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Propane and naphtha are important to major segments of the Nation's economy because they are used both as a primary fuel and as feedstocks for certain industrial processes. Propane and naphtha, along with other petroleum-based products, were placed under Federal control by the Emergency Petroleum Allocation Act of 1973. The responsibility for establishing and carrying out the allocation regulations were delegated to the Federal Energy Administration (FEA) and transferred to the Department of Energy in 1977. Findings/Conclusions: Under the act's provisions, the FEA was required to distribute petroleum products in scarce supply on an equitable basis. The propane shortage did not develop to the extent anticipated when the regulations were formulated. National supply levels have exceeded the demand, and domestic production is expected to remain fairly constant through 1985. Past shortages have resulted more from distribution problems than from a supply shortage. The propane allocation regulations are unclear and ambiguous; as a result, the regulations are not understood and, in many cases, are ignored altogether. The propane allocation program was supplemented with a program to provide State officials with a quantity of fuel to allocate in emergencies, but the State set-aside program did not always provide relief for hardship or emergency conditions as was intended. The program was underutilized either by choice or by circumstances. Since 1974, the purchase of propane and naphtha has been constrained by the FEA to limit expansion of the synthetic natural gas industry. Recommendations: With regard to propane, the Secretary of Energy should: take required steps to exempt propane from allocation regulations but continue monitoring large users to assure that traditional and high-priority users are not adversely affected; and continue the use of the State

set-aside program for propane but clarify regulations concerning delivery time periods and availability and adjust set-aside percentages to match expected State requirements. As to synthetic natural gas feedstocks, the Secretary of Energy should: establish goals for synthetic natural gas production and use, take required steps to deregulate the allocation of naphtha and other synthetic natural gas feedstock supplies, and implement review procedures to ensure that synthetic natural gas use is limited to high-priority customers. (RBS)

8129

BY THE COMPTROLLER GENERAL

Report To The Congress

OF THE UNITED STATES

Federal Regulation Of Propane And Naphtha: Is It Necessary?

Propane, naphtha, and other petroleum-based products were regulated in 1973 because the oil embargo threatened to create a national shortage. It never developed. As a result, some products were deregulated. However, the Department of Energy continues to regulate propane and allocate naphtha used to manufacture synthetic natural gas even though supplies have been adequate to meet demand.

Propane shortages have resulted from distribution problems rather than a national supply shortage. Such shortages could be handled through improvements in the State set-aside program. The Department should take the required steps to exempt propane from allocation regulation.

One of the National Energy Plan's objectives is to increase short-term production of synthetic natural gas Goals should be established for such production. To meet them, the Department should also take the required steps to deregulate the allocation of naphtha.

EMD-78-73
OCTOBER 24, 1978

COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

B-178205

To the President of the Senate and the
Speaker of the House of Representatives

We undertook this review as part of our comprehensive examination of Federal natural gas curtailment policies. The close relationship that exists between natural gas and supplemental fuels, such as propane and synthetic natural gas, requires that policies affecting these fuels be carefully considered when establishing policies for natural gas supply and demand.

This report discusses the need for the Department of Energy to take required steps to exempt propane from allocation regulation but continue monitoring large users, such as natural gas utilities and transmission companies, to assure that traditional and high-priority users are not adversely affected. It also discusses the need for the Department to take the required steps to deregulate the allocation of naphtha and other synthetic natural gas feedstock supplies; however, if continued control over synthetic natural gas production is determined to be necessary, the Department should seek legislative authority to regulate the construction and operation of synthetic natural gas facilities.

We made our review pursuant to the Budget and Accounting Act, 1921 (31 U.S.C. 53) and the Accounting and Auditing Act of 1950 (31 U.S.C. 67).

We are sending copies of this report to the Director, Office of Management and Budget and the Secretary of Energy.

Comptroller General
of the United States

D I G E S T

Because fuel supplies have continued to increase since 1973 when the oil embargo threatened to disrupt supplies of these products, the need today to allocate propane and naphtha is questionable.

Propane and naphtha, along with other petroleum-based products, were placed under Federal control by the Emergency Petroleum Allocation Act of 1973. The responsibility for establishing and carrying out the allocation regulations was delegated to the Federal Energy Administration in 1974. It held this responsibility until October 1, 1977, when all of its functions were transferred to the Department of Energy.

The Federal Government should only regulate petroleum products when essential. Regulation of these products leads to economic discrimination against consumers and distorts normal allocations. In addition, the establishment of such regulations increases the Federal requirement for additional staff and associated finances.

SHOULD PROPANE CONTINUE TO BE ALLOCATED?

The petroleum shortage did not develop to the extent envisioned in 1973 and the national supply of propane has been adequate to meet the Nation's needs. For example, there were 16.6 billion gallons of propane available for sale in 1977, but only 13.1 billion gallons were sold. The domestic propane supply outlook is expected to remain relatively constant through 1985. In addition, the availability of propane on the world market is improving and a surplus is projected by the 1980s.

By 1976, the supply of petroleum-based fuels improved to the point where some of these products were deregulated. Although propane supplies are sufficient to meet demand, the Department of Energy has retained control over their use to make sure that adequate propane is available for traditional and high-priority users during periods of peak demand.

Past natural gas shortages put pressure on gas utilities and transmission companies to supplement natural gas supplies with propane to meet high-priority needs for short periods of time during the heating seasons. The Department is concerned that these users' demands for large quantities of propane will disrupt the normal deliveries to the traditional users. GAO found, however, that the natural gas supply outlook for high-priority customers was improving due to various conservation measures, primarily industrial conversions from natural gas to alternate fuels. In addition, the Department is considering increasing imports of liquefied natural gas and importing natural gas from Mexico. Natural gas is also expected from Alaska's North Slope by 1985. Any increase in natural gas supplies will reduce the need for propane to meet peak demands for high-priority users.

Propane allocation regulations have not been effectively carried out during periods when shortages were experienced. These shortages resulted from distribution problems rather than a national supply shortage for which the regulations were intended.

The allocation regulations are confusing, ambiguous, and inadequate for handling distribution problems. For example, the regulations do not prescribe a deadline for propane deliveries. Without such a time limit, the Department cannot enforce timely deliveries during emergencies.

Until distribution problems are resolved, some propane shortages are likely to continue. The problems are being looked into by the propane industry--it is increasing pipeline capacity and expanding storage facilities. These improvements appear to obviate further the need to continue the allocation regulations that have minimal application to such shortages. However, the Department should continue monitoring large users, such as natural gas utilities, to assure that traditional and high-priority users are not affected. (See p. 6.)

PROPANE STATE SET-ASIDE PROGRAM NEEDS TO BE REEXAMINED

The Federal Energy Administration supplemented its propane allocation regulations with a program to provide State officials a specified quantity of fuel to allocate in hardship or emergency situations.

Propane suppliers bringing fuel into a State are required to hold back 3 percent of their deliveries each month and these volumes are allocated by the State as needed.

During the 1976-77 winter, suppliers in some States did not honor the State delivery orders because the set-aside volumes were stored outside the primary service areas, even though the regulations require these supplies to be available upon request. Some suppliers did not fill delivery orders in a timely manner because they interpreted the regulations as giving them until the end of each quarter to make the deliveries.

Even under allocation deregulation, the State set-aside program can be continued and has the potential for locally controlling propane supplies needed in hardship or emergency situations. During such a hardship or emergency caused by an inadequate distribution system, the program allows each State to determine who receives first priority when using set-aside propane. However, regulations should be clarified concerning delivery time periods and the availability of the propane within the State. Furthermore, the Department should establish different percentages for each State in order to approximate more closely individual State needs for set-aside propane. (See p. 19.)

NATIONAL ENERGY PLAN'S OBJECTIVE OF INCREASING SYNTHETIC NATURAL GAS PRODUCTION MAY NOT BE MET

Naphtha has been deregulated except for the continued allocation of a small percentage used to manufacture synthetic natural gas. This control has dampened effectively and intentionally the production of synthetic natural gas because Federal Energy Administration officials determined the use of naphtha and propane for such a purpose was inefficient. As a result, since 1974 there has been little growth in the synthetic natural gas industry.

The National Energy Plan faulted the restrictive policy and advocated constructing some additional plants to meet short-term needs. As a result, the Federal Energy Administration issued revised regulations on September 30, 1977, which were intended to encourage additional synthetic natural gas production. However, the gas industry has not responded to the revised policy as anticipated.

GAO does not believe the revised policy will accomplish the plan's objective of increasing short-term production of synthetic natural gas. Goals should be established for such production. To encourage industry's participation in meeting these goals, the Department of Energy should take the required steps to deregulate the allocation of naphtha and other feedstock supplies. Some monitoring of the results of allocation decontrol may be necessary to make sure that the objective is being met. (See ch. 3.)

RECOMMENDATIONS

Regarding propane, the Secretary of Energy should

--take the required steps to exempt propane from allocation regulation but continue monitoring large users, such as natural gas utilities and transmission companies, to assure that traditional and high-priority users are not adversely affected and

--continue the use of the State set-aside program for propane but clarify the regulations concerning delivery time periods and availability of the propane within the State, and adjust set-aside percentages to match expected State requirements. (See p. 24.)

Regarding synthetic natural gas feedstocks, the Secretary of Energy should

--establish goals for synthetic natural gas production and use;

--take the required steps to deregulate the allocation of naphtha and other synthetic natural gas feedstock supplies; however, if some Federal control is necessary, legislative authority should be sought to regulate the construction and operation of all synthetic natural gas plants and eliminate the feedstock allocation program; and

--implement review procedures to ensure that synthetic natural gas use is limited to high-priority customers. (See p. 39.)

AGENCY COMMENTS

The Department of Energy did not agree to deregulate the allocation of propane supplies. It felt that uncertainties regarding future propane supplies prohibited such

deregulation. Department officials said that an increase in the domestic price would create an adverse effect on consumers. The primary concern is that large gas utilities would take propane supplies away from traditional users or dominate the transportation system. This concern can be met by monitoring the effects of such deregulation and reestablishing control over large users if such action is necessary. Even if the Department deregulates the allocation of propane, it can continue to regulate its price with no adverse effect on the allocation deregulation.

The Department said that it plans to continue using the State set-aside program and agreed to clarify its regulations. The Department, however, did not agree to adjust the percentage of set-aside for each State. It does not believe that it is appropriate to make such adjustments other than through the current procedure because it could tend to disturb traditional distribution patterns.

The States, however, need the set-aside program to varying extents, but only a few States release their propane to the suppliers before it is automatically released at the end of the month. GAO contends, therefore, that proper adjustments to the set-aside percentage would provide even greater assurance that traditional distribution patterns would not be disturbed. (See p. 23.)

The Department did not agree that it should establish a synthetic natural gas production objective because it believes that it would be very difficult, if not impossible, to quantify the amount that would be needed to meet critical peakload needs. The Department believes that a case-by-case approach without quantification of the overall level of production is the most feasible approach. GAO believes that at least some broad production parameters, under varying assumptions regarding the uncertain factors, are imperative if the feedstock program is to be effectively administered.

The Department, in stating that there is no apparent justification to deregulate the allocation of synthetic natural gas feedstocks, cites an in-depth analysis of the allocation regulations by a Department of Energy task force. GAO noted, however, that this analysis resulted in a recommendation to extend the Department's jurisdiction to all synthetic natural gas plants through construction and operation control

rather than allocation of feedstocks. GAO believes that such action would be an acceptable alternative to allocation decontrol.

The Department agreed to establish review procedures to make sure that synthetic natural gas use is limited to high-priority customers. (See p. 37.)

Contents

ABBREVIATIONS

AGA	American Gas Association
Bcf	billion cubic feet
Btu	British thermal unit
DOE	Department of Energy
FEA	Federal Energy Administration
FPC	Federal Power Commission
GAO	General Accounting Office
LNG	liquefied natural gas
LPG	liquefied petroleum gas
NGL	natural gas liquids
PEG	Petrochemical Energy Group
SNG	synthetic natural gas

CHAPTER 1

INTRODUCTION

Propane and naphtha have become increasingly important to major segments of the Nation's economy where they have been used both as a primary fuel and as feedstocks for certain industrial processes. Over the past few decades, users of propane and naphtha have developed a historical demand for these commodities and much of the present production, transportation, and distribution facilities have been developed to meet that demand. Propane's clean-burning characteristics have made it a valuable commodity for a wide variety of uses. The agricultural sector has many uses for propane, such as food processing, crop drying, and as an internal combustion engine fuel. In the rural, residential, and in some commercial sectors where natural gas is not availale, propane is important in meeting energy needs for heating and cooking purposes. The industrial sector has made extensive use of propane for process uses and as a feedstock. 1/

Naphtha has been used primarily in gasoline production where about 90 percent of the total use of naphtha occurs. It has also become an important element in the petrochemical industry and in the manufacture of synthetic natural gas (SNG) where it is used as a feedstock.

The oil embargo of 1973, coupled with inadequate domestic production, caused shortages of crude oil, fuel oil, and refined petroleum products. 2/ Such shortages created, or were expected to create, (1) severe economic dislocations and hardships, including loss of jobs, closing of factories and businesses, reduction of crop plantings and harvesting and (2) curtailment of vital public services, including the transportation of food and other essential goods. Such hardships and dislocations would jeopardize the normal flow of commerce and constitute a national energy crisis which would be a threat to the public health, safety, and welfare.

The Congress attempted to minimize the effect of the shortage by passing the Emergency Petroleum Allocation Act of 1973 (Emergency Petroleum Allocation Act) (15 U.S.C. 751

1/A fuel used as raw material for its chemical properties in creating an end product.

2/Refined petroleum products means gasoline, kerosene, distillate fuel oils, propane, butane, refined lubricating oils, and diesel fuel.

et. seq.). This act authorized the President to issue regulations providing for the mandatory allocation of crude oil, residual fuel oil, and certain petroleum products such as naphtha and propane. Following the establishment of the Federal Energy Administration (FEA) under the Federal Energy Administration Act of 1974 (15 U.S.C. 761), the President issued Executive Order 11790 on June 25, 1974, delegating to the FEA Administrator all authority vested in the President by the Emergency Petroleum Allocation Act.

From 1974 to 1976, FEA regulated the use of petroleum products, including heating oil, residual fuel oil, propane, and naphtha--all supplemental or alternate fuels for natural gas uses. In 1976, FEA determined that the supplies of some of these regulated fuels were adequate to meet market demand and exempted them from Federal control. However, FEA retained control over all uses of propane and the allocation of naphtha used as feedstock for SNG production.

Federal regulation of petroleum products creates inefficiencies associated with complying with the regulations. Such regulations also create substantial administrative burdens and costs associated with the compliance and reporting requirements of a comprehensive program of controls. It increases Federal and industry staff requirements as well as the associated costs related to such increases. One such example is the paper burden to the Federal Government and private industry. FEA estimated that the cost to the Federal Government to collect monthly petroleum data on one form from producers and wholesale purchaser-resellers to be $68,000 a year. Private industry's cost of providing the information to the Federal Government is in addition to the $68,000. To be administratively feasible, a national program of controls must be designed to address the operations and needs of a majority of marketers and a majority of customers operating under historically representative circumstances in broad market areas. Such a program cannot be responsive to the needs of all individuals and companies operating in local or regional markets. Economic discrimination and inequities in certain instances are inevitable.

Unnecessary allocation regulation interferes with market mechanisms and distorts the normal allocation of the products. The Emergency Petroleum Allocation Act specifically requires minimization of economic distortion, inflexibility, and unnecessary interference with market mechanisms.

From the time FEA was officially established, it and the Federal Power Commission (FPC) have been deeply involved in the growing natural gas shortage. FEA's broad responsibilities as a national energy agency and its regulatory control over propane and naphtha have complemented FPC's more limited

jurisdictional authority over the interstate natural gas system.

On October 1, 1977, the responsibilities of these agencies in this area were transferred to the new Department of Energy (DOE), and to the Federal Energy Regulatory Commission, an independent agency within DOE. Since our audit was conducted during the time these agencies were active and functioning on an independent basis, we refer to them, when appropriate, by their former agency designations. Our recommendations, however, are directed to the Secretary of Energy.

PREVIOUS GAO REVIEWS

We have issued two reports on the natural gas curtailment issue and the role of FEA in controlling alternate fuels. Our report on "The Economic and Environmental Impact of Natural Gas Curtailments During the Winter of 1975-76" (RED-76-39, Oct. 31, 1975) pointed out the close relationship between natural gas shortages and alternate fuel supplies in averting economic difficulties. We also reviewed FPC and FEA activities in assessing the impact on the economy of projected natural gas curtailments during the winter of 1976-77 in a letter to the Chairman, Subcommittee on Energy and Power, House Committee on Interstate and Foreign Commerce (EMD-77-12, Jan. 13, 1977).

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This report is an assessment of FEA's allocation program for propane and naphtha during the 1974-77 period. We have also evaluated FEA's SNG policy.

SCOPE OF REVIEW

We focused our review on those factors surrounding the supply and use of propane and naphtha since they are not only closely related to natural gas curtailments but are Federally regulated. We limited our field work to eight states--Alabama, Georgia, Tennessee, North Carolina, South Carolina, Ohio, Pennsylvania, and West Virginia--where propane and SNG are relied on to ameliorate the severe economic impacts from natural gas curtailments; and the oil- and gas-producing States of Texas, Oklahoma, and Louisiana where much of the propane and naphtha originate.

During the course of our examination, we interviewed officials of Federal, regional, and State offices; FPC and FEA headquarters offices; and trade associations. We also interviewed propane producers, importers, distributors, and end-users. In addition, we reviewed FEA records, policies, procedures, and reports; alternate fuel data; agency

contingency plans; economic impact studies; advisory reports; and other documentation pertaining to natural gas supply and curtailments and to allocations of alternate fuels.

CHAPTER 2

DEPARTMENT OF ENERGY'S

PROPANE ALLOCATION REGULATIONS

Under the provisions of the Emergency Petroleum Allocation Act, FEA was required to distribute equitably petroleum products in scarce supply, including propane. To comply with this requirement for propane, FEA established an allocation system based on (1) the purpose for which the propane was to be used and (2) a pro-rata method for deliveries when supply levels fell below the quantities available in the base period. 1/

The propane shortage did not develop to the extent anticipated when the regulations were established. National supply levels on an annual basis have exceeded the demand and domestic production is expected to remain fairly constant through 1985. The potential for increased imports, if needed, appears favorable and the natural gas supplies for high-priority users have increased. DOE, however, has retained control over propane. Past shortages have resulted from distribution problems rather than a national supply shortage. The allocation regulations were not designed to handle such shortages, therefore, the regulations have only minimal application. Until these distribution problems are resolved, some propane shortages are likely to continue. The propane industry is attempting to alleviate the problem by increasing pipeline capacity and expanding storage facilities close to the end-users.

Propane's chemical characteristics are comparable to those of natural gas. Past natural gas shortages have put pressure on gas utilities and transmission companies to supplement natural gas supplies with propane to meet high-priority needs for short periods of time during the heating season. Propane can be mixed with air and injected directly into the natural gas stream with minimum time and cost. The utilization of these propane-air plants can consume large amounts of propane in a relatively short time with potentially adverse effects on supplies to other propane users.

We believe that with the improved supply outlook for both propane and natural gas, DOE needs to assess the feasibility of exempting propane supplies from continued allocation. Because of the potential propane needs of the natural gas

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1/Base period is from April 1, 1972, through March 31, 1973, although this may be adjusted.

industry to meet gas shortages and because any additional demand by the gas industry to transport propane could interfere with deliveries to traditional propane users, DOE needs to continue monitoring large users, such as natural gas utilities and transmission companies, to assure that traditional and high-priority users are not adversely affected. We believe that where supplies are adequate, allocation control should be minimal; those regulations which are necessary should be unambiguous and administered in a fair and uniform manner.

The propane allocation system is complemented by a State set-aside program which gives State officials control over a small portion of all propane volumes delivered into their State. These set-aside volumes were to be used at the discretion of the appropriate State office to relieve any hardship or emergency conditions arising due to disruptions in normal fuel deliveries. Because of varying interpretations of the regulations on delivery requirements or lack of need for these supplies, relatively little of the available propane stocks were used. During the 1977-78 winter, only Hawaii used all of its State set-aside propane. No other State used more than 35 percent of its set-aside propane during any month. Twenty-three States did not use any set-aside propane. Although State officials could release these unused volumes to suppliers for general distribution before they were automatically released at month end, very little propane was voluntarily returned.

Because the State set-aside program can be continued under deregulation, we believe that this program can be useful in relieving distressed users suffering from propane shortages. This is particularly true if DOE exempts propane supplies from regulatory control. The effective use of this program, however, will require a clarification of the regulations as to the requirements for use and the responsibilities of the various participants.

THE NEED TO CONTINUE ALLOCATING PROPANE DOES NOT SEEM WARRANTED

DOE needs to examine its end-use propane allocation procedures and determine the feasibility of exempting propane from allocation. The allocation program attempts to attain certain objectives as defined in the Emergency Petroleum Allocation Act. However, the hardship and emergency conditions that occurred during the 1976-77 winter as a result of distribution problems highlighted the problem of administering the allocation provisions. The deviations from the allocation procedures by propane suppliers appeared to be a key factor in meeting high-priority human needs and it is possible that less regulation would have elicited an even better response

from the industry. In addition, the propane supply outlook has improved and changes have been and are being made in the distribution system to improve deliverability to end-users, thus making the future need for regulations questionable.

Congressional objectives

The oil embargo of 1973 threatened to cause severe nationwide shortages of petroleum products, including propane, because domestic production alone was inadequate to meet demand. In order to minimize the impact of any actual or potential shortages resulting from the oil embargo, the Congress enacted the Emergency Petroleum Allocation Act. The act granted the administration specific temporary authority to deal with such shortages. Although the act provided broad discretionary authority for the administration to take actions it deemed necessary, the allocation program was to be designed to attain certain Congressionally defined objectives. These include:

--The protection of public health, safety, and welfare and the national defense.

--The maintenance of all public services and agricultural operations.

--An equitable distribution of petroleum-based fuels at equitable prices among all regions, areas, and users.

--The minimization of economic distortion, inflexibility, and unnecessary interference with market mechanisms.

--The preservation of an economically sound and competitive industry.

To the extent practicable and consistent with the Emergency Petroleum Allocation Act's objectives, the regulations are also to (1) provide for the protection of traditional users of propane by ensuring a base period volume of fuel subject to a pro-rata reduction in the allocated amount if total quantities available became less than the total quantities produced and imported during the base period, (2) give consideration to allocating propane to any person whose use of other fuels has been curtailed, and (3) ensure that propane is made available to industrial users if no substitute is available. The act also contemplated that the mandatory allocation program would operate to compel the allocation of the regulated product throughout the various levels of the petroleum market. However, it was not generally expected that the allocation regulations would

be burdened with the complexities of assigning fuels to users unless such an assignment was necessary to carry out the purposes of the act.

The Congress did not intend for the allocation regulations to continue beyond a point where they became unnecessary. In 1975 the Congress amended the Emergency Petroleum Allocation Act. This action authorized the conversion of mandatory controls to standby authority. The amendment allows DOE to deregulate those products allocated under the act; however, such deregulation is subject to disapproval by either House. In passing the amendment, the Congress recognized that some categories of fuel and petroleum products no longer required allocation, but that sudden allocation deregulation could create severe dislocation. The Congress intended that the use of this standby authority would gradually deregulate the allocation of these products.

Propane supplies appear adequate on a national basis

Propane supplies did not become the problem anticipated in 1973 and, with some exceptions during the 1976-77 winter, have generally been adequate to meet users' needs. Future supply projections are also favorable, particularly if natural gas supplies for higher priority users continue to improve.

Propane supplies come from oil refineries, natural gas plants, and imports. During 1976, 63 percent of our propane came from natural gas, 30 percent came from crude oil, and 7 percent was imported. Because propane supplies are closely linked to natural gas and oil production, the supply of propane comes from the same producing areas--primarily Texas and Lousiana. The storage facilities for propane have also developed around the production areas, along the pipelines, and at major terminals.

Since the enactment of the Emergency Petroleum Allocation Act in 1973, the national supply of propane, including imports, has been adequate to meet our needs. This is illustrated by the following propane supply and sales data for the years 1973-77.

	1973	1974	1975	1976	1977
	(thousands of gallons)				
Supply	16,891,728	16,130,604	16,368,870	15,913,254	16,607,976
Sales	13,494,198	13,158,599	12,371,980	13,414,507	13,146,905
Excess	3,397,530	2,972,005	3,996,890	2,498,747	3,461,071

Source: Bureau of Mines

An FEA task force report 1/ estimated that domestic production will remain fairly constant through 1985.

In considering the supply of propane available for importation, Pace Company Consultants and Engineers, Inc. (Pace), a company that specializes in energy matters, anticipates an adequate world supply of liquefied petroleum gas (LPG) to meet any future need for U.S. propane imports. LPG is predominately propane but also includes propane-butane mix and butane. The major source of any increased LPG imports will be from countries in the Middle East and North Africa. The LPG production in these countries was 3.5 billion gallons in 1975. Production is expected to be 11.7 and 20.3 billion gallons in 1980 and 1985, respectively. Pace officials foresee a world surplus of LPG by the early 1980s. Import prices, however, are expected to be comparable to U.S. domestic prices which in turn are expected to increase as gas prices rise.

The Economist Intelligence Unit Ltd. also issued a report 2/ stating that there is an adequate world supply of LPG to meet the future import needs of the United States. The world supply of LPG available for export in 1975 was 4.5 billion gallons. In 1980 and 1985, it states there will be 11.6 and 20.0 billion gallons, respectively, available for export with a possible addition of 0.3 to 2.9 billion gallons available in 1980 and a possible addition of 2.3 to 6.0 billion gallons available in 1985.

1/"SNG Feedstock Outlook: Supply, Demand, and Price, and Policy Impacts," Federal Energy Administration, Washington, D.C., August 1977.

2/Special Report Number 44, "The Outlook for LPG, 1977-85," April 1977, by Richard Johnson.

As the supplies of refined petroleum products increased following the lifting of the oil embargo, FEA decontrolled most of the fuels in this category in 1976--but not propane. FEA officials said that they have not decontrolled propane for the following reasons. While propane is needed in the short term by gas utilities and transmission companies to meet peak requirements of high-priority gas customers, FEA feels that unrestricted access to domestic or Canadian propane for the purpose of supplementing gas supplies could severely affect traditional and high-priority propane users. It believes this to be especially true in view of the declining natural gas reserves, declining domestic production of propane, and the inability of the transportation system to meet consumer needs during periods of high demand. FEA also feels that excessive increased reliance on propane imports by the gas industry might divert efforts away from developing a long-term solution to the energy shortage.

The demand for propane is closely linked to natural gas supplies. Excess natural gas supplies are now available in some parts of the Nation. This additional gas has come primarily from conservation efforts and industrial conversions to alternate fuels. A small amount, however, came from increased production. Additional natural gas could become available if industrial conversions continue. For example, if all gas-fired boilers in electric powerplants were converted to another fuel, it would be possible to serve nearly 26.5 million new residential customers without adding any new gas to our proven reserves. A number of utilities have already converted to oil or coal and nearly all planned generator additions will be coal fired.

DOE is considering establishing supplemental gas policies which could have a significant impact on potential long-term gas supplies. Supplemental gas sources include liquefied natural gas (LNG) imports, SNG, and Alaskan, Canadian, and Mexican natural gas. DOE is drafting an LNG policy that could raise the total possible imports to about 4.2 trillion cubic feet per year although a more likely range is 2 to 3 trillion cubic feet. The American Gas Association (AGA) predicts that some gas from southern Alaska will reach the continental United States as early as 1980 and that gas from the North Slope will arrive by 1985. U.S. importers of Canadian gas feel confident that Canadian suppliers will continue to maintain contracted export volumes and develop new reserves in Alberta for U.S. import. Six interstate pipeline companies had been negotiating with Mexico to increase Mexican imports up to 2 billion cubic feet (Bcf) per day beginning about 1979 and continuing for up to 12 years. The U.S.-Mexican negotiations, however, were suspended

in December 1977 because DOE requires that the gas be purchased at a lower price than previously agreed upon with Mexico.

The Transcontinental Gas Pipe Line Corporation (Transco) is an example of what the industry is doing in the gas supply area. Transco is a major interstate pipeline company with a history of large curtailments. It serves an area that is heavily dependent on propane as a supplemental fuel source for industrial applications and for gas utility peak shaving. 1/ It is projecting a 37 percent increase in available supply by 1981 over its 1977 volume of gas. This increased supply is coming from Transco's own expanded production facilities and from proposed Mexican imports.

These projected increases in natural gas supplies have a double impact on propane. First, with increased natural gas production, more propane is available because about two-thirds of our propane comes from natural gas wells. Second, if the natural gas customers have adequate gas supplies, they do not need propane as a supplemental fuel. During the 1976-77 winter, propane was needed as a supplemental fuel to compensate for natural gas shortages, thus adding to the other problems which cumulatively created localized shortages.

Propane distribution system limitations caused temporary propane shortages

The greatest demand for propane has developed in the East, South, and the North Central United States. Because the demand for propane is generally in different geographic areas than its production, a distribution system was developed to transport the propane to meet consumers' needs. Most of the propane supplies are transported out of the production area by pipeline. Pipelines can be used to transport a single product like propane, or they can transport several different petroleum products. The Southern and Southeastern States are served principally by a single propane pipeline system, while product pipelines carry most of the propane destined for the Midwest and Eastern States.

The 1976-77 winter was the first heating season since the allocation regulations were promulgated that tested the propane industry's ability to respond to an unusually cold winter. The extreme cold experienced by much of the country magnified distribution problems and extended the system

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1/Supplying fuel gas for distribution systems from an auxiliary source during periods of maximum demand, when the primary source is inadequate.

beyond what would normally be expected. In a normal winter, the propane distribution system operates at or near capacity. Therefore, flexibility to respond to extreme variations in temperature or unanticipated natural gas curtailment-related demand is minimal. The cold weather created such a demand for petroleum products that neither the pipelines nor the trucking, railroad, and barge systems could transport enough fuel to meet the demand. The combination of cold and snow created hazardous conditions which further limited the use of the transportation facilities.

After the propane industry experienced the distribution problem during the 1976-77 winter, it made plans to improve its ability to deliver propane. Texas Eastern Products Pipeline Corporation is expanding its pipeline capacity by 160,000 barrels per day. MAPCO, Inc. is adding 600,000 barrels of additional storage capacity. Mid-America Pipeline System, a subsidiary of MAPCO, Inc., has expanded its pipeline capacity by 168,000 barrels per day. Pyrofax leased additional storage space of 45,000 barrels in New York. A 3 to 4 million barrel storage project near Cleveland, Ohio, is being expanded to have a 12.5 million barrel capacity.

Even with the propane distribution problems encountered during the 1976-77 winter, the propane customers we visited reported limited problems. From discussions with industrial companies located in Ohio, Pennsylvania, and West Virginia that used propane to supplement natural gas supplies, we found that while the supply was tight for traditional propane users it was sufficient to meet their needs. Some customers who obtained propane for the first time had to contact several suppliers before eventually finding a source. FEA's regional offices that had allocation authority over new users in these States did not find it necessary to restrict additional propane allocations to industrial users. From our contact with 26 propane-using industrial companies located in Alabama, Georgia, North Carolina, South Carolina, and Tennessee, 9 indicated that their supply of propane was inadequate. Industrial companies in these States, however, were prevented from purchasing needed propane because FEA's Region IV (Atlanta) Administrator prohibited them from obtaining new or increased allocations, except for plant protection needs, during the critical part of the winter. An FEA regional official told us of one instance in Region IV where a propane supplier had excess propane but the FEA Regional Administrator would not approve an allocation to industrial customers because he was not sure if the propane would be needed at a later date for higher priority needs.

The Pipeline and Gas Journal made a survey 1/ of 26 natural gas distribution utilities in the areas hardest hit during the 1976-77 winter. Thirteen of these utilities indicated that propane was either used directly by injecting propane-air mixtures into their natural gas pipelines or indirectly in SNG plants which required propane as a feedstock or for enrichment of the SNG. Only one utility indicated that its propane supplier had difficulty in delivering propane.

All utilities, however, were not so fortunate in purchasing propane and some needed Federal assistance in obtaining adequate supplies. In one case, FEA ordered Exxon Company USA (Exxon) to redirect 150,400 gallons of propane to a gas utility between February 1 and 14, 1977, for higher priority use. During the same time period, FEA also ordered Petrolane, Inc. to redirect 500,000 gallons of propane to another utility between February 3 and 20, 1977, for higher priority use. No serious effects occurred, however, because of these diversions. An Exxon official told us that as a result of this redirection of propane supply, Exxon could not provide propane to 90 of its industrial customers for process use during the 2-week period. He said no plants had to close down but he did not know if any employees were laid off. A Petrolane officials told us that their order did not have any effect on its regular customers. He said that the company was able to borrow propane to replace the volumes delivered and that, as a result, he was not aware of any plants closing or employees laid off.

In addition to industrial customers using propane, gas utilities manufacturing SNG rely on propane both as a feedstock and for enrichment of naphtha-based synthetic gas. We found that 2 of the 12 plants that were operational during the 1976-77 winter received less feedstock (primarily naphtha and propane) than it needed. An official from one plant indicated that the supply deficiency was insignificant. An official from the other plant stated that it did not receive the needed feedstock because FEA had other allocation regulations governing Canadian imports which limited its use of Canadian feedstock.

Propane regulations are confusing and inadequate

In establishing the allocation regulations 2/, FEA focused on the problem of equitably handling a national supply

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1/"Gas Utilities Set Good Record Despite Worst Winter in 100 Years." Pipeline and Gas Journal, June 1977.

2/10 CFR 211 et seq. (1977 ed).

shortage. The propane regulations divide users into a two-priority ranking with differing volumes of propane allocated to the various categories of end-users within the priority classifications. The first priority for propane supplies includes agricultural and Department of Defense needs with these users qualifying for all the propane needed to meet current requirements. Under the second priority, requirements for residential, emergency services, and other health needs receive 100 percent of current requirements; certain industrial applications receive 100 percent of base period use (see p. 5); and certain commercial and school users are only allowed 90 percent of the base period quantities. When the supplies are inadequate to meet all of the demand of users as outlined above, then second priority users are to receive proportionately reduced supplies of propane, regardless of the purpose for which the propane is used.

The responsibility for administering the allocation program was given primarily to FEA's Regional Administrators. Control over allocations is accomplished by the Administrators either approving or disapproving propane allocations to new customers, or increasing allocations to existing customers. This allocation control commences with propane sold by prime suppliers 1/ and extends down through all propane bought by wholesale-purchaser consumers 2/ and wholesale-purchaser resellers 3/. End-users other than wholesale-purchaser consumers are only regulated indirectly through their suppliers.

As discussed in the previous sections, there has not been a national shortage of propane since the enactment of the Emergency Petroleum Allocation Act. However, there have been short-term local shortages of propane due to an inadequate distribution system. The distribution problem was more prominent during the 1976-77 winter because the cold weather created additional demand for propane. Because the allocation regulations were designed to handle a national shortage of propane, they were inadequate to handle a transportation problem with an adequate national supply.

1/A supplier who brings propane into a State for the purpose of selling it within the State.

2/A consumer who purchases more than 84,000 gallons of propane for its own use during a year except the volumes are 20,000 and 50,000 gallons for agriculture production and multi-family residence, respectively.

3/Someone who receives propane and resells it to other purchasers without substantially changing it.

Another factor which hindered effective implementation of the allocation regulations was the way in which the regulations were designed and written. Since the allocation regulations failed to offer a clear and unambiguous presentation of the numerous duties and requirements that FEA established, it is understandable that considerable confusion would result. Furthermore, because FEA did not undertake to provide a written explanation of the allocation regulations, it is not surprising that in many instances the regulations were ignored altogether.

Moreover, although the allocation regulations appear to be comprehensive, particularly with respect to the suppliers' method of allocation, they do not prescribe any deadline for deliveries by suppliers. Without such a time limit, FEA could not be in a position to regulate a schedule of allocation --which would be essential to handling emergencies caused by a severe shortage. Because the delivery schedule was left primarily to the discretion of suppliers, there was little FEA could do to enforce its priority or pro-rata system.

Partly because the allocation regulations did not address problems caused by an inadequate distribution system and partly because of the confusing nature of the regulations, propane delivered to end-users was essentially unallocated during the critical part of the 1976-77 winter. For example, in one region, some local distributors were not following the allocation levels but had curtailed all users except residential and small commercial customers. One of these distributors said that he had supplied only residential customers, and even for these customers he had limited each delivery to 25 gallons of propane in order to stretch the propane as far as possible.

In addition, there appears to be some confusion among FEA, State, and propane industry officials regarding the flexibility allowed by the allocation regulations. The situation in the State of Kentucky during the 1976-77 winter is an example of how some officials viewed the allocation regulations as not being flexible. FEA established a special provision in February 1977 that would permit individual suppliers in the State to restrict propane deliveries to low-priority users in order to provide supplies to high-priority customers during the critical part of the local propane shortages.

The special provision was to be invoked only when State officials requested it and FEA determined an emergency existed. Under FEA's assessment that the allocation regulations were flexible enough to allow suppliers to adjust deliveries within the quarterly allocation period, it is unclear why

the special provision was promulgated. In any event, this interpretation of allowable actions was not known or communicated to the Kentucky officials when FEA denied their request to apply the special provision in their State. As supply conditions continued to deteriorate, Kentucky officials said they finally told local distributors in the State to deliver propane to high-priority customers first, even though they thought that it was in violation of the allocation regulations.

An FEA regional office official told us that allocation regulations have little impact on local distributors supplying residential end-users. He said that the local distributors are generally unaware of the allocation regulations and satisfy essential human needs first during a shortage. In the same region, local distributors reported they were curtailing all users except residential and small commercial customers. A regional official also said he suspects that propane is sometimes sold without FEA's approval, but that the region has no way of quantifying the amount.

Allocation regulations are not needed when there is an adequate supply of propane. The 1976-77 winter was the first time since the enactment of the allocation regulations that there had been a shortage and it was caused by distribution problems, not supply problems. Moreover, the confusion created by the allocation regulations and the failure of local distributors to follow them resulted essentially in allocation deregulation of propane during the crisis. With a relatively favorable supply/demand outlook for propane, any future propane shortages are likely to result from distribution problems again rather than a national supply shortage. It is questionable, therefore, how beneficial continued allocation is and what purpose it really serves.

Conclusions

FEA's propane allocation regulations were implemented because the oil embargo of 1973 threatened to create a national propane shortage. As a result, the regulations were designed to distribute propane equitably during a national shortage. Since the promulgation of the allocation regulations, there has not been a national propane shortage. In addition, the supply outlook for propane is good. Spot shortages occurred occasionally during the winter heating seasons because of distribution problems. These shortages became more extensive during the 1976-77 winter but again they were primarily due to inadequacies in the distribution system. Some propane shortages are likely to continue until the distribution problems are resolved.

Except for some areas in the Southeastern States, the propane shortage during the 1976-77 winter did not have a significant economic impact on propane users. To help alleviate future local or regional distribution problems, the propane industry has expanded or is expanding the distribution system and developing additional storage capacity in areas closer to the propane market areas. These improvements appear to obviate the need for allocation regulations. In addition, if the supply outlook for natural gas continues to improve, the demand for propane will tend to be dampened and there will be less pressure on the distribution system during the winter months.

The propane allocation regulations are unclear and ambiguous regarding the numerous duties and requirements they established. As a result, the allocation regulations are not understood and in many instances they were ignored altogether. Although the allocation regulations appear to be comprehensive, they do not prescribe any deadline for propane deliveries. Without such a time limit, FEA is not in a position to enforce its priority or pro-rata system --which is essential to handling emergencies caused by a severe shortage. In addition, the allocation regulations were designed to handle a national shortage of propane. As a result, they are inadequate to handle shortages resulting from transportation problems when national supplies are adequate such as occurred during the 1976-77 winter. The confusion created by the allocation regulations and their inadequacies resulted essentially in allocation deregulation of propane during the critical part of the 1976-77 winter. With a relatively favorable supply/demand outlook for propane, any future propane shortages are likely to result from distribution problems again rather than a national supply shortage. It is questionable, therefore, how beneficical continued allocation is and what purpose it really serves.

DOE officials and traditional propane customers are concerned that if the allocation of propane is deregulated, the amount of propane used for utility gas would increase to the extent of limiting the available propane for traditional and high-priority customers. This concern is amplified by past natural gas shortages that have put pressure on gas utilities and transmission companies to supplement natural gas supplies with propane to meet high-priority needs for short periods of time during the heating season. However, we found that the natural gas supply outlook for high-priority customers is improving due to various conservation measures. Furthermore, DOE is considering increasing the imports of LNG and natural gas. Any increase in such supplies will reduce

the need for propane to meet the needs of high-priority natural gas customers.

We believe that under the existing and projected propane supply and demand condition, propane supplies do not need to be allocated. DOE should continue monitoring large users of propane, such as natural gas utilities and transmission companies, to assure that traditional and high-priority users are not adversely affected by decontrolling the allocation of propane. DOE should reinstate allocation controls if conditions warrant such action.

Agency comments and our evaluation

In its comments dated May 8, 1978 (see app. I), DOE did not agree to regulate the allocation of propane supplies. DOE officials agreed that the supply/demand outlook for propane has improved to the point that required allocation levels are being met and no shortages developed during the 1977-78 winter. They continue to believe, however, that it is premature to decontrol the allocation of propane and still be assured that mandatory allocation requirements will be satisfactorily met. DOE officials cited the long-term outlook for propane as one of declining domestic supplies with increased imports necessary to meet future demands of traditional users. Furthermore, the DOE officials believe that an increase in the domestic price would create an adverse impact on consumers.

According to an FEA task force report 1/, the domestic supply of propane is expected to remain fairly constant through 1985. By the early 1980s there is a projected world surplus of propane. The primary concern of both regulators and distributors is to prevent large gas utilities and transmission companies from bidding propane supplies away from traditional and high-priority users and/or dominating the transportation system to accommodate this requirement. This concern can be met by monitoring these large users and reestablishing control if such action is necessary. Imported prices by the early 1980s are expected to be comparable to U.S. domestic prices. Even if DOE deregulates the allocation of propane, it can continue to regulate the price of propane with no adverse impact on the allocation deregulation.

1/"SNG Feedstock Outlook: Supply, Demand, and Price, and Policy Impacts," Federal Energy Administration, Washington, D.C., August 1977.

STATE SET-ASIDE PROGRAM NEEDS TO BE REEXAMINED

The concept of the State set-aside program is fairly simple, but the mechanics of making it work when it is needed are more complex. We believe that the program can serve a useful purpose in alleviating hardship or emergency conditions in a local area. Even under deregulation, the State set-aside program can be continued, however, DOE needs to clarify its implementing regulations so that both State and industry participants understand the conditions and requirements for its use.

The program requires that each prime supplier submit a monthly report showing the estimated volumes of propane that will be delivered during the succeeding month to each State it serves. These reports are sent to the appropriate State energy office and to the regional and national DOE offices. Three percent of these estimated volumes are then available for priority allocation by the State energy office to satisfy requests for supplemental supplies of propane to relieve hardship or emergency conditions.

A request for an authorization to draw on the State set-aside propane volumes is made by an applicant to the appropriate State energy office. If the request is granted, the applicant is given an order for the specified quantity of propane. Although the order is written against the propane stocks of a prime supplier, the applicant can present the order to any convenient local distributor who receives propane from the prime supplier.

The States cannot issue authorizing orders for propane deliveries that exceed the quantities available in the State set-aside program for that month. The propane that is not allocated during a month cannot be carried over as State set-aside for the following month but becomes part of the supplier's total supply for the next month. However, any time during the month a State may order prime suppliers to release all or part of their unused set-aside volumes through their normal distribution system to increase the allocations to their customers.

The limitations of the propane distribution system described previously make the successful implementation of the program more complex. Ninety percent of all propane is transported by pipeline from the producing areas in the Gulf States to terminals located in the major market areas. The propane is usually transported from the terminals to distributors or end-users by truck or by rail. The remaining 10

percent of the propane is transported between the producing and consumption areas by tank truck, rail car, or barge.

The propane shortages that elicit requests for State set-aside propane have been further exacerbated by the fact that prime suppliers usually had their major storage facilities outside the primary service areas. Because FEA's regulations concerning the location and availability of State set-aside propane stocks were not clear, part of the propane in these storage facilities was often considered by suppliers to be the State set-aside volumes. They were not readily available, however, unless the distribution system was operating below capacity. Under the transportation limitations that existed during the 1976-77 winter, propane suppliers that honored the States' authorized delivery orders were required to reduce the deliveries of propane to their traditional customers until the transportation system could catch up with demand. The only alternative was for customers to pick up their propane supplies at the storage facility with their own transportation and this was done in a number of cases.

The effectiveness of the program was adversely affected as a result of the way the States perceived the program and by the lack of timely delivery by distributors of the State-controlled volumes of propane.

The States had different attitudes about using the State set-aside propane which were reflected in the way the program was used. The extent to which the States in our review used the set-aside program varied, as shown in the following table.

PERCENTAGE OF PROPANE USED IN STATE SET-ASIDE PROGRAM

State	Jan. 1977	Feb. 1977
Alabama	60	32
Georgia	30	26
Louisiana	1	19
North Carolina	94	96
Ohio	25	12
Oklahoma	33	40
Pennsylvania	8	7
South Carolina	95	41
Tennessee	55	15
Texas	14	16
West Virginia	82	78

Source: State energy offices.

West Virginia handled applications for State set-aside volumes via the telephone and generally approved requests for fuel to make up any shortfall in supply. Ohio denied all fuel requests for commercial and industrial uses, granting fuel only for residences, hospitals, or nursing homes. This resulted in minimal use of the program.

North Carolina believed that it was the State's responsibility to make full use of the set-aside program for emergency allocations to high-priority users and it issued delivery orders for most of its set-aside supply. On the other hand, Georgia and Pennsylvania adopted the position that because the transportation system could not supply enough propane to meet normal requirements, using the State set-aside program would only take propane away from one high-priority user and give it to another high-priority user. Consequently, these States derived little benefit from the program.

The failure by suppliers to honor State set-aside delivery orders or delays in responding to the orders in a timely

manner has adversely affected the effectiveness of the program. Our review of State set-aside programs in the Southeastern States and discussions with FEA regional officials in Atlanta, Georgia, showed that about one-half of the complaints received in the regional office were related to fuel deliveries not being made. Because suppliers were not making the deliveries as required by the regulations, North Carolina officials requested FEA to issue notices of probable violation to the suppliers. During February, FEA issued eight notices to four propane suppliers in North Carolina who had failed to deliver nearly 94,000 gallons of propane as directed by the State office. As in the case of North Carolina, FEA becomes aware of the non-delivery of propane only when it receives a complaint from the States. Therefore, it is possible that other suppliers did not fully comply with other State orders.

Although some suppliers delivered propane when presented with the State set-aside authorizing order, other deliveries were delayed because of the way suppliers viewed the regulations. An FEA official said that because the propane entitlements are based on quarterly allocations, some suppliers believe they may wait until the end of each quarter to deliver the set-aside order. A State official said that some suppliers delayed deliveries of State set-aside orders until after they had made deliveries to their regular customers.

As a result of these delays, the need that triggered the request for these emergency supplies could not be satisfied in a timely manner--the underlying purpose for the entire program.

Conclusions

The State set-aside program did not always provide the relief for hardship or emergency conditions that was intended by FEA when the program was established. The program was underutilized in most States, either by choice as in Ohio, or by circumstances as in Pennsylvania and Georgia. We recognize that during the 1976-77 winter, the situation was complicated by the inadequacies of the propane distribution system, a factor that was beyond State control. This limited the supplies available for both normal deliveries and deliveries under State set-aside orders. However, had there been a clearer understanding by both State and propane industry personnel of the program requirements and the responsibilities of the various participants, we believe that the program could have been more effective in achieving its objectives even with the distribution problems. We also believe that if properly managed, the State set-aside concept could be used by DOE to handle local emergency propane shortages even if propane allocation is otherwise decontrolled.

In order to assure emergency supply of propane to meet hardship needs, we believe that DOE should develop different set-aside percentages for each State to match estimated local requirements. The wide variation in the volumes of propane used by the States in the set-aside program raises questions as to the adequacy of a fixed percentage criterion. We believe that the volumes of propane held for use by the States to alleviate local hardship or emergency situations should reflect the best estimate of need. This may be more or less than the current 3 percent of projected deliveries.

Agency comments and our evaluation

DOE stated that it plans to (1) continue using the State set-aside program to meet local emergency conditions and (2) clarify its regulations on the time allowed to deliver set-aside volumes and the availability of set-aside propane within the State. However, DOE disagreed that it should adjust the percentage of set-aside for each State in order to match the State's requirements rather than using a flat 3 percent for each State. DOE officials do not believe that it is appropriate to make set-aside adjustments other than through the current procedure of setting aside 3 percent for each State. They also said that since the 3 percent is based on projected deliveries and the volume of deliveries varies, the volume of the set-aside is automatically adjusted even though the percentage is fixed. The officials stated further that since the set-aside volume is unavailable until the State releases it or orders it to be used, they believe that a larger set-aside percentage could tend to disturb traditional distribution patterns. On the other hand, the set-aside percentage is a maximum volume and the State can adjust to a smaller percentage by releasing volumes of propane to suppliers.

Available DOE records of the percentage of set-aside volumes actually used show two trends. First, only Hawaii consistently uses its full volume of State set-aside propane and even during the 1976-77 winter only four other States came close to using most of their emergency supplies. Second, only three States consistently turned back their unused propane before the end of the month when all set-aside volumes automatically revert to the supplier for subsequent availability. These trends seem to indicate that excessive amounts of propane are being included in the set-aside program and because they are not being released throughout the month they are not available for general use. We believe that sufficient data has been obtained by DOE to determine State usage patterns and that the single fixed percentage should be adjusted to more realistic percentages for the various States.

The 3 percent set-aside is a DOE established percentage and is not mandated by the Congress, thus allowing DOE to set the percentage to meet emergency needs. Statistical data on usage indicates that all States do not need the same set-aside percentage. Propane is a major source of fuel to some States and a shortage would have a major impact on their economy, whereas a shortage in a State that uses only a limited volume of propane would have little or no impact. As a result, the States that depend on propane may need a larger percentage to solve emergency situations. Because the States used the set-aside program to varying extents and because only a few States released its propane to the suppliers before it was automatically released at the end of the month, the only way to reduce the volume of propane tied up in the set-aside program is to reduce the percentage. With an appropriate set-aside percentage, a State would not be given a larger percentage than it needs to solve the emergencies within the State. We believe that the proper adjustments to the set-aside percentage would provide additional assurance that traditional distribution patterns would not be disturbed.

RECOMMENDATIONS TO THE SECRETARY OF ENERGY

In view of the improved supply conditions for propane, the flexibility already built into the proposed allocation regulations, and the options available to monitor the supply and usage of propane and accommodate local shortages, we recommend that the Secretary take the required steps to exempt propane from allocation regulation, but continue monitoring large users such as natural gas utilities and gas transmission companies to assure that traditional and high-priority users are not adversely affected.

We also recommend that DOE continue the use of the State set-aside program to provide controlled supplies of propane to meet local emergency conditions. In continuing the program, however, DOE needs to clarify the regulations concerning delivery time periods and the availability of the propane within the State. DOE should also adjust the percentage of propane set-aside to match expected State requirements rather than continue using a fixed percentage for each State.

CHAPTER 3

THE NATIONAL ENERGY PLAN'S OBJECTIVE OF INCREASING SNG PRODUCTION MAY NOT BE MET

FEA established regulations for allocating propane and naphtha for the manufacture of SNG in 1974 under the authority granted by the Emergency Petroleum Allocation Act. Since 1974, FEA has limited the purchases of these feedstocks to constrain expansion of the SNG industry.

Because of changes in the circumstances that existed in 1974 when the SNG allocation regulations were formulated, FEA issued a revised SNG policy and implementing regulations on September 30, 1977. These revised regulations were intended to bring the policy into compliance with the National Energy Plan which faulted FEA's restrictive SNG policy and advocated the construction of a limited number of additional SNG plants to meet short-term needs. In revising the regulations to bring them into compliance with the intent of the National Energy Plan, DOE intended to make the SNG feedstock allocation regulations less restrictive and more responsive to priority users' needs. DOE's budget submission justification for fiscal year 1979 stated that 15 additional applications and assignment orders for SNG feedstocks are anticipated in fiscal year 1978 as a result of the revised policy.

We found no indication that the current policy is eliciting the type of response anticipated by DOE. As of August 1978, DOE had no new firm feedstock applications and only three expected applicants.

Our analysis of the two policies leads us to conclude that with few exceptions, the revised policy represents few changes in SNG allocation regulations. To meet the objectives established in the National Energy Plan, we believe that DOE should establish an objective for SNG production. To encourage utilities to meet the targeted production, DOE should take the required steps to decontrol the allocation of SNG feedstocks.

FEA'S PREVIOUS POLICY LIMITED SNG PRODUCTION

FEA has regulated the allocation of petroleum feedstocks for SNG production in such a way as to discourage gas utilities from applying for feedstock allocations. The allocation regulations required a case-by-case review of feedstock applications for both new and expanded SNG plants. Seven

plants using naphtha were "grandfathered" into the program when the allocation regulations were issued and were exempted from further review. All other allocations and/or new petitions, however, were measured against FEA's criteria for determining allocation approval. This included the availability of feedstock, degree of curtailment of interruptible customers 1/ and alternate fuel capability, character of natural gas curtailment plans, availability of alternative supply sources, thermal efficiency of conversion, cost to consumers, impact on competing users of the feedstock, employment effects, and environmental impact.

The way these criteria were to be applied was not defined in the allocation regulations but the policy under which the FEA staff was to conduct their reviews was clear. In its original Statement of Policy issued May 6, 1974, FEA stated that in most instances, the utilization of petroleum products in the manufature of SNG is an inefficient use of energy resources with a typical energy loss 5 to 8 percent greater than the loss associated with other, more direct uses. FEA further declared that the Statement of Policy and the accompanying special rule would operate to discourage SNG manufacture as a supplemental fuel supply for most of the gas transmission and distribution companies suffering from natural gas shortages.

FEA's position on granting petitions for new feedstock allocations was demonstrated when it stated:

> "It is FEA's intention, however, that in view of the economic and thermal inefficiency associated with SNG plants, it will be the extraordinary case in which feedstock will be allocated for use in a facility the physical construction of which occasioned less than five million dollars of actual expenditures prior to May 1, 1974."

FEA's restrictive policy was an unqualified success. Allocations for propane, butane, NGL, and naphtha feedstocks were approved for six plants that had been proposed prior to the promulgation of the allocation regulations. Only two new allocations have been granted--one to Philadelphia Gas Works to replace an antiquated, less efficient plant and one to Baltimore Gas and Electric Company for plant protection use.

1/A natural gas customer who (1) purchases gas from a supplier who is expressly obligated to deliver specific volumes within a given time period and (2) anticipates interruptions on a short notice. The delivery agreement requires installation of alternate fuel capability.

The allocation regulations apparently were also successful in discouraging a number of potential applicants. An FEA official said that before the 1973 oil embargo, 43 SNG plants were being built or were under consideration. As of August 1974, FEA reported 13 plants operating or under construction with 12 additional plants planned with reasonably firm intentions. As of August 1977, there were 17 plants operating or under construction but only 3 additional plants planned. AGA claims that the construction of 11 SNG plants has been suspended or cancelled because of past FEA feedstock restrictions. In its draft environmental impact statement on the allocation of petroleum feedstocks to SNG plants, FEA stated that the existence of the case-by-case review procedure has probably served to reduce the number of plants proposed.

THE IMPACT OF SNG PRODUCTION ON FUEL SUPPLIES

The use of propane, naphtha, and other petroleum-based fuels for SNG production has had little adverse effect on other users of these fuels. FEA's restrictive policy that limited the number of plants and the heavy reliance on imported feedstocks by SNG manufacturers appear to have contributed to this situation. Improved feedstock outlooks, both domestically and worldwide, increase the probability that SNG production could be expanded moderately, if needed, with little change in its effect on other users.

Fourteen SNG plants have been constructed but only 12 have been used to produce SNG. One plant in Lowell, Massachusetts, is used only as a backup system and has not been needed. A new plant in Baltimore, Maryland, has only had sufficient feedstock for test purposes and plant protection since it was completed in December 1976. Three additional plants are under construction and three more are in the planning phase.

The designed production capacity of the 12 operating plants is 400 Bcf of SNG per year. In 1977, these 12 plants produced about 275 Bcf of gas which served to meet peak demand requirements and to supplement curtailed natural gas supplies. The completion and operation of the remaining eight plants will add 390 Bcf per year to the current capacity, for a total production capacity of 790 Bcf. Seven of the 14 completed SNG plants operate only 5 to 6 months during the year when the demand for natural gas is highest. The remaining plants operate about 350 days per year with the output used to supplement system supplies of natural gas. Although some engineering modification may be required, it is possible that the seven plants operating half time

could increase their SNG production if sufficient feedstocks would be allocated to operate year around.

SNG is produced primarily by converting naphtha, propane, butane, and NGL into pipeline quality natural gas. These feedstocks are derived from both the crude oil refining process and natural gas processing plants. Naphtha supplies are derived exclusively from oil refineries. About one-third of the propane and butane comes from oil refineries and the remaining two-thirds, which includes NGL, is extracted from natural gas. In addition to its use as a feedstock for SNG production, propane and butane are also used in naphtha-based plants to improve the heat content of the finished SNG product.

SNG feedstocks are obtained from both domestic and foreign sources with imports coming primarily from Canada, Venezuela, and the Middle East. The quantity allocated for SNG feedstock and enrichment along with the domestic and imported volumes for such use are shown in the following table.

TOTAL ANNUAL FEEDSTOCK AND BTU ENRICHMENT ALLOCATIONS--ACTUAL AND PROPOSED AS OF MARCH 1978

Feedstock	Total amount	Domestic	Imports
	----------(thousands of barrels)----------		
Naphtha	62,198	34,084 (55%)	28,114 (45%)
Propane	9,433	2,478 (26%)	6,955 (74%)
Butane	1,157	255 (22%)	902 (78%)
NGL	47,916	18,000 (38%)	29,916 (62%)

Source: FEA

The allocation of these fuels for SNG feedstocks has had minimal impact on the supplies available to other users. Supplies of propane and butane on a national level have historically been sufficient to meet current demand on an annual basis. In 1976, over 16 billion gallons of propane, butane, or a mix of the two fuels were sold. Their use for SNG feedstocks amounted to about 1.3 billion gallons, or about 8

percent of total sales. The future outlook for propane and butane is largely dependent on the availability of natural gas. An FEA study 1/ indicated that while domestic production of propane and butane should remain fairly constant through 1985, shortages of natural gas will generate a rise in demand, particularly for gas utility and industrial uses. Natural gas supplies, however, appear to have reversed their downward trend of decreasing availability. Consumer conservation, industrial conversions to other fuels, and increased production have improved the general supply outlook. If the current upward trend in natural gas supplies continues, the increased demand for propane and butane may not materialize and the supply/demand balance may remain favorable. In either event, FEA's study also indicated the world balance of these fuels is expected to show a 4 percent surplus in 1980, rising to a 20 percent surplus by 1985.

An inhibiting factor to increased use of propane and butane may be the physical limitations imposed by U.S. import terminal and distribution facilities. Although Gulf Coast import terminal facilities are expected to increase during the 1980-85 period and could handle increased imports of feedstock 2/, additional pipeline distribution capacity will also be needed to move the fuel from the coastal areas to the interior sites. Some improvements are already being made, as we pointed out in Chapter 2. Pipeline officials indicated to us that expansions could be made if warranted by a consistent demand. Some pressure is put on these pipelines by industrial demands for alternate fuels to replace curtailed natural gas supplies. If these industrial users can convert to oil or coal, as provided for in the National Energy Act 3/, distribution expansion may not be as critical as it might appear.

Naphtha supplies are dominated by gasoline demand and production, since about 90 percent of the refined naphtha is used in its production. Slight fluctuations in this demand or changes in government policy concerning levels of octane-boosting additions can cause significant changes in naphtha availability.

Reliable estimates on naphtha supplies are not readily available, principally because of the way naphtha is pro-

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1/"SNG Feedstock Outlook: Supply, Demand, and Price, and Policy Impacts," Federal Energy Administration, Washington, D.C., August 1977.

2/FEA LPG Advisory Committee Report, March 1977.

3/H.R. 8444, 95th Congress, 2nd sess., approved by the Congress on Oct. 15, 1978.

duced and used by the refineries and a lack of industry definition as to what naphtha is. There are several grades of refinery products labeled naphtha, but not all grades are multi-purpose. As an example of how these factors can distort statistics on naphtha use, AGA estimates that SNG plants use only about 0.5 percent of the total naphtha supply. FEA reports, however, show that the 35 million barrels of naphtha allocated for SNG use in 1976 represented 2 to 3 percent of the total supply. FEA officials said the difference may be in the definition of naphtha used, but this does not detract from the significance of the difference when considering the possible impact additional allocations might have on total supplies.

Regardless of the percentage used, FEA officials said that oil refineries could produce whatever naphtha is required, although beyond a certain production level the cost of the naphtha would become a factor in continuing to increase production. FEA's overall conclusion, however, is that supplies of naphtha for modest increased SNG production would generally be available without significant price increases. Beyond 1980, the world supply of naphtha also shows improvement over the present supply situation giving rise to the potential for increased imports if necessary.

The impact of SNG plant use of certain fuels for feedstock is not realistically shown by FEA allocation data. Although the naphtha allocations represent a firm commitment on the part of refineries to deliver the stated amounts, SNG plants have generally not drawn the total quantities authorized. In 1976, for example, the operating plants received allocations amounting to nearly 35 million barrels of naphtha but only used about 71 percent of their total allocations. Propane usage showed a similar trend with 1,484,047 barrels allocated and only 838,637 barrels purchased.

DOE'S REVISED SNG POLICY CONTINUES TIGHT FEEDSTOCK CONTROLS

The circumstances that prompted FEA's policy for allocating SNG feedstocks in 1974 have changed in the intervening years. Some of the factors that encouraged FEA to reassess its restrictive allocation policy are given below.

--The administration's National Energy Plan states that the SNG policy is not satisfactory because the policy favors the allocation of SNG feedstocks to the petrochemical industry and has discouraged the construction of new SNG plants.

--Feedstock availability has increased.

--Natural gas curtailments have increased.

--The problems that resulted from the severe natural gas curtailments and shortages during the 1976-77 winter could have been reduced by increased SNG production.

--The administration's energy price initiatives provide for taxes on both oil and natural gas to bring domestic prices nearer world energy prices. This will change the economics of energy consumption and production, including SNG.

--The emphasis on thermal efficiency and end-user conversion capability which was the basis for the 1974 policy has given way to other factors such as air quality and unemployment.

On April 18, 1977, FEA established an SNG task force to evaluate the existing policy and regulations regarding SNG feedstocks and to identify ways in which the new policy should be implemented. This task force studied the relative energy efficiency, cost and emissions of SNG and alternate fuel supplies, the projected supply and demand of naphtha and NGL feedstocks, and alternate criteria for case-by-case review of feedstock applications.

The task force drew several conclusions for FEA to consider in revising its policy. These were:

--SNG does not represent a viable, long-term solution to declining natural gas supplies. Other, more economically efficient, energy alternatives will be available in the long run.

--SNG can be used in the short term until a more rational gaseous fuel policy is developed and implemented and in special situations where it has economic or environmental advantages.

--FEA should move quickly to develop a feedstock allocation scheme that facilitates and encourages shortrun SNG production but minimizes its long-term application.

The task force also addressed a number of issues related to SNG production. One of the issues was how to limit the number of new and expanded SNG plants, yet ensure that plants

will be built to meet critical needs (and whether the Federal Government should limit plant expansion). Five alternatives were considered, including two with various levels of State control; federally directed levels of production; continued Federal regulations but under a less restrictive policy; and the extension of Federal jurisdictional authority for all SNG plant construction, operations, and gas sales with subsequent feedstock deregulations. The task force unanimously recommended adoption of the last alternative, the extension of Federal jurisdiction to all SNG plants.

FEA's revised SNG policy became effective September 30, 1977. Its stated purpose was to assure consistency with the National Energy Plan and to make the regulations more responsive to the needs of priority natural gas users.

FEA did not adopt the task force recommendation concerning SNG control through plant construction rather than through feedstock regulation. An FEA official said that the task force recommendation required legislation that FEA did not have. He also said the task force agreed to FEA's revised policy pending legislative approval for direct Federal licensing of SNG plants.

The policy provides for a continuation of FEA's case-by-case review of feedstock applications for new and expanded SNG plants and continued feedstock allocation. The revised policy did provide some flexibility regarding the conditions attached to allocation approvals. FEA officials stated this makes it less restrictive than the prior policy.

A comparison of the conditions stated in the two policies appears to indicate little difference as to their apparent restrictiveness. The thermal efficiency criteria has been deleted and the revised policy allows allocations to be made for SNG production during the non-heating season for boiler fuel use up to 1.5 million cubic feet of gas per day--a use not allowed under the prior policy. New standards imposed require the applicant to demonstrate that (1) any new growth to be served by the SNG plant will be for priority gas uses, (2) any propane, butane, or NGL used as a feedstock will be imported, (3) a 30-day peak load supply of feedstock will be maintained in readily accessible storage, and (4) approval for a proposed new or expanded SNG facility has been obtained from an appropriate State regulatory agency in at least one State to be served by the facility.

In addition to the above criteria, DOE is required to consider (1) the effects on the distribution and storage systems serving the market area, (2) the effect of allocating domestic rather than imported feedstocks, (3) the effect of allocating the requested product for SNG production on

the supply/demand picture for such product in a particular market area, (4) the security of feedstock supply from the proposed source, (5) the ability of a new plant to use a variety of feedstocks, (6) the envisioned impact of the requested allocation within a market area, and (7) any unique or special factors not mentioned elsewhere.

DOE officials told us that an interpretation of the policy standards and criteria is needed before the actual effect on applicants can be determined. The interpretation results when agency decisions are contested through the administrative hearing process or in court cases. Under these conditions, the effect of the revised policy cannot be determined for some time because no new applications for feedstock have been received by DOE.

INDUSTRY EVALUATION OF THE SNG POLICY

Since FEA first brought SNG feedstocks under regulation in 1974, there has been a continuing controversy between the gas industry and other users of these feedstock fuels over the policies developed by FEA. Studies supporting claims and counter claims over the thermal efficiency of the process, availability of supply, and desirability of use, among other things, have been presented on numerous occasions. FEA's initial policy was less favorable toward the gas industry than to other users of these fuels. While the changed circumstances appeared to have elicited a changed attitude by FEA toward industry, any policy changes cannot be determined at this time.

AGA feels that the SNG policy discriminates against gas utilities because they are the only segment of the naphtha-using industry that is regulated. The naphtha used by SNG plants is only a small portion of the total supply. They feel that naphtha used by SNG plants should not be regulated any more than other segments of the naphtha industry. In the past, AGA officials have pointed out the usefulness of SNG in alleviating adverse economic effects that occurred during the 1976-77 winter because of natural gas shortages. They have strongly opposed FEA efforts to impose any limitations on gas utility use of available SNG feedstocks in time of need even though such use may exceed their base period allocation volumes. One official said that AGA views the use of SNG as only a near- or mid-term solution to the gas problem, recognizing that much of the feedstock comes from crude oil--a limited resource. The official said that while he would like to see existing plants get their needed feedstock allocations, he recognizes the needs of other users and, therefore, believes AGA will

not push for additional SNG plants. However, he said AGA strongly opposes the present need for SNG plant operato s to go continually to DOE for feedstock allocations.

Several other groups are opposed to SNG plants using either naphtha or propane to manufacture SNG. Three such groups are (1) the Petrochemical Energy Group (PEG) which is an ad hoc organization representing the independent petrochemical industry, (2) the National LP-Gas Association which represents the LPG distributors, and (3) the National Council of Farmer Cooperatives (Farmer Co-op), one organization which represents the American farmers.

PEG believes that the use of liquid-base SNG feedstock is a wasteful use of scarce resources. Only a small percentage of the total naphtha is available because 90 percent of it is used to make gasoline. In addition, some of the petrochemical companies using these fuels are affiliated with the refineries and obtain all the naphtha they need during the refinery process. This leaves less than 10 percent of the naphtha available for SNG plants and independent chemical companies. PEG states that it makes little sense to convert one clean fuel or petrochemical feedstock into a clean fuel in another form at high cost to the consumer and at the loss of the energy used in converting a liquid into a gas.

The petrochemical industry sees itself in competition not only on a national level but as competing with petrochemical manufacturers on a worldwide basis. They fear that higher prices for feedstocks resulting from pressure by the SNG industry competing for available supplies will put them at a competitive disadvantage with foreign manufacturers.

The FEA task force report indicated, however, that although an increased use of naphtha for SNG could result in some price increase, particularly on the West Coast, it should not have a significant impact on the petrochemical industry.

The National LP-Gas Association and the Farmer Co-op are not concerned with naphtha but are concerned with SNG plants using propane as either a feedstock or enrichment fuel in manufacturing SNG. Representatives of both of these groups said that the domestic production of propane is inadequate to meet demand without taking propane away from traditional users. They recognized that there is an adequate projected world supply. The price for imported propane, however, is more than the domestic price. They believe that the domestic price of propane would increase to the imported price if it is deregulated for SNG use.

They feel that historic propane customers should be protected against price increases resulting from the propane needs of SNG plants either by deregulation or through increased imports.

In addition to the price increases that would result from importing propane, the National LP-Gas Association and the Farmer Co-op believe that the gas industry should import more economical alternate fuels such as LNG because converting propane to SNG is inefficient. The two groups are also opposed to the natural gas industry importing propane because it must be transported through an overloaded distribution system. By doing so, it will displace propane that would go to traditional users. They also feel that traditional users should not have to pay increased transportation costs to improve the distribution system.

Representatives from PEG, the National LP-Gas Association, and the Farmer Co-op said that they cannot compete with SNG plants when the plants are allowed to average in the higher cost of SNG with the price of natural gas. They feel that only a few SNG plants could prove that they need SNG to meet high-priority needs and that high-priority customers should not be forced to subsidize low-priority users. The PEG representatives said that if the SNG were as necessary as suggested, it should be able to stand the test of being sold at its cost of production rather than having its cost hidden by lower cost flowing natural gas. They also said that the petrochemical industry is willing to compete with SNG plants for feedstock supplies in an unregulated market but only if SNG is incrementally priced.

All three groups believe that an increased import program poses a threat to domestic supplies if the import source should prove unreliable. They believe that once a dependency is established on imports, any future restrictions on imports would be made up by diverting domestic supplies away from traditional users.

DOE NEEDS TO REVIEW SNG OPERATIONS TO ENSURE HIGH-PRIORITY USE

FEA implemented a restrictive SNG policy by imposing certain limitations on its use. The policy, however, did not contain review provisions and FEA has never reviewed the operations of SNG plants to determine if its policy was being followed.

The revised policy also contains certain restrictions which are applicable to the SNG manufacturer and which DOE

considers when granting an allocation. However, in 1976, a Federal district court ruled that while FEA may impose restrictions on NGL, it may not impose conditions on the intrastate use of SNG that is regulated by a State agency in accordance with a Congressional mandate. According to the court's decision, DOE's authority in this area is limited to the allocation of NGL and any attempt to discourage production of SNG from feedstock fuel must be accomplished by means other than preempting State regulatory authorities. Consumers Power Company v. Federal Energy Administration et al., 413 F. Supp. 1024 (E. D. Mich. 1976).

The revised policy includes a statement that each SNG plant will be subject to a review to assure that it is operating under the terms of the policy. A DOE official told us that procedures were being drafted. Until DOE implements a complete review procedure, many of the provisions, and therefore, the intent, of the policy are not enforceable. This raises questions as to the usefulness of the policy because without such a review procedure it cannot be determined whether only the needs of high-priority users are being met.

Review procedures for the prior policy also need to be established because the existing SNG plants are either operating under the prior policy or will receive no less favorable treatment than would be granted under the previous policy. It is possible that the review policy will not be applied soon but there is still an immediate need to immediately start reviews of SNG plants operating under the previous SNG policy.

CONCLUSIONS

We see little evidence that DOE's revised SNG policy will result in any significant increase in SNG production in the near future or that the administration's concern over the restrictiveness of the prior policy regarding SNG will be alleviated. The past record of FEA in responding to allocation requests and the continued restrictions raises questions as to whether the revised policy provides sufficient assurance to the gas industry that DOE is serious about encouraging an expansion of SNG plants. DOE indicated in its fiscal year 1979 budget justification that they expect as many as 15 new applications for feedstock allocations. Even though DOE's budget included funding for environmental reviews for 15 additional SNG feedstock applications, it is not clear that this represents a stated objective to be achieved by the policy or that applicants up to this number will be guaranteed feedstock allocation.

In order to meet the objectives of the National Energy Plan, we believe that DOE needs to establish an SNG production goal. If additional volumes of SNG are needed and expanded production is desirable, we believe that increased production will most likely occur under conditions other than the current feedstock allocations. Until such time as a national supply shortage of these fuels is imminent, we believe that an unregulated market is the best means of getting industry to increase production. We further believe that since most of the SNG is used intrastate that the need for SNG as a supplemental gas supply for peak shaving purposes can best be determined by the concerned utility and its State Public Utility Commission.

If the allocation of SNG feedstocks were deregulated, DOE could continue to monitor the use of feedstocks by the SNG industry, intervene in State Commission hearings if it feels it is necessary, and reinstate allocation controls in the event of adverse economic impacts resulting from unwarranted use of the feedstock fuels.

We further believe that the policy emphasis on limiting SNG use to high-priority customers requires a formal review process of SNG production and use. These review procedures should be developed regardless of DOE's decision concerning feedstock control.

AGENCY COMMENTS AND OUR EVALUATION

DOE agreed to conduct reviews to ensure that SNG use is limited to high-priority customers and stated that it is now reviewing its procedures in this regard.

DOE did not agree, however, to establish an SNG production objective because it believes that it is very difficult, if not impossible, to quantify the amount of SNG that would be needed to meet critical peakload needs as stated in the National Energy Plan. DOE stated further that energy requirements that could be met by SNG are a function of many factors, including legislation and policy on pricing of natural gas, priorities of class of service, importation of LNG, development and commercialization of synthetic gas from coal, environmental standards, and other considerations. DOE stated that any one of these factors might revise an estimate of SNG requirements upward or downward significantly, and most of them are currently subject to change. As a result, DOE felt that a case-by-case approach, without quantification of the overall level of SNG production, is the most feasible approach.

We agree that there are many uncertain factors relating to the availability of natural gas, and that such factors do make it difficult, if not impossible, to establish definitive or specific production objectives. We believe, however, that at least some broad production parameters, under varying assumptions regarding the uncertain factors, are imperative if the SNG feedstock program is to be effectively administered. Even under a case-by-case review program, some overall objectives, even though they might encompass a wide range of production, would contribute to more effective decisionmaking.

In commenting on our proposal to decontrol the allocation of SNG feedstocks, DOE stated that there is no apparent justification to change the policy toward allocating feedstock for SNG production. DOE said that it had conducted an in-depth analysis and review of the allocation regulations for SNG and maintains that the new allocation regulations ease the requirements for users of SNG in obtaining feedstock allocation, and are responsive to the general policy toward SNG outlined in the National Energy Plan.

DOE did not provide any evidence to support its contention that allocation decontrol of SNG feedstock is not justified. In fact, the SNG task force's indepth analysis and review of allocation regulations referred to by DOE, resulted in a recommendation to extend DOE jurisdiction to all SNG plants through construction and operation controls rather than allocating the feedstocks. Although we believe that total allocation decontrol is the best approach, we believe the SNG task force's recommendation is an acceptable alternative.

We do not concur with DOE's views that the revised allocation regulations are responsive to the concerns expressed in the National Energy Plan for SNG use. We fail to see how the revised SNG allocation regulations are an improvement over the prior regulations from the standpoint of the regulations (1) favoring SNG feedstock allocations to the petrochemical industry and (2) effectively precluding the gas utilities from using the feedstock. The allocation regulations do not provide a feedstock priority for SNG plants needing SNG for critical peak load needs, nor do they provide pipeline companies and utilities with the reasonable certainty they need to make short-term investments in SNG plants.

RECOMMENDATIONS TO THE SECRETARY OF ENERGY

We recommend that the Secretary of Energy

--define the objectives DOE would like to achieve with respect to SNG production and use;

--take the required steps to deregulate the allocation of naphtha and other SNG feedstock supplies; however, if DOE determines that some Federal control is necessary, DOE should seek legislative authority to extend its jurisdiction to regulate the construction and operation of all SNG plants and eliminate the feedstock allocation program; and

--take timely action to complete and implement review procedures to ensure that SNG use is limited to high-priority customers, and if DOE should elect to obtain authority to regulate the construction of SNG plants, such review procedures should be tied to a licensing program.

Department of Energy
Washington, D.C. 20545

MAY 8 1978

Mr. Monte Canfield, Jr., Director
Energy and Minerals Division
U.S. General Accounting Office
Washington, DC 20548

Dear Mr. Canfield:

Thank you for the opportunity to comment on the revised draft report entitled "Improvements Needed in Federal Agency Programs for Alleviating the Impact of Natural Gas Curtailments."

In general, the report is an improvement over the earlier draft. We have reviewed the draft with Mr. Elsken of your staff and we understand that some changes and clarifications which we suggested will be made. Mr. Elsken also advised us that Chapter 4, Federal Contingency Planning for Winter Emergencies, is being withdrawn as this subject will be addressed in another GAO report.

Our more significant comments on the report are discussed below.

We do not believe we should consider decontrolling propane. Although the supply/demand outlook for LP-Gas, and propane specifically, has improved to the point that required allocation levels are being met and no shortages have developed during the past winter, it is premature to consider decontrolling propane and be assured that mandatory allocation requirements will be met satisfactorily. The long-term outlook for propane availability from domestic sources is one of a continued decline because of the decline in natural gas production and reduced level of output from refineries. To satisfy future demands for traditional users will require more imports. Furthermore, due to the disparity in current prices for propane, both for domestic and imported sources, decontrolling the price would create an adverse impact on consumers by propane prices rising to the levels of imported propane. The difference in propane between domestic and imported, at the wholesale level, is now about 5¢ to 7¢ per gallon.

We are planning to continue using our State set-aside program for propane and we plan to clarify the regulations concerning delivery time periods and the availability of propane within the State.

In regard to adjusting the percentage of propane set-aside to match expected State requirements, we do not believe it is appropriate to try to make such adjustments other than through current procedures. Since the current procedure establishes a set-aside of 3% of projected deliveries to the

APPENDIX I

States and since the volume of projected deliveries vary, depending upon projected demand, the volume of the set-aside is automatically adjusted even though the percentage is fixed.

Since any set-aside is unavailable to the States until released or used, we believe that to set aside more than 3% could tend to disturb traditional distribution patterns. In addition, the percentage set aside is a maximum figure and the State can adjust to a smaller percentage by releasing volumes to the suppliers.

With respect to establishing an objective for SNG production, we do not agree with the GAO recommendation. It is very difficult, if not impossible, to quantify the amount of SNG that would be needed to meet "critical peakload needs" as stated in the National Energy Plan. The requirement that could be met by SNG is a function of many factors, including legislation and policy on pricing of natural gas, priorities of class of service, importation of liquefied natural gas, development and commercialization of synthetic gas from coal, environmental standards, and other considerations. Any one of these factors might revise an estimate of SNG requirements upward or downward significantly, and most of them are currently subject to change. We therefore feel a case-by-case approach, without quantification of the overall level of SNG production, is the most feasible approach.

There is not apparent justification at this time for modifying or changing current policy and regulations toward the allocation of feedstocks for SNG production. DOE has conducted an "in-depth" analysis and review of the allocation regulations for SNG, placed in effect in 1974. The new (October 1977) allocation regulations ease the requirements for gas utilities and other potential users of SNG in obtaining feedstock allocation, and are responsive to the general policy toward synthetic natural gas outlined in the National Energy Plan issued in April 1977.

We are presently reviewing procedures to ensure that SNG use is limited to high priority customers and, therefore, agree with the GAO recommendation on this subject.

Sincerely,

Fred L. Hiser, Director
Division of GAO Liaison

(30836)