.m.t., October 30, 1980, as follows:

By amending Subpart G, § 71.181 (45 FR 445) so as to establish the following transition areas to read:

That airspace extending upward from 700' above the surface within a 6.5-mile radius of the Pembina Municipal Airport (latitude 48°56'43" N., longitude 97°14'31" W.); and within 2 miles each side of Pembina VORTAC (latitude 48°52'09" N., longitude 97°07'00" W.) 310° radial extending from the 6.5-mile radius area to 8 miles southeast of Pembina Municipal Airport; and that airspace extending upward from 1,200' above the surface beginning at latitude 49°00'00" N., longitude 97°30'00" W.; to latitude 48°48'00" N., longitude 97°30'00" W.; to latitude 48°18'30" N., longitude 98°40'00" W.; to latitude 48°08'30" N., longitude 98°32'00" W.; to latitude 48°07'00" N., longitude 98°12'00" W.; to latitude 48°31'00" N., longitude 97°14'30" W., excluding portions outside the United States, Minnesota and the Grand Forks, North Dakota 1,200' transition area.

(Sec. 307(a) Federal Aviation Act of 1958 as amended (49 U.S.C. 1348(a)); sec. 6(c), Department of Transportation Act (49 U.S.C. 1655(c); and 14 CFR 11.69)

Note.—The FAA has determined that this document involves a regulation which is not significant under Executive Order 12044, as implemented by DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979).

Since this regulatory action involves an established body of technical requirements for which frequent and routine amendments are necessary to keep them operationally current and promote safe flight operations, the anticipated impact is so minimal that this action does not warrant preparation of a regulatory evaluation.

Issued in Aurora, Colo., on August 5, 1980.

Arthur Varnado,
Director, Rocky Mountain Region.

[FR Doc. 80-24868 Filed 8-15-80; 8:45 am]

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DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

18 CFR Part 281

[Docket No. RM79-40; Order No. 55-B]

Natural Gas Curtailment; Final Regulations Governing the Determination of Alternative Fuels for Essential Agricultural Users and Finding of No Significant Impact

August 11, 1980.

AGENCY: Federal Energy Regulatory Commission, DOE.

ACTION: Final Regulations and Finding of No Significant Environmental Impact.

SUMMARY: The Commission is amending Part 281 of its regulations by amending Subparts B and C that prescribe which fuels the Commission has determined to be economically practicable and reasonably available as a substitute for the essential agricultural use of natural gas and how certain essential agricultural users of natural gas must change their priority 2 entitlements for those volumes of gas for which there is an alternative fuel. The rule applies only to: (1) Essential agricultural use establishments that have requested from any direct supplier, over 300 Mcf of natural gas per day as a priority 2 entitlement; and (2) new boilers with a capacity of 300 Mcf per day, except diesel engines and turbines that can only use distillate fuels as a substitute for natural gas. The application of the rule is limited to the use of coal or residual fuel oil as alternative fuels.

This rule is promulgated under section 401(b) of the Natural Gas Policy Act of 1978 which restricts the protection from curtailment afforded under the Act by excluding from that protection any gas applied to essential agricultural uses, where there are other economically practicable and reasonably available fuels for those uses.

Essential agricultural users, local distribution companies and interstate

pipelines must revise their priority 2 entitlements only to the extent there have been changes from the previous year. Any changes must be reported by August 31, 1980. Under the final rule interstate pipelines will receive sufficient information from customers in the next six weeks to be able to amend their indices of entitlement to reflect the changes in priority 2 entitlements. Revised indices must be filed by October 1, 1980.

The Commission has also made a finding that adoption of the final rule will have no significant environmental impact.

EFFECTIVE DATE: August 11, 1980.

FOR FURTHER INFORMATION CONTACT: MaryJane Reynolds, Federal Energy Regulatory Commission, Office of the General Counsel, 825 North Capitol St. NE., Washington, D.C. 20426, (202) 357-8455.

The Federal Energy Regulatory Commission (Commission) adopts final regulations that implement section 401(b) of the Natural Gas Policy Act of 1978 (NGPA) by establishing a generic alternative fuel determination for essential agricultural users and by updating filing requirements for natural gas curtailment plans that are affected by priority 2 (essential agricultural) uses of natural gas.

I. Background

On June 3, 1980, the Commission issued a notice of proposed rulemaking (the "June 3 notice") in this proceeding (45 FR 39283, June 10, 1980). The notice proposed implementation of a final rule pursuant to section 401(b) of the Natural Gas Policy Act (NGPA), to replace the interim rule promulgated by Order No. 55 on October 26, 1979.

Order No. 55 established that alternative fuel determinations under section 401(b) ¹ would be made generically rather than case-by-case. ² In that rule the Commission determined that, for the 1979-1980 heating season, only coal and residual fuel oil were reasonably available and economically practicable for essential agricultural

users with requirements exceeding 300 Mcf per day. In addition, new boilers with a capacity in excess of 300 Mcf per day were deemed to have alternative fuel capability.

In the June 3 notice, the Commission proposed a final rule retaining the procedural features of the interim rule. The notice further provided that residual oil and coal would be determined to be reasonably available and economically practicable as alternative fuels. The Commission indicated that although the rule would be considered final, it would be subject to future amendment as circumstances might require. ³

The statute requires that a rule implementing section 401(b) be made only after consultation with the Secretary of Agriculture. The Commission has consulted with the Department of Agriculture and its comments have been placed in the public files of this proceeding. In addition, a representative of the Department of Agriculture served as a member of the panel designated by the Chairman of the Commission to conduct a public hearing on the proposed rule.

The Commission appreciates the efforts of the Department of Agriculture in developing a full and sound decisional record and providing the Commission with comments and advice that have been given careful consideration. However, we must reject the position of one commentator who argued that the views of the Department of Agriculture must be accommodated unless they are clearly erroneous. No legal authority was cited for this "clearly erroneous" test. The Commission, not the Department of Agriculture, is ultimately responsible for implementing section 401(b). The statutory requirement for consultation is not synonymous with a joint rule fully agreed upon by both the Commission and the Secretary of Agriculture.

Upon consideration of the comments received in this proceeding as well as the record in the interim rule, the Commission has determined to adopt the rule proposed in the June 3 notice as a final rule, with certain minor changes. Residual fuel oil and coal will continue to be viewed as reasonably available and economically practicable alternatives to natural gas. Aside from

³ As indicated in Order No. 55, any changes, would, if possible, not be made during any winter heating season.

We recognize that a rule which may be changed due to changing circumstances makes long term planning more difficult. However, the NGPA is a new statute. It has created a new program and imposes a new alternative fuel test which the Commission believes requires consideration of circumstances, as they exist from time to time, for its proper implementation.

technical changes, the only change from the proposed rule is that the proposal to exempt small users on the basis of peak day requirements will be deleted. The provision of the interim rule exempting small users with requirements of 300 Mcf per day will be retained. By the deletion of the word "peak" from the 300 Mcf per day limitation as proposed, the Commission intends that the 300 Mcf per day limitation be implemented in the same manner as was done during the past year.

II. Discussion of the Major Issues

A. Introduction

The issues raised in the comments on the proposed rule are in large part the same as those raised concerning the interim rule. The Commission has reviewed them but is not persuaded that it should change the positions expressed in Order No. 55. To the extent the issues are the same, the explanations given in Order No. 55 also apply to the arguments presented in the present proceeding.

B. Economic Practicability

The most difficult issues facing the Commission in this rulemaking is how to interpret the Congressional phrase "economically practicable alternative." The Congress established a special priority for agricultural users of natural gas in order, the Statement of Managers states, "to prevent unnecessary increases in the cost of food in this country." Congress provided that the Commission could deny this priority to users with an economically practicable alternative. Again, consistent with Congress basic concern about increases in the cost of food and fiber, the Statement of Managers states that the intention was not to require agricultural gas users to switch to a "high cost alternative."

Some agricultural users who want to protect their priority 2 classification would translate "economic practicability" into a simple test of comparing natural gas prices with prices of possible substitute fuels. They would say the substitute fuel is economically practicable only if it is equal to or less than the price of natural gas. Other essential agricultural users, however, suggest that a substitute fuel may be economically practicable so long as its price is within some reasonable range of the price of natural gas.

To industrial process and feedstock users, interested in keeping priority 2 as small as possible because their requirements are curtailed immediately before those in priority 2, "economic practicability" represents the other

¹ Section 401(a) of the NGPA provides that essential agricultural uses of natural gas may not be curtailed except to the extent necessary to meet high priority uses. Section 401(b), however, provides that the curtailment status of section 401(a) shall not apply to those essential agricultural users for which the Commission, in consultation with the Secretary of Agriculture, determines that an alternative fuel is reasonably available and economically practicable.

² The Commission had earlier proposed a case-by-case approach. The overwhelming response to the Notice of Proposed Rulemaking favored a generic procedure. The Commission accepted the arguments that a generic rather than a case-by-case procedure is persuasive, and Order No. 55 resulted. (See discussion below.)

extreme on the spectrum of construction. They note that § 402 (the NGPA priority 3 protection for essential industrial process and feedstock users) also imposes an alternative fuel test. It, too, is based on economic practicability (and reasonable availability). The Statement of Managers indicates that in the context of § 402 economic practicability means the "economic feasibility" standard of the Federal Power Commission ("FPC") under extraordinary relief proceedings seeking waiver from curtailment. The advocates of this position do not articulate a specific test for determination of "economic feasibility." However, they appear to seek to limit the test to the economic feasibility of installing conversion facilities to use a fuel other than natural gas. To this end, the cost of the alternative fuel itself would be irrelevant. Cost of conversion would control.

Under the test proposed by the industrial process and feedstock users, substitute liquid fuel,⁴ at any price, would be economically practicable for any essential agricultural user with installed alternative fuel capability. Some would go beyond this to say alternative fuel would also be economically practicable for additional essential agricultural users if the cost of conversion were "economically feasible."

As this brief summary indicates the statutory term "economically practicable" is not clear on its face, and the Commission must construe it and shall do so in a manner which will best comply with the overall statutory scheme embodied in Title IV of the NGPA. The Commission does not believe the proposed construction of either side gives consideration to the full intent of Congress. Numerous aspects of energy costs affect food prices in this country in a complex way. A precise estimate of the impact of using an alternative fuel would require a determination or not only the increase in energy cost but also the extent to which other production factors (e.g. capital and labor) could be substituted. We would also have to know how much of the increased cost could be passed through to consumers considering the elasticities of demand. This can be done with precision only on a facility-by-

facility basis. The Commission first proposed a procedure along these lines for purposes of implementation of the interim rule. 44 FR 26894 (May 9, 1979). There was near unanimous opposition to such case-by-case analysis and decisionmaking. The required data submissions by essential agricultural users appeared burdensome. There was also concern that individual determinations would unduly delay implementation of the alternative fuel rule.

As part of finding some meaningful but workable operational definition of "economically practicable" the Commission has the difficult task of interpreting the terms "unnecessary increases in food costs," and "high cost alternatives". Even with precise facility-specific measures of output cost impacts as a result in the change in the cost of energy inputs, the Commission would still have to determine if the increases were "unnecessary" or the alternative fuel was "high cost."

With this legislative context in mind, we now consider how the various potential constructions of the alternative fuel exemption would affect the priority 2 classification established by Title IV. The position that any fuel more expensive than natural gas is not economically practicable, based on the data contained in this record, would result in no liquid fuel qualifying as an alternative fuel. Except for those few uses of coal, agricultural users would be given priority 2 treatment for all their requirements and the alternative fuel exemption would be largely meaningless. We do not believe Congress intended the alternative fuel rule to be so limited as to be illusory. Certainly, if the intent of the Congress was to limit alternative fuels to those that cost less than gas, it could have reached the result with simpler and clearer language.

Liquid fuel prices exceeded natural gas prices when the Natural Gas Policy Act was passed. (Appendix A; June 3 notice, Appendices A and B, Charts 2-3.) A major concern leading to passage of Title I of the NGPA was the need to increase domestic production of natural gas. The shortage in natural gas supplies had manifested itself in natural gas curtailments every year since the beginning of the 1970's and curtailment was projected for the winter heating season 1978-1979.⁵ In sum, at the time the NGPA was passed all liquid fuel prices including those to agricultural users exceeded natural gas prices, and

natural gas customers including essential agricultural users were experiencing curtailment. It was in this context that Congress said use of an alternative fuel should not cause "unnecessary increases in the cost of food in this country." Read in this light, the agricultural users are actually advocating that the alternative fuel rule must be construed to reduce their energy costs. Specifically, if economic practicability were measured as "equal to or less than natural gas costs" all essential agricultural users would have been entitled to priority 2 because all liquid fuels exceeded natural gas prices when the NGPA was passed.⁶ Subsequent price increases in liquid fuels would be irrelevant. Thus, they could have substituted natural gas (even if liquid fuel prices remained constant). This would have reduced their energy costs. If such were the intent, why would Congress have expressed concern about unnecessary increases? Some users might suggest that only increases above fuel oil prices in effect when the NGPA was passed give rise to the "economic practicability" bar. However, these essential agricultural users fail to recognize that such a rule, in the face of decreased curtailment, could also lead to a reduction in the cost of energy.

The Commission is unable to accept a construction which implies that Congress was unmindful that fuel is only one of many costs involved in the cost of food. It is equally unable to accept a construction which ignores the level of curtailment—which is directly related to the amount of alternative fuel required and therefore to the energy cost component of food.⁷ In reaching this conclusion we are aware that Congress admonished against requiring the switch to high cost alternatives. However we do believe this language must be given meaning in the context of the impact that use of high cost fuel would have on the cost of food, and after projected curtailment levels have been factored in.

The economic feasibility test, advocated by process and feedstock users, yields a result as extreme, albeit opposite, as the result advocated by the agricultural users. It would have all essential agricultural users with

⁴ At least one essential process and feedstock user recognizes the potential economic disruption its construction could visit upon essential agricultural users. PGC suggests synthetic fuels might not be considered economically practicable because of the cost. However, PGC fails to explain how cost of fuel would be applied in its economic feasibility test. (Hearing transcript, June 30, 1980, p. 138.)

⁵ Indeed, the record in this proceeding shows that curtailment was approximately 20% in the winter heating season 1978-1979.

⁶ We also note that to the extent essential agricultural users were using alternative fuels they were incurring, in certain situations, additional costs associated with handling the alternative fuel.

⁷ Some commentators suggest that the additional cost of handling alternative fuel is also relevant. We agree that there may indeed be additional costs. However, we lack record data that under the present circumstances there have been substantial increases in handling costs of alternative fuels.

installed capability⁸ excluded from priority 2. Such a test ignores the cost of fuels in its entirety. We believe Congress intended to create a preference for agricultural users when it passed § 401. Use of the economic feasibility test would return most essential agricultural users to their pre-NGPA curtailment priority. It would render § 401 virtually meaningless.

A determination of "unnecessary increases" in costs requires discretion which is best exercised in light of prevailing circumstances. It requires a balancing of the economic risks a particular construction would have upon the various users of natural gas. Given the present situation we believe we should consider the extent to which agricultural users of natural gas are likely to be curtailed. The level of curtailment has decreased for the past several winter heating seasons.

Annual Natural Gas Curtailments

[April through the following March]

Year	Volume (in MMcf) ¹
1976-77.....	3,853,886
1977-78.....	3,655,279
1978-79.....	3,128,952
1979-80.....	1,806,474
1980-81 (projected).....	1,242,770

¹ Excludes pipeline to pipeline curtailments. Source: Form 16's of major interstate pipelines.

Our present projections indicate approximately 8% curtailment for the 1980-1981 winter heating season. This means that the amount of time an essential agricultural user which will lose priority 2 classification will have to use an alternative fuel, because of inability of pipelines to serve all customers, is likely to be small. On an annual basis, deliveries for residential, commercial and firm industrial users (roughly corresponding to curtailment priorities one, two and three) range between 70 and 75 percent of total deliveries to end-users.⁹ The remainder are below priority 3 and generally serve various categories of boiler fuel requirements. Thus, it is unlikely that for this winter heating season process and feedstock users will experience significant curtailment caused by supply shortages. Therefore the alternative fuel

question is reduced to a question of whether agricultural boilers should be given a preference over other industrial boilers. We believe agricultural users with No. 2 oil and propane as their only alternatives should be given such a preference over other boiler users but users with other alternative fuels should not.

No. 2 oil is the most expensive of the alternative liquid fuels. Its price almost doubled in 1979. We cannot predict the rate of increase in 1980.¹⁰ However, under the circumstances, we believe the risk of additional increases in No. 2 oil prices is an unnecessary one to impose upon essential agricultural users. These considerations lead the Commission to decline to exercise its discretion to determine No. 2 oil to be an economically practicable alternative.

Propane prices appear to be generally higher than those of No. 2 oil. The same considerations lead the Commission to decline to find propane to be an economically practicable fuel.

The question of the economic practicability of low sulphur No. 6 oil is more difficult. The data show it is generally less expensive than No. 2 oil but more expensive than high sulphur No. 6 oil. For the years 1976-1979 Monthly Energy Review data indicates the price differential between low sulphur No. 6 and No. 2 fuel oil relative to the natural gas price shows that low sulphur No. 6 was 27% to 40% less expensive than No. 2 oil. The Form 423 data indicates these differentials are 21% to 30%. (Appendix A hereto.) The data also indicates that No. 6 oil has not increased in price as rapidly as No. 2 oil, and the gap between the prices of No. 2 and low sulphur No. 6 is widening.¹¹ We must also be mindful that curtailment levels are decreasing. These factors lead us to conclude that treating low sulphur No. 6 as an alternative fuel would impose a lesser economic risk on essential agricultural users. Accordingly, we believe that low sulphur No. 6 is economically practicable. It follows that high sulphur No. 6 is also economically practicable.

¹⁰ We wish to clarify that the inclusion of price data for January 1980 in the Notice of Proposed Rulemaking was solely for the purpose of providing the public with all the information available to the Commission at the time the notice was issued. However, the Commission does not believe it is appropriate to evaluate and project on the basis of data from a single month. Moreover, the Commission does not believe it is appropriate to compare monthly data with annual data because of seasonal and other short term price variability.

¹¹ In reaching this conclusion we are not unaware of the price increases in low sulphur No. 6 oil in January 1980. (June 3 notice, Appendix A) However, we do not believe it is appropriate to base decisions on data for only one month.

We realize that this rule does not apply to existing facilities which have not installed alternative fuel capability. Some persons have argued that the result of this rule is to create a preference for those users which have not chosen to install alternative fuel capability. We do not deny that such a preference is reflected in our rule. But we believe imposition of conversion costs could cause unnecessary increases in food costs in the face of current gas supply projections. Therefore, we believe this preference is outweighed by the increases in costs that could be associated with conversion.

C. Reasonable Availability

As indicated in the June 3 notice, recent data published by DOE indicate that stocks for both residual and distillate fuel oil have been well above the level usually considered acceptable. Many agricultural users, however, argue that our nation's reliance on imported oil makes supplies subject to sudden disruptions. Supplies are also said to be affected by such unpredictable factors as the weather, curtailment levels, oil prices, conservation, and changes in the economy. Consequently, these persons argue, neither distillate nor residual oil may be considered reasonably available. Instead of relying on present fuel inventories, they say, the Commission must consider the projected availability of these fuels. Others say that finding fuel oil reasonably available would be inconsistent with the fuel oil displacement program expressed in FERC Order Nos. 30¹² and 30-A¹³ as well as with the goal of minimizing our dependence on foreign oil.

We do not find these arguments persuasive. Neither the statute nor the Statement of Managers qualifies the term "reasonably available" with references to long-term availability. Moreover, Congress clearly intended to protect essential industrial process and feedstock users from curtailment, albeit in a priority lower than agricultural users. In our view, it is implausible to conclude that Congress intended to expose these process and feedstock users to curtailment when alternative fuel is available to agricultural users simply because these fuels might become unavailable at some time in the future.

Our determination that liquid fuel oil is reasonably available for essential agricultural users does not conflict with the oil displacement program or the goal

⁸ The economic feasibility test may exclude additional essential agricultural users if the installation of alternative fuel capability is determined to be economically feasible. Such determinations could inordinately delay implementation of the alternative fuel rule.

⁹ "Future Gas Consumption of the United States," Gas Requirements Committee, published by the University of Denver Research Institute, Volume 6, December 1975, Table A-5 and "Supplement to Volume 6," September 1976, Table 3; See also American Gas Association *Gas Facts* (1978), Tables 64 and 69.

¹² Docket No. RM79-34, May 17, 1979 (44 FR 30323, May 25, 1979).

¹³ Docket No. RM79-34, September 12, 1979 (44 FR 54472, September 20, 1979).

of reducing our dependence on foreign oil. The oil displacement program had at the time of adoption a two-fold basis: shortage of residual fuel oil and No. 2 oil as well as a need to reduce dependence on foreign oils. The Commission is considering continuation of the rule. Continuation of the oil displacement rule, in light of current circumstances, may appropriately be based solely on the need to reduce dependence on foreign oil. Moreover, it is highly unlikely that this rule will alter the total amount of gas and oil consumed in this country. At issue here is only the question of whether certain agricultural users or other industrial users will be required to utilize the alternative fuel.

United Gas Pipeline Company (United) urges that determinations of reasonable availability be made by means of "a relief mechanism whereby any customer actually deprived of alternate fuel would obtain relief from its supplying pipeline or distributor." United does not provide details concerning how such a plan would work. In any event, determining the availability of fuels by means of individual requests for relief would have the same disadvantages as the case by case approach to section 401(b), which we have considered previously and rejected.¹⁴ In dismissing United's proposal as a rule of general applicability, we express no view on whether or not such an approach would be considered appropriate for an individual pipeline as a result of a petition for relief under section 502(c).

There was no significant debate on the availability of coal on a national level to those capable of using it.¹⁵

Based upon the record, we find that coal and residual fuel oil are reasonably available fuels within the meaning of section 401(b).¹⁶

D. Adequacy of Data

The Commission has studied data from Form 423 and EIA data in connection with this rulemaking. The public data were summarized in the June 3 notice and public comment on these data solicited. Comments indicate that these sources may reflect large users who may enjoy lower prices than certain essential agricultural users.

Nobody however, has suggested an alternate source of data that more accurately measures costs to essential agricultural users. Nor is it apparent that data more directly focused on agricultural consumers would suggest different policy outcomes from those suggested by the Form 423 and EIA data.

Other comments indicate individual users have experienced prices that exceed those prices summarized in our June 3 notice. This is to be expected with any data set that is a composite of various reports from various sources. It does not however mean that the data are inappropriate for the general use made of them by the Commission. We have used the best data available and sought improved data. Even with more precise generic data of the sort advocated by some commentators, as we have previously stated, a highly accurate evaluation of impacts can be made only in a case-by-case determination, not in a rule of general applicability. Considering the inherent generality implied by a generic approach, we believe that the available data are adequate and the comments do not persuade us that further search for more precise generic series would be cost-effective.

E. New Boilers

Some commentators object to our exclusion of new boilers which are presumed to have alternative fuel capability. However, a contrary rule would remove incentives to install alternative fuel capability. This would not be sound public policy, and there is no indication that Congress intended such a result.

We are aware that the curtailment priority treatment by this Commission is not the only factor that may enter into a decision concerning alternative fuel capability on a new or replacement boiler. However, where an adjustment request established that the sole reason for installation of such capacity would be the operation of our rule, we believe it would be appropriate to consider the cost of such additional facilities and whether the incurring of such cost would cause unnecessary increases in the cost of food.

Several commentators oppose using the nameplate rated capacity to exempt boilers below 300 Mcf per day from an alternative fuel test. Some also object to using 16 hours as a measure of the capacity (expressed in MMBtu per hour). It is argued that boilers frequently are not used at full capacity and may be used for periods more or less than 16 hours.

We realize that actual use is not necessarily the same as nameplate

rating and that boilers operate for periods other than 16 hours. Nevertheless, the use of nameplate capacity is an objective, verifiable, and administratively practicable method for excluding boilers below a certain size from operation of § 281.304(b) of the rule, which applies only to new boilers. Furthermore, it is often considered inefficient to limit a boiler's operation to 8 hours a day. Thus, 16 hours was selected as a reasonable, practical, middle ground.

F. Adjustments

A rule of general applicability cannot anticipate and accommodate every peculiar fact situation confronted by each person subject to the rule. We also realize that some users' actual experience will differ from the generalizations upon which the rule is based.¹⁷ The impact of the rule on a particular user may give rise to a situation which warrants adjustment relief. Procedures for adjustments are available under 18 CFR 1.41.

In addition to the comments concerning regional availability and practicability of various fuels, a number of persons urged that the rule should provide for special problems faced by certain industries. Central Florida Gas Corporation, for instance, urges special protection for seasonal agricultural users against heavy curtailment at the height of their seasonal use. National Grain and Feed Association alleges that use of fuel oil in grain drying contaminates the grain because grain drying is a direct flame application. Likewise, National Milk Producers Federation says that use of fuel oil in mild processing results in an inferior product.

Our notice invited comment on the need and advisability of regional determinations of economical practicability and reasonable availability. Some persons advocated regional determinations. However, they provided little supporting data. Upon consideration of the available published data and the views and comments provided us, we do not believe an adequate basis exists for a regional rule at this time. One difficulty is the availability of regional data in the detail that could be desirable. For example, the inventory data published by the Economic Regulatory Administration shows availability on a national basis with reference to the "estimated minimum acceptable level," but ERA does not provide regional estimates of

¹⁴ See Notice of Proposed Rulemaking, Docket No. RM79-40, August 29, 1979.

¹⁵ One person alleges that coal is not reasonably available in California. The rule itself does not provide for circumstances that may affect individuals in certain regions. Unique circumstances are appropriately addressed in an adjustment proceeding.

¹⁶ Since we have not been able to find that distillate fuel oil and propane are economically practicable, we need not determine whether they are reasonably available.

¹⁷ For example, we are aware that the record indicates the cost of fuels to individual users differs from the costs published in the June 3 notice.

minimum acceptable levels. Our experience with curtailment cases suggests that to collect sufficient data to implement a rule based on regional considerations or tailored to individual industries would be a major task. We do not believe such a delay in implementing section 401(b) in order to implement a regional plan would be warranted by the likely advantages relative to a national rule.

G. Periodic Reconsideration of the Rule

A number of persons noted that conditions of price and availability can change rapidly and cannot be accurately predicted over a long period of time. Some urged the Commission to reevaluate frequently any rule adopted. Others suggested that a series of interim rules would be preferable. Several persons urged the Commission to adopt a methodology that would be useful indefinitely without requiring periodic review. Still others noted that deep curtailments are not anticipated for the approaching heating season and urged the Commission not to adopt any rule until further data could be obtained.

The NGPA was enacted in 1978. We do not believe that our duties under that law permit further delay in promulgating a final rule under section 401(b). Moreover, for reasons previously discussed, we have decided not to adopt a fixed formula for determining when alternative fuels are reasonably available and economically practicable.

Accordingly, we will endeavor to reconsider the rule adopted herein as changed circumstances may require, even though it is established as a final rule. We will also attempt, to the maximum extent practicable, to implement any required changes in time to allow adequate planning for future heating seasons. In any event, we do not anticipate changing the rule before the end of the 1980-1981 winter heating season.

H. The impact of this rule on other provisions in the NGPA.

Title II of the NGPA excludes from incremental pricing those essential agricultural users which do not have alternative fuel. The term is defined as fuel which is economically practicable and reasonably available. NGPA Section 206(b)(2). The Commission expects to issue a notice of proposed rulemaking in a separate docket in the near future which will seek comment on the appropriate alternative fuel test for purposes of incremental pricing. A number of people have commented in this proceeding (Docket No. RM79-40) concerning the application of this rule to incremental pricing. The Commission

has not addressed the question of incremental pricing in this docket and will not do so. Rather it will reach a determination on the appropriate alternative fuel rule for Section 206(b) following further rulemaking proceedings.

Similarly, many persons have commented that the alternative fuel test for Section 402 is also one of economic practicability and reasonable availability. They urge that the same test must be applied to Section 401 and 402. However the Commission has just recently taken referral of the rule proposed by the Economic Regulatory Administration for implementation of Section 402. See Docket No. RM80-67. No rule has yet been issued establishing a priority 3 for essential industrial users and process users. Such a rule must be adopted by ERA before the Commission implements the Section 402 alternative fuel rule. Accordingly, the meaning of the alternative fuel rule in Section 402 is not before the Commission at this time, and it would be inappropriate to attempt to construe its meaning in the context of this discussion of Section 401.

I. The Environmental Assessment

In an environmental assessment of the proposed rule, Staff concluded that the effects of the rule on air quality would be insignificant and the effects on agricultural costs of production would be small. The assessment was made available to the public in the Commission's Office of Public Information and comments were invited.

Staff's environmental assessment is predicated on the assumption that curtailments will be no worse than in the 1978-1979 heating season. Certain persons object to the use of the 1978-1979 curtailment levels and argue that the 1976-1977 levels, or even 100 percent curtailment, should be assumed. We do not agree. As shown in the table below, the 1976-1977 year was a watershed for curtailment, and included the coldest winter in fifty years. Although the 1978-1979 heating season is not the year of highest curtailment, nonetheless, substantial curtailment did occur that year as well, certainly significantly more curtailment than occurred during the 1979-1980 year or than is projected for 1980-1981.

Annual Natural Gas Curtailments

[April through the following March]

Year	Volume (in MMcf) ¹
1973-74.....	1,399,444
1974-75.....	2,209,002
1975-76.....	3,130,260
1976-77.....	3,853,886
1977-78.....	3,855,279

Annual Natural Gas Curtailments—Continued

[April through the following March]

Year	Volume (in MMcf) ¹
1978-79.....	3,128,952
1979-80.....	1,806,474
1980-81 (projected).....	1,242,770

¹Excludes pipeline to pipeline curtailments. Source: Form 16's of major interstate pipelines.

Moreover, several of the problems experienced by pipelines during 1976-1977 have been mitigated by the construction of additional pipeline capacity and by the development of more storage facilities. Finally, the passage of the NGPA has made significant volumes of additional supply available to the interstate market, at least in the near term. The suggestion that analysis of the proposed rule should be based on 100 percent curtailment of natural gas bears no relation to anything that is likely to occur in the reasonably foreseeable future. The curtailment level experienced during the 1978-1979 winter is an appropriate assumption to include in the environmental analysis.

National Council of Farmers Cooperatives incorrectly alleges that Staff failed to consider the effect on nonagricultural users of finding that no alternative fuel is economically practicable and reasonably available. Staff considered this alternative (Environmental Assessment at 19-20) and concluded that under such a rule, nonagricultural users could be more severely effected than agricultural users would be under the proposed rule.

Based on Staff's environmental assessment, the Commission finds that the rule adopted herein does not constitute a major federal action significantly affecting the environment.

J. Other Issues

Two persons requested that the rule be clarified to indicate that priority 2 status may be retained for those users of natural gas for which an agricultural user cannot use alternative fuels, even though the user has the ability to use alternative fuel for other uses at the same establishment. The interim rule was so clarified.¹⁸ The rule adopted herein retains those features of the interim rule not specifically amended.

IV. Section-by-Section Summary of the Amendments

Definitions and cross references (§ 281.203). Section 281.203(a)(17), which defines "currently effective curtailment

¹⁸ Order No. 55-A, Docket No. RM79-40, Order Denying Rehearing, February 19, 1980, at 5-6.

plan" is revoked. The phrase is now self-explanatory because the March 1, 1979 date is no longer relevant in describing existing plans.

Tariff filing requirements (§ 281.204). Section 281.204(b)(3) provides that the index of entitlements shall not include the volumes of natural gas for which the essential agricultural user has the ability to use an alternative fuel as determined under Subpart C. Under the interim rule, each interstate pipeline was required to amend its index of entitlements to remove from the priority 2 classification and place in an appropriate priority of service category "any volumes of natural gas included in any index of entitlements that is effective on October 31, 1979 (or on November 30, 1979, if the pipeline elects to file tariff sheets under paragraph (a)(2) of this section)." Under this final rule, a pipeline is required to amend its index of entitlements "pursuant to paragraph (b)(2)" to remove from the priority 2 classification and place in an appropriate priority of service category any volumes of natural gas for which the user has an ability to use alternative fuel if such volumes are included in any index of entitlements that is effective on or after October 31, 1979.

A new § 281.204(b)(4) is added to provide an optional deadline for revising indexes of entitlement in 1980 to accommodate alternate fuel capabilities. Notwithstanding anything in paragraph (b)(2) (periodic update of the index of entitlements), a pipeline may elect to file its revised index of entitlements on November 1, 1980, with a proposed effective date December 1, 1980, if the pipeline files with the Commission's Secretary by October 1, 1980 a written notice of its decision to file its revised index on November 1, 1980, and also continues its existing index in effect until December 1, 1980.

Filing and documentation (§ 281.211). Section 281.211(b)(1)(ii)(D) is amended to provide that a request for classification of any essential agricultural requirement as a priority 2 entitlement shall include, with respect to any agricultural user to which Subpart C (alternative fuel determinations) applies, the data and calculations necessary to determine alternative fuel volumes under § 281.304.

Section 281.211 is amended to provide that for years subsequent to 1979, the data required by this paragraph must be filed only to the extent that there has been a change in essential agricultural requirements. This amendment makes it clear that changes resulting in reduced agricultural requirements must be filed, as well as requests for changes reflecting increased requirements.

Filing and service dates for 1980 (§ 281.216). Section 281.216 is amended by designating the existing paragraph ¹⁹ as paragraph (a) and by adding a new paragraph (b) to provide that if the pipeline elects to file its revised index of entitlements on November 1, 1980, under § 281.204(b)(4), the Data Verification Committee shall submit its report by October 23, 1980.

Definitions (§ 281.303). Section 281.303(a) of the interim rule defined "ability to use" an alternative fuel as meaning that an essential agricultural use establishment had, on August 29, 1979, the installed physical capability to use the alternative fuel and used that alternative fuel, in any amount, at any time after 1973, for an essential agricultural use. The final rule amends this definition by inserting the phrase "or thereafter acquired" after "on August 29, 1979." A similar change is made in § 281.304(a)(2).

Section 281.303(h) defined "essential agricultural requirements" to mean volumes of natural gas certified by the Secretary of Agriculture and calculated in accordance with 7 CFR 2900.4. This section is clarified by adding the words "and § 281.208(b) of this Part" to the end of the sentence.

Filing of amendments to essential agricultural requirements and priority 2 entitlements (§ 281.305). Under Order No. 55, this section provided for filing amendments to priority 2 entitlements to reflect alternative fuel volumes. Since that process has been completed, § 281.305 (a), (b)(2), (c), and (d) are no longer necessary and are deleted. The section is now entitled "General Rule." Existing paragraph (b)(1) is revised and made the general rule. It provides that any essential agricultural user subject to this subpart that has requested from any direct supplier priority 2 classification for volumes for any essential agricultural use establishment shall reduce its essential agricultural requirements calculated under § 281.208 to reflect the exclusion of volumes of natural gas for which its essential agricultural establishment has alternative fuel volumes under § 281.304.

V. Effective Date

These regulations are being issued effective immediately. The Commission finds good cause to waive the 30-day delay in the effective date under section

¹⁹ Contemporaneously with the Notice of Proposed Rulemaking issued in this proceeding on June 3, 1980, the Commission issued a rule in Docket No. RM79-15 adding a new § 281.216(a). The rule provides that under Subpart B filing and service dates for 1980 shall be the same as for 1979, notwithstanding anything to the contrary in § 281.212(d) or § 281.213(c).

553 of the Administrative Procedure Act. In order that the interstate pipelines have sufficient opportunity to amend the indices of entitlements by the winter season, data on alternative fuels must be requested and transmitted to the pipelines in the next few weeks. In a curtailment situation, permitting priority 2 natural gas to be used this winter by essential agricultural users that are able to use an alternative fuel, as defined in § 281.303, could jeopardize the availability of natural gas to process and feedstock users that do not have the ability to use alternative fuels.

(Natural Gas Policy Act of 1978, 15 U.S.C. 3301-3432; Department of Energy Organization Act, 42 U.S.C. 7101-7352; E.O. 12009, 42 FR 46267.)

In consideration of the foregoing, Part 281, Chapter I of Title 18, Code of Federal Regulations is amended as set forth below, effective immediately.

By the Commission. Chairman Curtis voted present.

Kenneth F. Plumb,
Secretary.

§ 281.203 [Amended]

1. Section 281.203(a)(17) is revoked.
2. Section 281.204 is amended in paragraph (b) by revising second sentence of paragraph (b)(3) and by adding a new paragraph (b)(4), to read as follows:

§ 281.204 Tariff filing requirements.

* * * * *

(3) * * * Each interstate pipeline shall amend its index of entitlements pursuant to paragraph (b)(2) of this section to remove from the priority 2 entitlements and place in an appropriate priority of service category any such volumes or natural gas included in any index of entitlements that is effective on or after October 31, 1979.

(4) Notwithstanding paragraph (b)(2) of this section, a pipeline may elect to file its revised index of entitlements on November 1, 1980 with a proposed effective date of December 1, 1980, if the pipeline:

- (i) Files with the Secretary no later than October 1, 1980, a written notice of its decision to file its revised index of entitlements on November 1, 1980; and
- (ii) Continues the effectiveness of its existing index of entitlements filed under this subpart B until December 1, 1980.

§ 281.211 [Amended]

3. Section 281.211 is amended by revising paragraph (b)(1)(ii)(D) and by

revising the first sentence of paragraph (b)(4)(ii), to read as follows:

- ***
 (b) Priority 2. ***
 (1) Essential agricultural users. ***
 (ii) ***
 (D) Includes with respect to any essential agricultural user to which Subpart C applies the data and calculations necessary to determine alternative fuel volumes under § 281.304.

- (4) Subsequent request. ***
 (ii) For years subsequent to 1979, the data required by this paragraph must be filed only to the extent that there has been a change in essential agricultural requirements.

§ 281.216 [Amended]

4. Section 281.216 is amended by designating the existing paragraph as paragraph (a) and by adding paragraph (b) to read as follows:

- (a) ***
 (b) The Data Verification Committee shall submit its report not later than October 23, 1980, if the pipeline has elected under § 281.204(b)(4) to file its revised index of entitlements on November 1, 1980.

§ 281.303 [Amended]

5. Section 281.303 is amended by adding in paragraph (a) the words "or thereafter acquired" between "1979," and "the", and by adding at the end of paragraph (h) the words "and § 281.208(b) of this Part."

§ 281.304 [Amended]

6. Section 281.304(a)(2) is amended by adding the term "or thereafter acquired," between "1979" and the word "the".

7. Section 281.305 is revised to read as follows:

§ 281.305 General Rule.

Any essential agricultural user subject to this subpart that has requested from any direct supplier priority 2 classification for volumes for any essential agricultural use establishment shall reduce its essential agricultural requirements calculated under § 281.208 to reflect the exclusion of volumes of natural gas for which its essential agricultural establishment has alternative fuel volumes under § 281.304.

Appendix A.—Comparison of Selected Fuel Price Data, FPC Form No. 423 versus Monthly Energy Review, 1976—January 1980

Type of fuel	FPC form No. 423 price data ¹					Monthly energy review price data ²				
	1976	1977	1978	1979	Jan. 1980	1976	1977	1978	1979	Jan. 1980
Cents per MMBtu										
Fuel Oil:										
No. 2.....	235.1	264.3	271.9	402.1	564.4	226.4	257.3	268.2	403.1	537.2
Low Sulfur No. 6.....	207.1	229.1	225.1	320.2	453.3	193.6	221.3	216.8	322.4	466.5
High Sulfur No. 6.....	168.7	199.9	186.7	264.7	361.4	165.9	195.2	186.1	261.5	349.6
All No. 6.....	195.9	220.4	212.3	299.7	423.5	182.8	210.4	202.7	297.0	417.7
Coal: All Grades.....	84.8	94.7	111.6	122.4	128.7	(3)	(3)	(3)	(3)	(3)
Natural Gas.....	103.4	130.0	143.8	175.4	194.8	97.2	131.9	154.1	201.8	237.3
Actual price difference (fuel oil and coal versus natural gas)										
Fuel Oil:										
No. 2.....	131.7	134.3	128.1	226.7	369.6	129.2	125.4	114.1	201.3	299.9
Low Sulfur No. 6.....	103.7	99.1	81.3	144.8	258.5	96.4	89.4	62.7	120.6	229.2
High Sulfur No. 6.....	65.3	69.1	42.9	89.3	166.6	68.7	66.3	32.0	59.7	112.3
All No. 6.....	92.5	90.4	68.5	124.3	228.7	85.6	78.5	48.6	95.2	180.4
Coal: All Grades.....	(18.6)	(35.3)	(32.2)	(53.0)	(66.1)	(3)	(3)	(3)	(3)	(3)
Price difference ratio ³ (fuel oil and coal versus natural gas)—ratio										
Fuel Oil:										
No. 2.....	1.274	1.033	.891	1.292	1.897	1.329	.951	.740	.998	1.264
Low Sulfur No. 6.....	1.003	.762	.565	.826	1.327	.992	.678	.407	.598	.966
High Sulfur No. 6.....	.632	.538	.298	.509	.855	.707	.480	.208	.296	.473
All No. 6.....	.895	.695	.476	.709	1.174	.881	.595	.315	.472	.760
Coal: All Grades.....	(.180)	(.272)	(.224)	(.302)	(.339)	(3)	(3)	(3)	(3)	(3)

¹ As reported in DOE/EIA Energy Data Report entitled *Cost and Quality of Fuels for Electric Utility Plants* (Annual summary data 1976–1979) and Monthly Report for January 1980. Note: All prices are delivered prices to steam electric plants. Prices paid for No. 6 fuel oil include prices paid for minor amounts of No. 4 and No. 5 fuel oil, crude and topped crude.

² Fuel oil prices are reported on FEA Form P302-M-1, "Petroleum Industry Monthly Report for Product Prices." Natural Gas Prices are those paid by industrial customers of major interstate pipeline companies as reported on FPC Form No. 11, "Natural Gas Pipeline Company Monthly Statement."

³ The price data for coal is the same as shown under FPC Form No. 423 price data.

⁴ Mathematically the price difference ratio is $P_2 - P_1 / P_1$, where P_2 = the price of fuel oil or coal and P_1 = the price of natural gas. The ratio indicates the percent difference between natural gas and alternate fuel prices. For example in January 1980 electric utilities reported that in that month they paid 1.897 times more (189.7 percent) for No. 2 fuel oil than they paid for natural gas.

As determined in Docket No. RM79-40 NOPR issued June 3, 1980, corrected for clerical/typographical error.

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