FUTURE SUPPLY-DEMAND SITUATION FOR FERTILIZER, FUEL, AND PESTICIDES

HEARINGS

BEFORE THE

SUBCOMMITTEE ON AGRICULTURAL CREDIT AND RURAL ELECTRIFICATION

OF THE

COMMITTEE ON AGRICULTURE AND FORESTRY

UNITED STATES SENATE

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FUTURE SUPPLY-DEMAND SITUATION FOR FERTILIZER, FUEL, AND PESTICIDES

WEDNESDAY, JULY 24, 1974

U.S. SENATE,
SUBCOMMITTEE ON AGRICULTURAL CREDIT
AND RURAL ELECTRIFICATION, OF THE
COMMITTEE ON AGRICULTURE AND FORESTRY,
Washington, D.C.

The subcommittee met, pursuant to notice, at 10:10 a.m., in room 324, Russell Senate Office Building, Hon. George McGovern (chairman of the subcommittee), presiding.

Present: Senators McGovern, Aiken, and Dole.

STATEMENT OF HON. GEORGE McGOVERN, A U.S. SENATOR FROM THE STATE OF SOUTH DAKOTA

Senator MCGOVERN. The committee will please come to order.

The hearings to be held today and tomorrow on the future supply-demand-and-price outlook for fertilizer, farm chemicals, and fuels and energy utilized by American agriculture is a continuation of an effort first undertaken by the full Senate Committee on Agriculture and Forestry almost a year ago when it became all too obvious that the available supply of these essential farm inputs were going to be tight, if not short, during the 1973–74 crop year.

Our Committee on Agriculture, under the able leadership of our distinguished Chairman, Senator Talmadge, led the fight to exempt the fertilizer industry from wage and price controls. The committee likewise provided the leadership that was necessary to gain top priority status for agriculture within the Federal mandatory fuel allocation program established in January of this year, as it did again later in getting the fertilizer for these same purposes.

In February and March of this year we not only held public hearings and meetings on the supply, distribution, and pricing of these essential farm inputs, but also secured passage by the Senate of S. Res. 289, that resolution asked all agencies of the Federal Government having any responsibility for the establishment of priorities for the allocation of materials and facilities utilized in the production of fertilizer to give the highest priority to the fertilizer industry.

Following its adoption by the Senate, I sent a copy of S. Res. 289 to every appropriate agency, including the Federal Power Commission and the Interstate Commerce Commission, as well as to each

one of the 50 Governors of the States. Many of the responses we subsequently received from the distribution of that resolution are contained in a document printed by this subcommittee entitled "U.S. and World Fertilizer Outlook," a document dated March 21, 1974.

On March 20, of this year, following our February hearings, I conducted a meeting of representatives of various Government agencies and asked them to begin preparing for the 1974–75 crop and fertilizer year. I also announced at that particular meeting that we would be calling another series of hearings later in the year to review the supply-demand and price outlook for these farm inputs, and that of course is the purpose of these hearings today and tomorrow.

In that fertilizer, farm chemicals, and fuels and energy supply for food and agricultural purposes are so interrelated and because their availability will all effect the final outcome of food production during the 1974–75 season, they have all been combined for the purposes of these hearings.

In addition to hearing from the intergovernmental agency task force dealings with these matters, we will also be hearing from representatives from industry, State departments of agriculture, farm cooperatives, and individual farmers during the course of these hearings.

I should also like to note that we will be examining the supply-demand and price outlook relating to baling wire.

Neither Government nor the Congress can produce the essential farm inputs required to product the food and fiber our Nation and much of the world must have. But it can and must work together to determine what is going to be available and help insure that it gets to the people who need it and on a timely basis.

There is no higher national priority for this next year than to maximize our production of food and fiber. Crop prospects for this summer and fall already have been substantially lowered from earlier forecasts.

I might say just from coming back from my own State in the last few days that I am more and more alarmed about the deepening drought in that part of the country.

Carryover stocks of wheat and feedgrains for this past crop year were at record lows. These developments in turn will likely translate themselves into strong farm prices and strong demand for farm input supplies in the 1974–75 crop year.

Every precaution must be taken to see that these farm input materials are provided and no Government agency, nor private interest, dare stand in the way of providing those supplies.

I also wish to serve notice that I and other members of this committee are very concerned over the continued price increases that farmers are being subjected to regarding fertilizer, and fuels. USDA reported this last week that gasoline prices are now averaging 34 percent above last November's level; diesel fuel, 50 percent higher; and LP gas about 28 percent higher. Fertilizer prices being paid by farmers are rising even faster; nitrogenous fertilizers up from 101 to 124 percent over last October's prices; phosphate fertilizers up 71 to 77 persent; potash, up 44 percent; and prices for mixed fertilizers 67 percent higher.

The average price of baling wire has risen about $4 per 100-box since mid-May, and is currently about 2½ times above the average price a year ago.

And given the fact that wholesale prices for some of these products this past year were being held somewhat in check, we can only wonder what is likely to happen to them in the coming year, now that all industries have been freed from wage and price controls or voluntary commitments made following release from them to hold-the-line on any further price increases.

Expansion of production capacity regarding these farm input materials is essential if both the supply and pricing of them are to be brought into line with need and use.

Every effort must be made to expand the production of these materials if farmers are going to be able to meet our Nation's food production goals.

I would hope that every Government agency having any responsibility for establishing priority allocations relating to any of these essential farm materials will not hesitate to take whatever action they deem appropriate to insure that maximum amounts of these farm inputs are made available.

The future food and fiber supply for both the people of the United States and much of the world will depend on their actions—or lack of actions.

Senator Stevenson of Illinois will file a statement to these hearings.

[The statement of Senator Stevenson follows:]

STATEMENT OF HON. ADLAI E. STEVENSON, A U.S. SENATOR FROM THE STATE OF ILLINOIS

Senator Stevenson. Ours is the most productive agriculture in the world. But as technology increased productivity with better farm machinery, better seeds, and better fertilizers, it created a whole new set of problems. If any one of a number of ingredients becomes unavailable, the agricultural machine slips into a lower gear, and the economic, social, and political reverberations are felt everywhere in the world.

If a few industrialized Nations fall short in their fertilizer production, the peasant in Burma may find that his miracle rice is useless, the factory worker in Siberia may find that he cannot get enough bread to feed his family properly, and the farmer in Illinois may find he cannot make a decent living by working his land.

There are those who still say that we can sit back and let the market solve each and every supply-and-demand problem which comes along. I disagree. When serious supply problems arise with basic commodities such as food, fuels, and fertilizers, it is grossly irresponsible for public officials to say "There is nothing we can do—except trust in the invisible hand."

That is the one thing we cannot do—unless we are willing to let economies collapse, governments topple, and people starve. The assured availability of fertilizers and other basic commodities should be an explicit national goal. In furtherance of that goal, it is incumbent upon the Congress and the Executive Branch to formulate an effective, coherent fertilizer policy. It is in that connection that I advance the specific ideas which follow.

I. THE NATURE OF THE PROBLEM

Over the past four years a wide gap between fertilizer demand and fertilizer supply has opened up—a gap which is likely to persist through at least 1976.

This past year alone, 19 million U.S. acres which had previously lain fallow were put into production. Many of those acres are marginal and require intensive fertilizing. As other nations attempt to coax greater yields from

limited amounts of arable land, they have added substantially to global fertilizer demand.

A number of densely populated nations which lack hard currency reserves—notably India and Bangladesh—are finding it extremely difficult to buy fertilizer on the world market. A number of nations—including Belgium, the Netherlands, Romania, and Hungary—produce more fertilizer than they consume, but they are selling almost all of it for hard currencies; and so are we. Thus, a disproportionate share of the sacrifices occasioned by the fertilizer shortage is being borne by those least able to assume the burden—the poor and the weak masses in the Third World.

Supply cannot quickly expand to meet rapidly increasing demand. Approximately three years must pass before a fertilizer plant reaches productive capacity, and while several new ones are planned in this and other countries, they will not be operative until 1976 or 1977. Last year, the inability to produce sufficient fertilizer resulted in a domestic shortage of seven to ten per cent in nitrogen and phosphate fertilizers. A shortage of similar magnitude is forecast for the coming year.

The spread between world supply and world demand is difficult to chart because data is difficult to obtain and evaluate. Nitrogen consumption, however, is expected to be approximately 2.8 million metric tons greater than last year's, with somewhat lesser increases for phosphate and potash. On a world-wide level, about a two per cent spread exists between the supply and demand for nitrogen. That spread is enough to drive up the world price substantially.

The problem must be analyzed and attacked on two broad fronts—production and distribution.

II. PRODUCTION

On the production side, we must in the short run make the best possible use of existing capacity, and in the medium and long run expand and diversify our productive capacity.

The key to proper utilization of existing capacity and to stimulation of investment in additional capacity is natural gas, which is itself in very short supply.

In the Senate Commerce Committee, I have been working on a bill which will reform the regulation of natural gas—a bill which will allow the necessary incentives for increased production, while guarding against the disastrous inflationary impact of uncontrolled price increases in a non-competitive market. We must not make the same mistake with natural gas that we made with oil—price increases which create economic hardship and produce profits far in excess of the industry's capacity to reinvest in oil and gas exploration.

Title I of the Consumer Energy Act, which is the product of 20 hearings, 150 witnesses, and 8 months of hard negotiations, will be ready to go to the full Commerce Committee within the next two weeks. This legislation will recognize the priority nature of agricultural uses of natural gas, particularly the manufacture of fertilizer, during times of shortage. Most important, it will provide the price incentives needed to increase natural gas supplies without placing an undue burden on the American consumer or more extortionate profits in the hands of the nation's major oil companies.

This legislation will be a step in the right direction. But unfortunately, if the Congress completes action on a natural gas bill tomorrow, it will not have any significant effect on natural gas supplies for this or the next several winters. The natural gas shortage is going to get worse before it gets better. It is thus essential that we face up to the need for an allocation and curtailment program that reflects the most important and efficient uses of natural gas right now.

To its credit, the FPC has established curtailment priorities which recognize the overwhelming importance of natural gas used to meet basic human needs. Thus, residential and small commercial consumers are given the highest priority. Keeping warm in one's home or place of business is clearly a basic human need.

Having enough to eat is also a basic human need; and the natural gas used as a feedstock in the manufacture of fertilizer is as important to the basic human need for food, as the natural gas burned in our homes is to the basic human need for warmth.

Yet by rejecting the agricultural priorities called for in S. Res. 289, the FPC in its decision rendered July 16, 1974 underscored the inadequacy of its own priority system. Currently natural gas used as a feedstock for the manufacture of fertilizer has the same priority as natural gas used as a feedstock for the manufacture of hula hoops. Interruptible natural gas contracts for the manufacture of fertilizer are placed in a lower priority than firm contracts for the manufacture of hula hoops.

I can understand the Commission's reluctance to begin allowing across-the-board exceptions for individual industries, as opposed to adhering to their carefully worked out industrial priority system based on volumes, substitutability, and type of contract.

But since the Commission has already chosen to single out certain uses such as residential consumption because of their relation to a basic human need, the precedent is already established for granting special priority to industrial uses essential to basic human need such as food production. The use of natural gas as feedstock for the manufacture of fertilizer, whether under a firm or interruptible contract, should have a priority right behind that of the residential and small commercial user. If the FPC cannot recognize this basic need, the Commerce Committee stands ready to develop the necessary legislation.

The Congress simply cannot stand by while something as essential to our food production as the manufacture of fertilizer is not given the priority it deserves. The Commission has proposed a case-by-case review of the natural gas needs of individual fertilizer plants. Under this system, the most any plant could receive would be the amount it received the previous year. Aside from being inefficient, this approach take no account of the critical need for expanded fertilizer plant capacity.

To increase production we also need to expand fertilizer capacity. Capacity has not expanded as rapidly as it could have for several reasons. In the early to mid–1960's, fertilizer producers expanded too rapidly, and then lost profits when demand eased later in the decade. The losses amounted to as much as $150 million a year in the United States alone, and producers are understandably hesitant after that experience to plunge back into production.

But we would be wrong to accept that experience as the sole explanation of stagnant productive capacity for nitrogen fertilizers. Gulf, Continental, Cities Service, Mobil, Shell and Atlantic Richfield—once major investors in the fertilizer industry—bailed out when the going got rough. Now that they are earning profits in oil of two to three times what they earned last year, they have little incentive to reinvest in fertilizer production. We know, too, from our experience with the oil industry that reluctance to expand productive capacity may be motivated by a desire to bring about a shortage which will create windfall profits rather than by the unavailability of raw materials.

The Federal Trade Commission has already embarked on an investigation of the competitive practices in the oil industry. I have today written the Chairman of the FTC urging that immediate consideration be given to a similar investigation of the nitrogen fertilizer industry.

As so often happens when a critical commodity is in short supply, grey markets in fertilizer have developed, and there are persistent reports of widespread gouging and sharp dealing.

Most producer-suppliers have put their dealers on allocation. Typically the dealer is limited in current purchases to a percentage of past purchases, often 80% of average purchases during the past three years. Dealers who want to engage in gouging—and many dealers are not doing so—are reluctant to do it themselves because they will thereby alienate steady customers. Instead, they may quietly sell a portion of their allotment to fast-buck artists called brokers, who in turn gouge the farmers. There are no indications I am aware of that producer-suppliers are doing anything to police their dealers, or otherwise to discourage this practice. In my judgment, it is imperative that the Department of Agriculture and the Department of Commerce investigate the situation and encourage producer-suppliers to institute preventive measures. If the gouging continues unabated, the pressures for export controls can and should intensify.

As we focus on the production of fertilizer, we should work on as broad a scope as possible. One way to diversify our efforts is to encourage the use of organic fertilizer. A recent project in Chicago and Fulton County,

Illinois shows that a city's sludge can be used as an effective and economic fertilizer. This project offers great promise because it shows that sludge can be used to reclaim land and is an effective fertilizer. To develop this source of fertilizer, I introduced legislation which would authorize federal programs to use sludge to reclaim stripmined land. That legislation recently passed the Congress as part of the Surface Mining Reclamation Act, and will soon go to Conference.

Mr. Chairman, we should encourage research which would develop organic fertilizer and we should encourage farmers to use it—because it is effective and potentially abundant. It occurs to me that this organic fertilizer could also become a larger source of fertilizer for higher priced lawn, garden and golf course uses, freeing up some inorganic fertilizers for agricultural purposes. I am, therefore, urging the Environmental Protection Agency to expand demonstration projects which utilize such fertilizer and to develop public information programs in those areas where the demonstrations occur.

III. DISTRIBUTION

In the short run, we are going to have fertilizer shortages. The best we can do in the short run is to improve the distribution system so that scarce supplies are widely available at a fair price and on an equitable basis.

The first change that should be made on the distribution side is the immediate suspension of special tax breaks for fertilizer exporters. In 1971, the Congress established the DISC program to encourage exports through tax breaks. Because it makes no sense to encourage the export of items in short supply domestically, Congress also enacted a clause permitting the President to suspend DISC tax breaks on the export of any commodity the supply of which is "insufficient to meet the needs of the domestic economy."

Despite the fact that there is not enough fertilizer—especially nitrogen—to meet domestic demand, the Administration continues to allow exporters of fertilizer to receive special tax breaks as they sell the fertilizer out from under our farmers. In 1972, $136 million worth of fertilizer exports received DISC benefits. This year the comparable figure is probably close to half a billion dollars. Of the 157 categories of manufactured goods into which the Treasury divides all exports, fertilizers rank 19th from the top in terms of lost revenue. The top 20 includes other items in short supply: industrial chemicals, drugs, plastics, mining equipment, and fabricated metal products. The Administration has not suspended DISC tax breaks on any of these items, either.

In May, 1974, I asked the Department of Agriculture to provide me with its position on whether DISC tax breaks on fertilizer exports should be suspended. On July 10—two months later—an answer arrived.[1] The Department does not support a suspension of DISC tax breaks for fertilizer exports and neither does the Administration.

If the Administration fails to suspend DISC benefits for exports of fertilizer in sort supply, the Congress should do so—as I have proposed.

A second curious aspect of the distribution picture is that we seem to be selling large quantities of relatively low cost fertilizer to foreign purchasers, and making up the difference by importing relatively high cost foreign fertilizers. Middlemen do well at both ends, but U.S. farmers and U.S. consumers appear to be footing the bill.

In 1973–74 we exported approximately 1.1 million product tons of nitrogen while we imported approximately 1 million tons. In other words, while we face a shortage of fertilizer at home we are exporting about the same amount that we import. And imports are more expensive than domestic products, if for no other reason than that added transportation costs accrue.

Our phosphate exports and imports show a similiar pattern. Our exports increased by more than nine per cent in the last year. While the greatest demand is for nitrogen-based fertilizer, we should carefully watch our exports of phosphate to see that shortages are at the least not aggravated and are actually reduced.

If the price spread between foreign and domestic nitrogen is $125 a ton—and that is a conservative estimate—the export-import criss-cross is costing

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[1] See p. 7.

us $125 million a year. The situation warrants examination by USDA and the Department of Commerce.

Industry should also exercise a greater amount of voluntary restraint in the export of fertilizer than it has in the past. The farmer-owned fertilizer companies, which account for 30% of U.S. production, stopped exporting in 1972 even though the export price was and is higher than the world price. The profit-making fertilizer producers have not followed suit. Unless they do so, export controls may become necessary. I would hope that we will not have to resort to such a drastic step as that.

The third major distribution question involves transportation. This year, the shortage of railroad cars delayed the shipment of available fertilizer from plants in Florida to the Midwest, where fertilizer shortages were fast reaching a crisis level. In response to this urgent problem, I and members of the Committee on Agriculture and Forestry urged the Interstate Commerce Commission to break the transportation bottleneck adversely affecting the delivery of fertilizer. On March 18, the ICC issued a service order requiring eleven different midwestern railroads to deliver 1100 railroad cars to the Seaboard Coastline Railroad in order to expedite the shipment of fertilizer from production facilities in Florida to the Midwest.

Transportation difficulties—particularly the shortage of hopper cars and tank cars—have long been a problem for the fertilizer industry. Transportation bottlenecks regularly occur between February and April, when fertilizer is normally moved from inventories to retail distributors and farmers. Yet, we continually fail to insure the orderly transportation of fertilizer from the point of manufacture to the areas where it is needd. More important, we have allowed our transportation system to deteriorate to the point where even advance planning may not avoid transportation bottlenecks.

To deal with the problem, the Senate has passed S. 1149, the so-called freight-car bill. One element of this bill is the development of a computerized system to help the railroads keep track of and utilize their cars more efficiently. The Association of American Railroads is not waiting for S. 1149 to become law. It has decided to develop its own national computer system. An additional element in the bill is the creation of a $2 billion loan guarantee program for the construction of freight cars and a provision enabling the federal government to construct them if within two years the companies themselves have not done so. I hope that the House will act on the freight car bill this year.

Finally, one of our greatest needs is for the facts. Companies need more information so they can plan their production. We need information so we can provide effective oversight. To deal in part with that problem I am sponsoring an export control bill which provides for regular monitoring and reporting of exports. The bill will improve the situation but will not completely solve the problem.

Mr. Chairman, I have tried to suggest that the fertilizer problem is complex and multi-faceted. It requires us to consider many factors as we plan. I commend you and the Committee for your efforts and hope we can work together to develop a sound Federal fertilizer policy.

STATEMENT BY RICHARD E. BELL, DEPUTY ASSISTANT SECRETARY OF AGRICULTURE, ON DISC TAX BREAKS ON FERTILIZER EXPORTS, JULY 10, 1974

STATEMENT ON DISC

We do not think that a DISC tax deferral program can be turned on and off. If DISC is a part of the tax structure, exporters should be able to rely upon it, to base their forward sales planning on its continuation, and not be faced with its discontinuation on short notice.

We all know that the fertilizer supply situation is tight this year. But we do not believe that we should proceed to remove DISC tax eligibility unless it is determined that the supply is insufficient to meet the requirements of the domestic economy. This would be consistent with the criteria contained in the Export Administration Act governing circumstances in which controls may be applied.

It is difficult to make an assessment of the effects of DISC on exports of fertilizer since data on the DISC program are only available for 1972. They do not show how much fertilizer was exported under the DISC program nor do they provide information on what proportion of total fertilizer exports received DISC benefits. Also, the results for 1972 would be affected by other factors, notably the currency realignment and domestic price controls.

We do know that export sales became more profitable than domestic sales as a result of domestic price controls imposed in August 1971 and some fertilizer mover abroad for that reason. To correct this situation, fertilizers were exempted from price controls on October 25, 1973, and, in anticipation of increased domestic requirements, U.S. fertilizer producers agreed to make an additional 1.5 million tons of ammonia, urea, ammonium sulfate, diammonium phosphate, and concentrated superphosphate available to U.S. farmers from October 1973 through June 1974. Thus, the total quantity of fertilizer supplied to farmers is substantially above the previous year's total, even though the supply situation remains tight because of the great increase in demand.

Senator McGovern. Other Senators and Members of the Congress and other witnesses who wish to file statements may do so at any time in the next 2 days.

Senator Dole wishes to make a statement also.

STATEMENT OF HON. ROBERT DOLE, A U.S. SENATOR FROM THE STATE OF KANSAS

Senator Dole. Mr. Chairman, I commend you for calling these hearings on shortages of fertilizer, farm chemicals, propane, baling wire and other items essential to agriculture.

These shortages have caused a tremendous number of problems for farmers and ranchers and have been a continuing frustration for everybody involved in agriculture. Hundreds of farmers in Kansas have expressed their concern to me personally and with their letters, telegrams and phone calls. These contacts are a clear indication to me that action is needed to provide relief.

GOVERNMENT INTERFERENCE UNWANTED

The majority of Kansans I have talked to are not in favor of the Government stepping in to take control of the fertilizer companies or the steel industries or of the distribution of those commodities in short supply. We have seen the adverse affect of price controls on the livestock industry and on the economy as a whole. At least some of our commodity shortages are a direct result of price controls.

We have seen in the fuel allocation program some of the economic distortions and problems that can occur when the Government tries to control the distribution of products. The difficulty of getting fuel for farmers from the Federal Energy Administration might be small compared to what it might be in getting fertilizer and baling wire from a government bureaucrat.

Certainly no producer of these materials in short supply would advocate controls. Any businessman knows that his operation is likely to be restricted under controls.

RESPONSIBILITY

But I must say that we in the Senate have a responsibility to the farmers of Kansas and the other States of this Nation. We also have

a responsibility to consumers. Farmers cannot produce food without the necessary materials and fertilizer, pesticides and baling wire are among those essential items.

So we in the Senate and the Congress have an obligation to do something about these shortages. Given that the options available to the Congress in the past have generally been restrictive on industry and counterproductive to increasing output, it becomes apparent that industry is going to have to share a large part of the responsibility for resolving these shortages.

Industry has a responsibility not only to expand production but to better manage the distribution of their products. The alternative is Government controls with all the adverse affects we already are aware of.

FERTILIZER

The greatest problem for Kansas farmers beyond a doubt has been the short supply of fertilizer. The shortage has made the matter of distribution one of vital importance. This is one area where the actions of the Government are greatly limited because of their inherently restrictive nature and the fertilizer industry should take on greater responsibility in seeing that their product is distributed fairly and equitably.

We have recently seen cases where American-produced fertilizer is being resold through brokers and truckers at exorbitant "black market" prices. We have seen dealers and farmers cut off or drastically curtailed from their previous supplies. These developments, while not necessarily illegal, are certainly unethical.

These problems are basically a matter of distribution. In some cases, apparently an excess of product has developed in some areas and is being resold into other areas for a price-gouging profit. I have written all the companies supplying Kansas requesting that closer supervision be made to stop such improper trade.

The prospects are reportedly for a continuation of the fertilizer shortage for a number of years to come. We in the Congress, as I noted earlier, have a responsibility to the farmers in these matters and we have a responsibility to see that there is a more orderly and rational distribution of product. If the situation does not improve, the Government may find itself forced to take action with all the accompanying problems. Hopefully, this can be avoided by the industry's acceptance of more responsibility.

PRODUCTION DIFFICULTIES

I do not mean to imply that the fertilizer industry does not have enough problems. Some of its difficulties have been aggravated by the Congress.

The inability of new fertilizer plants to obtain new natural gas contracts is well known. The use of natural gas as a feedstock for nitrogen fertilizer is vitally important—to farmers, to the Nation and to the world.

Yet the price of natural gas does not reflect the true value and importance of natural gas. Because of the artificially controlled price, we see that gas continues to be used for less important purposes and drilling companies cannot find sufficient incentive under these prices to explore and expand production.

Under the circumstances of a congressional refusal to deregulate natural gas, establishment of priorities for gas by the Federal Power Commission is essential. However, this is not an adequate solution. It is not until the price reflects the true value of gas that less important uses will begin to switch to alternate sources of energy. The sooner this step is taken, the better off we will be.

BALING WIRE

Conditions existing in the baling wire industry are similar to those in the fertilizer industry. The matter of distribution is of primary importance, as it is for pesticides and all items in short supply. There have been numerous reports from Kansas of "black market" prices for baling wire. However, I note that the major companies are working actively to discourage such prices. These actions are commendable and hopefully will be successful.

PROPANE

In view of reports that the Federal Energy Administration is planning to end the allocation program for propane, there has been concern that propane would go increasingly to large volume industrial users, at the expense of grain drying and other agricultural uses. I have written to Mr. John Sawhill, Administrator of FEA, urging that the end of allocation, if instituted, be accomplished in a manner to prevent this trend from developing.

Ironically, price controls on propane appear to be keeping the price artificially inflated. This situation should be resolved at once and I have so advised Mr. Sawhill.

Mr. Chairman, a panel of individual Kansas farmers will testify here later to describe the impact of these shortages on them and others involved in agriculture. Their testimony will be valuable in showing the importance and urgency of resolving these shortages. I hope we in the Congress and those in the industries will be able to meet our respective responsibilities in these shortages.

Thank you.

Senator McGovern. Our opening witnesses represent the Intergovernmental Task Force on Fertilizer. My understanding is that one of you gentlemen will serve as a spokesman but that all will be available for questions.

We have Mr. Kenneth J. Fedor, Senior Staff Economist, Council of Economic Advisers; J. Dawson Ahalt, Staff Economist, Agricultural Economics, U.S. Department of Agriculture; Samuel M. Rosenblatt, Director, Office of Business Research and Analysis, Bureau of Competitive Assessment and Business Policy, U.S. Department of Commerce; Philip Birnbaum, Assistant Administrator for Program and Policy Coordination, Agency for International Development, U.S. Department of State; Mrs. Lillian D. Regelson, Deputy Assistant Administrator for Water Planning and Standards, Environmental Protection Agency, and Robert Ruck, Atlanta Regional Office, Environmental Agency, Atlanta, Ga.; John R. Douglas, Jr., Consultant to the Intergovernmental Agency Task Force on Fertilizer, Muscle Shoals, Ala.

So we will begin with these witnesses. You may proceed as you wish.

STATEMENT OF KENNETH J. FEDOR, SENIOR STAFF ECONOMIST, COUNCIL OF ECONOMIC ADVISERS

Mr. FEDOR. Thank you, Senator. I would like to begin by stating that I will present on oral summary of the statement we are jointly presenting here from the Council of Economic Advisers and the Department of Agriculture and the Department of Commerce.

I would also like to indicate that in response to requests from the staff of this committee Dr. Birnbaum from AID has submitted a written statement. He will be available to answer questions on that testimony. Dr. Rosenblatt has also submitted a separate statement on nonfertilizer uses of nitrogen phosphate and he would like to summarize very briefly that statement after I finish.

The statement that we are jointly presenting is our attempt to update the current fertilizer situation and provide a brief summary of our expectations for the coming year, concentrating primarily on nitrogen and phosphate.

We begin by reviewing 1973 which has ended pretty much along the lines we had been expecting and on which this task force had testified in February of 1974.

The estimates that we have indicate the supply of nitrogen to U.S. farmers had increased about 8 percent resulting in an estimated shortage of about 5 percent relative to the quantity demanded.

Phosphate supplies have basically remained at year ago levels resulting in a short fall of about 12 percent of the quantity demanded whereas the supply of potash is up 15 percent. These numbers are summarized in the tables attached to our testimony, Mr. Chairman.*

The results of this imbalance in supply and demand of course were reflected in two ways: First, a dramatic increase in fertilizer prices, which you yourself mentioned and which we have laid out in tables 1, 2, and 3 in our testimony; and second, there were more intense shortages of fertilizer in different sections of the country.

I would like to say that all the numbers we are presenting today are numbers which indicate a national average and as is the case with all national averages, some numbers are higher and some are lower.

There are some indications, evidence of which is pointed out in the paper, that the increased supply of various fertilizers throughout the country was not evenly distributed in different regions and of course for different individual farmers.

Turning next to our early outlook for the 1975 crop year, I would characterize our view in the following manner. The fertilizer situation is expected to continue tight in 1975. We expect that the supply of all fertilizer nutrients supplied to U.S. farmers to increase about 8 percent and the quantity of fertilizer demanded to fall in a range of a decline of 4 percent to an increase of 9 percent, depending

*See p. 37.

upon crop prices because crop prices determine or at least have a significant influence on fertilizer application rates.

The forecast for crop prices is highly uncertain, owing to the conditions you described in North Dakota and which characterizes many other parts of the United States.

We estimate that if crop prices remain high, basically at the current level or perhaps higher, the increased demand for fertilizer would clearly intensify the tightness of supply, thus perpetrating the current situation. If on the other hand the demand is not increased along the lines which would be consistent with current crop prices, we might have a certain amount of surplus. In either situation we don't expect any relief from high prices. If deficits do occur, it would create considerable pressure to drive prices higher.

I would like to talk briefly about some of the specific fertilizer nutrients. Let me begin with nitrogen. On the supply side, we estimate the production of ammonia will increase about 6 percent in the 1975 crop year compared to last year. The increase will arise primarily from the startup of two new ammonia plants as well as an increase in the supplies from some existing plants.

We have a list of those if you would like me to introduce those for the record, Senator?

Going back to this last year, we have to emphasize there is some uncertainty as far as our supply estimates are concerned. Last year we had a mild winter, which reduced the need for natural gas curtailments, and in addition to that, the Federal Power Commission acted swiftly to assist ammonia producers last year. We hope we will be able to continue that into next year, but it does create some uncertainties as far as supplies are concerned.

With regard to nitrogen exports, we expect there to be a small decline in the net export position of the United States. Our net exports of nitrogen should be about 2 percent of the quantity of nitrogen produced in this country next year. This amounts to a small decline in our exports and a slight increase in our imports.

Again, the net balance should be somewhere around 2 to 2½ percent.

Inventories of course are at rock bottom following the shortages of this past year. If any surplus does develop, it would certainly disappear into the empty bins of fertilizer producers as well as farmers throughout the country.

Taking all of these factors into account, we estimate the quantity of nitrogen supplied to American fertilizer uses for 1975 crops is expected to be up 7 percent, to 10.3 million tons.

On the demand side we expect anywhere from an increase up to about 10.4 million tons, if crop prices hold around the current levels. If the lower crop prices materialize, we expect a demand somewhere in the vicinity of 9.3 million tons with the difference again being explained in terms of varying application rates which we noted in the testimony. The low estimate is equal to the estimated demand of 9.3 million tons for this past year, while the high estimate is an 11 percent increase in demand for nitrogen.

With a projected supply of about 10.3 million tons, we could have anywhere from a 7.8 percent shortage to a 2.4 percent surplus of

nitrogen. A deficit of that magnitude would drive prices higher whereas, as I indicated earlier, if a small surplus does develop, it would probably disappear in the corners of empty storage bins.

Turning next to phosphate, on the supply side we are in a little better position. We expect that the domestic production in 1974–75 is expected to increase about 12 percent compared to last year. This is due mainly to the fact that six new phosphate plants are scheduled to come onstream this fertilizer year. Unfortunately there is an important qualification to that statement, namely, that much of the increased production will not be available until some time in calendar year 1975 which will be too late to be useful for the early part of the 1975 crop year which winter wheat is planted.

Exports of phosphate are expected to continue to increase since the United States is a primary free world supplier. We expect about 22 percent of our domestic production will be exported. Last year the U.S. exported 23 percent.

We expect even with the rise in the absolute value of the exports, exports will represent about 22 percent of domestic production this coming year. With a small increase in exports and a small increase in imports, we expect on balance the United States will be a net exporter equal to approximately one fifth of our domestic production.

Again, with little opportunity to draw upon inventories, the net supply of phosphate we expect to American farmers could increase about 12 percent to 6 million tons.

On the demand side of phosphates we expect, again on varying price scenarios, that demand will fall in a range of 4.9 million tons to 5.8 million tons.

This represents anywhere from a 10.5 percent decrease to a 5 percent increase from the estimated 5.5 million tons for 1974.

To supply the estimated demand, total requirements will be from 5.4 to 6.2 million tons.

The phosphate situation therefore could range from a 13 percent surplus to a 4 percent deficit which is a marked improvement over last year, but emphasizing again the important qualification, Mr. Chairman, that much of the shortage, should it develop, will be concentrated in the early part of the crop year.

Turning finally to prices, it is clear that fertilizer prices have increased beyond all expectations, and are still rising. As you yourself pointed out, Senator, July retail prices surveyed by the Department of Agriculture are, for nitrogen anyway, about double the levels that reached in October before prices were decontrolled. Phosphate prices have increased about 70 percent, and potash about 45 percent in this same time period.

I also mention in my statement that these price increases reported by the Department of Agriculture were reported July 15 and probably do not reflect much if any of the latest round of price increases by manufacturers earlier in the month of July following the end of their commitment to the Cost of Living Council to hold prices up to until June 30. We estimate on earlier data that manufacturers' prices as of the first of July probably increased in the range of 30 percent.

Of course one of the objectives of exempting the fertilizer industry from price and wage controls in October was to reduce the incentive to export by allowing domestic prices to rise toward higher world market price levels. Although domestic prices have risen dramatically, the margin between domestic prices and world prices has not been reduced as of the first of July 1974, compared to October of 1973. Export prices remain at approximately twice the level of domestic retail prices.

Of course, high and rising world prices point out that fertilizer shortages are a worldwide phenomenon. Less developed countries are still short of fertilizer nutrients. As I have indicated, AID has submitted a written statement on this particular issue and would be happy to answer any questions you might have.

Senator, that is the end of my oral summary. Again, we can go into any of the subjects I mentioned in more detail or take up some of the other aspects covered in the written testimony which I did not summarize.

At this time, if I may, I would like to ask Dr. Rosenblatt from the Department of Commerce to briefly summarize his written submittal. We will be ready to answer any questions after that.

Senator McGovern. Thank you. We will be glad to hear Dr. Rosenblatt now.

STATEMENT OF DR. SAMUEL M. ROSENBLATT, DIRECTOR, OFFICE OF BUSINESS RESEARCH AND ANALYSIS, BUREAU OF DOMESTIC COMMERCE, U.S. DEPARTMENT OF COMMERCE

Dr. Rosenblatt. My name is Samuel M. Rosenblatt, Director, Office of Business Research and Analysis, Bureau of Domestic Commerce, U.S. Department of Commerce. As part of this presentation this morning, I shall confine my remarks to the nonfertilizer uses of fertilizer materials.

Nonfertilizer uses of ammonia account for about 25–28 percent of total domestic ammonia consumption. About 11 percent of this goes into synthetic fibers and plastics. These are mainly chemical intermediates for the production of nylon in the fibers area and for urea formaldehyde and melamine resins in the plastics area. Small quantities of ammonia are used for other specialty plastics also. The use of ammonia for these nonfertilizer uses next year is likely to be constrained by the shortages of other complementary raw material inputs, mainly petrochemical feedstocks, that are needed to produce these products.

About 4 percent of ammonia production used to make urea is not used as a fertilizer but as an animal feed additive. Demand for urea for this purpose depends on the relative economic attractiveness of urea and the other sources of protein. The demand for urea as a protein source may increase by about 10 to 15 percent in fiscal 1975.

The fastest growth in demand for ammonia for nonfertilizer use will probably be for ammonium nitrate based explosives. This now accounts for about 4 percent of domestic ammonia consumption. An increase in strip-mined coal production would require increasing

amounts of ammonium nitrate. This type of explosive is made entirely from ammonia and is used as an explosive for removing the overburden from strip mining areas. The coal mining industry accounts for more than 50 percent of total use of ammonium nitrate for explosives. Other mining activities account for another 31 percent of the total. During fiscal 1975 we can expect a higher than normal increase from this nonfertilizer use.

Another use of ammonia includes military needs. Based on the total ammonia required for production of explosives and other military type hardware, we estimate that the total demand for military purposes does not exceed 1 percent of the total domestic ammonia production.

In addition, the treatment of metal parts for automobiles, such as steering columns, and other machinery requires the use of ammonia. Without sufficient ammonia for these purposes, industry would be severely hampered in its production. We estimate that the total requirements for fiscal 1975 for this use should not exceed 2–3 percent of the total ammonia consumption but we have no hard figures on which to base a firm estimate.

For fiscal year 1975 when all of these nonfertilizer uses are combined it appears that there will be an increased demand for nonfertilizer ammonia over that of last year of something in the range of 300,000–450,000 tons. Some of this may be met by increased imports however. Trends in imports and exports of ammonia, subsequent to decontrol, through calendar year 1974, indicate that there likely will be some relief from this source since we are now a net importer of ammonia.

About 80 percent of all phosphate is used for fertilizer. Detergents and animal feeds are the two major nonfertilizer uses of these fertilizer materials. Eight to 10 percent is used to make detergents and a slightly lesser amount is used for animal feeds. There are a variety of small consumers of phosphate such as toothpaste, matches, and many other miscellaneous uses.

It is our hope that throughout this period of shortage the traditional distributional pattern of these products, especially for nitrogen can be maintained. For this past fiscal year, we estimate that these nonfertilizer uses shared equally (on an overall basis) in the shortage. Our mainthought in fiscal year 1975 will be to aid in whatever way we can, as we did in 1974, in optimizing production of nitrogenous and phosphatic chemicals and allow the market forces to compete for the various fertilizer and nonfertilizer uses.

Thank you.

Senator McGovern. Thank you, Dr. Rosenblatt. Anyone else?

Mr. Fedor. Mr. Chairman, there is this statement on behalf of the United States Agency for International Development——

Senator McGovern. Fine. That will go in the record.

I want to refer to several points in your testimony and ask if you would elaborate.

You say that "inventories that were drawn upon in previous years do not exist this year."

Can you elaborate as to just what the situation is on inventories?

Are you talking about all fertilizer inventories?

Mr. FEDOR. Yes. And the numbers that we have in the testimony, as well as in the table, and there is a footnote on table 5 which indicates that our estimates of domestic production perhaps could be labeled domestic supplies because they have been adjusted to the best of our ability for changes in producer inventory levels.

If you would like to get in a little bit more detail into that, perhaps Mr. Ahalt from the Department of Agriculture or his colleague, who prepared that specific number, could elaborate?

STATEMENT OF J. DAWSON AHALT, STAFF ECONOMIST, AGRICULTURAL ECONOMICS, U.S. DEPARTMENT OF AGRICULTURE

Mr. AHALT. Well, Mr. Chairman, we do not have complete information on inventories of fertilizer. We have statistics on fertilizer available I believe at the manufacturing level but not at the retail or farm level.

What has happened in fiscal 1974 and particularly in the second half of calendar 1973, was that the industry supplied farmers heavily out of existing inventories. Now those have been drawn down, which is the point that we were making in the statement.

The industry has been essentially delivering directly out of production in recent months.

Senator MCGOVERN. You speak not only about the tight inventory situation but other factors which lead you to conclude that there could be considerable pressure to drive prices higher. Now can you elaborate on that a little bit?

In effect are you forecasting substantially higher prices on fertilizer?

Mr. FEDOR. Very much. It of course depends on what particular price scenario develops as far as the crop prices are concerned. If as far as this is concerned, the estimate which generates a demand—and for example let's talk about nitrogen—a demand equivalent to 11,150,000 tons, that will create, we estimate, a deficit equal to about 7.8 percent of the total demand in the 1975 crop year, which compares to what we estimate to be about a 4.6 deficit of nitrogen for last year. Last year, as I indicated, nitrogen prices doubled at the retail level. We are not projecting or even guessing that these prices will double again in 1975. But if the demand is as high as the high part of our scenario indicates, there will be some upward pressures on prices. We don't have the number right now which would indicate the specific percent increase. But of course if the demand is not as high, if it is closer to our lower range there, then we wouldn't expect considerable additional pressure for price increases in the crop year.

It very much again depends on the expectations the farmers have vis-a-vis crop prices and therefore their demand for fertilizer and the change in their application rates.

Senator MCGOVERN. Isn't one thing very clear that if the price of fertilizer has already doubled in the last few months and is probably headed higher, and the price of baling wire has increased two and one half times according to USDA reports, and the price of fuel is skyrocketing, well, it is quite clear from all of this that farm prices are either going to have to go up or the farmers are going to go broke. Isn't it correct?

Mr. FEDOR. Well of course, how much of a demand the farmers have for a particular input such as fertilizer depends very much on the relationship, as you well know, between their crop prices and their production costs. Clearly their production costs within the last several months have been increasing while their prices received have been declining. Again what will happen in 1975, given the current uncertainty of the size of this year's crop, makes it just simply impossible for us right now to put numbers on this. But if you are saying that there is going to be price pressure we would agree with you. If you are saying there is going to be pressure on the farmers, pressure on the difference between what he gets for his crop and what he has to pay for his production inputs, thereby leading to a decline in his net income, we would agree with that also. As a matter of fact the USDA has an official forecast of net income for farmers which is substantially lower than what it was last year.

Senator MCGOVERN. Well Mr. Fedor, you and your colleagues represent several different agencies of the Government. You are very much aware, as your testimony indicates, that the cost of these inputs—fertilizer, fuel, chemicals, baling wire, pesticides, all of these things—are very dramatically increasing. This means that the cost of very essential inputs, that is the cost to the farmer, goes up. Who in the Government is responsible for a decision that, given that situation of rising costs for our farmers, that it is a good idea to open up the gates to more imports of dairy products and beef, which has the effect of demoralizing the price that the American producer gets? Why is that a good idea at a time when these producers are faced with rising costs of operation to then subject them to these pressures to drive their prices down?

Mr. FEDOR. Okay. We will talk about each of those separately.

First of all in the dairy situation, those gates have not been opened recently. As a matter of fact those gates have been closed recently as far as increases in the normal quotas are concerned. Most of the increase in dairy imports under various actions taken by the administration as well as by the Tariff Commission occurred in 1973 when, as you know the situation as far as the farmer was concerned was considerably different.

Based on the latest estimate, net farm income in calendar year 1973 was approximately 80 percent higher than it had been the previous year. This was a combination of the dramatic increase in farm prices in 1973, which far outweighed the increase in input costs which they had to pay for during that period, and other factors.

The same thing was true in the beef situation. The import quotas were relaxed originally in June of 1972 at a time in which the situation, as far as the livestock producers as well as the cattle feeders were concerned was considerably different than it is now and considerably different from what the outlook is right now.

As far as the dairy situation is concerned, you may have noticed that Secretary Butz had recommended to the President earlier—actually it was at the end of June—that increase in nonfat dry milk import quotas which was recommended to the President by the Tariff Commission, not be followed through at this time because of the change in production costs as well as prices that you alluded to.

In the case of meat, we have not put quotas back on as far as imports from foreign countries are concerned primarily because there is ample evidence indicating that although the livestock feeder in particular has been going through a very difficult period, it is clearly not being caused by increased imports and I am referring to a difficult financial period. As a matter of fact beef imports for the first, I believe it is the first 6 months of this year were considerably lower than a similar period last year.

Consequently we felt that the competing objectives, which is one of the Administration trying to liberalize trade barriers rather than make them more restrictive, well we thought it was not necessary at this time to move towards a more restrictive system vis-a-vis beef imports.

Senator McGovern. I realize this is not directly on the topic of the fertilizer and fuel situation, but it does seem to me it is related. The rising cost of farm inputs does have a bearing on the overall economic condition of our farm producers, which is what we are concerned about.

But I really find it hard to follow the argument that you make that the present level of imports, particularly on meat, has no bearing on the price decline on fed cattle in this country.

Granted what you say that there may have been some decline in beef imports at the moment as over against a year ago, but the fact is our market is a lot softer today than it was a year ago. So even the somewhat reduced level of inputs would obviously have a much more damaging effect, would it not? It seems to me you can't really compare the import situation today with what it was a year ago because we are in a much more vulnerable position in terms of our industry.

Mr. Fedor. You are quite correct. I don't disagree with anything you do say. I would point out some other factors though. First of all, the meat import law of 1964 specifies via formula what the volume of meat or beef imports will be in any given year. Our current estimate of what the beef imports actually will be is very close to the level which would be determined under the formula in that particular law. So again in exchange for maintaining our position vis-a-vis liberalized trade with other countries, it seems that we would not be gaining very much by putting the quotas back into effect.

Senator McGovern. Have they not been awfully tough on us, through cutting off our exports, that is, the Common Market countries, Japan, Canada, other traditional sources for American exports? Haven't they been very tough in terms of permitting our products to move?

Senator Aiken. May I interrupt?

Senator McGovern. Yes, Senator Aiken.

Senator Aiken. I noticed steers were selling at about $44 or $45 per hundredweight yesterday in the markets in the West and hogs were $34 or $35. That compares with $30 for steers and $20 for hogs only 3 or 4 years ago. So there has been an increase there.

With respect to fertilizer, we are having more efficient use of it than we used to.

We don't apply as much fertilizer as we used to. The 10–20–20 formula—you have to know how to use it—more economical than

the 5–10–10. So farmers have had to be more efficient, maybe not because they wanted to be but because they had to be. Prices, of course, have gone up. Wheat was at $4.50 or something like that the last few years and is still going up. One reason it is going up, of course, is they don't want to take the income tax on 2 years' crop in 1 year because they get stuck then. It isn't because of higher prices and everybody ought to know that. It is just trying to avoid paying income tax on two high priced crops in 1 year.

Senator McGovern. I agree. And we don't want to get off too much on the import problem but I did want to bring that in briefly because I do think it does help to bring into focus the painful pressure that these rising costs of farm inputs and the foreign imports are having on farmers.

You referred to the startup of two new ammonia plants and the restart of idle plants. Where are they going to get the natural gas supply? Has that been assured to those plants?

Mr. Fedor. Well, I would have to react in the following way, Senator. Number one, I suspect that they have been able to get some assurance that natural gas will be available to them. Dr. Douglas is here from the TVA. He is more familiar with the specifics of those two plants.

Senator McGovern. Maybe you could comment?

Mr. Fedor. But before he does. I would also add Mr. Nassikas is going to be here from the Federal Power Commission.

STATEMENT OF DR. JOHN R. DOUGLAS, JR., OFFICE OF AGRICULTURAL AND CHEMICAL DEVELOPMENT, TENNESSEE VALLEY AUTHORITY, MUSCLE SHOALS, ALA., ALSO, CONSULTANT TO INTERGOVERNMENTAL AGENCY TASK FORCE ON FERTILIZER

Dr. Douglas. To answer your question sir, I understand that natural gas is assured for each of these plants and in each case it is intrastate gas. None or rather no plant has been able to get additional interstate gas.

Senator McGovern. What is the task force doing to acquaint the Federal Power Commission with the real need for expansion of ammonia production?

Mr. Fedor. Well we have been working with the Federal Power Commission. I do have here with me a list of specific proposals which we assisted industry in presenting to the Federal Power Commission. As of last year I would have to say in all candor that the Federal Power Commission was quite responsive to our requests. Whenever we came up with a specific case, they acted on it very quickly and rapidly. In all cases that we know, or that we were involved in presenting before the Federal Power Commission, the Commission ruled in favor of the ammonia producers.

We hope to continue to work with the Federal Power Commission.

Senator McGovern. So far as you know—and we can ask this question of the Federal Power Commission people tomorrow—have their actions to date related largely to seeing that more allocations were made to existing plants or are they in a frame of mind to place

this on a high enough priority so some new plants could be assured they are going to get adequate natural gas?

Mr. FEDOR. Again I think that is an appropriate question for Mr. Nassikas. It has been our experience—and that is all I can testify to—as to specific cases that we have had brought to our attention, which have been for expanding supplies for existing plants rather than for new plants.

Senator MCGOVERN. Well, did this task force support a recommendation to the Federal Power Commission that they ought to give this a very high priority in terms of available natural gas?

Mr. FEDOR. We not only do but we have.

Senator MCGOVERN. I want to yield to Senator Aiken.

Senator AIKEN. May I ask how much has the use of propane for drying crops increased in the last 3 or 4 years?

Mr. AHALT. The Department does not have complete data on the total amount of LP gas used for crop drying. Although, a number of crops are dried, from tobacco in the Southeast to small grains in the West, corn drying accounts for most of the LP gas used for crop drying. The shift in harvesting, handling, and storing technology has increased the proportion of corn dried by about 5 percent annually. However, weather conditions at harvest time in any particular year can have an enormous effect on LP gas use. For example, wet weather at harvest could increase LP gas use by 50 percent over that used in dry weather. We estimate LP gas use for drying corn in 1972 was about 650,000 gallons, while in 1973 use was about 570,000 gallons—down because of the dryer fall.

Senator AIKEN. Last year when there was shortage, I was advised of some 20 million barrels stored in northern New York State and a good share of it went West for drying crops, so they could be put on the market more quickly.

There is another reason for the increase. I notice now that most households like clothes dryers rather than clothes lines, and there is where a lot more of our energy is being used. On the other hand some of my neighbors are going back to pulling the curtains aside and letting the sun come in during the winter and doing away with the use of energy. Some of my neighbors have gone back to the old clothes lines because they say the clothes smell sweeter than when you take them out of the dryer.

Senator MCGOVERN. That is that Vermont air. It is not true everywhere in the country.

Senator AIKEN. Well, I am for it. I want to say there are times when I think it might pay us to go back—well, I won't say to go back because nobody wants to go back anyway.

Mr. FEDOR. Senator, my wife is here in the audience today. If you would care to try to convince her of that, I would be——

Senator AIKEN. Well, I don't recommend going back to the washboard yet, but in good weather the clothesline looks pretty good. I don't think I have any more questions.

Perhaps we can have more efficient use of things so that we aren't wasteful. You know, we didn't used to use fertilizer at all other than what we got out of the chicken yard with its nitrogen content. Then we got to using fertilizer that would run maybe 10 to 15

percent total percentage of nitrogen and phosphorus and potash. It used to be 25 cents a bushel for wood ashes to provide the potash. But I don't want our men going back, George.

Senator McGovern. Well I think it is too late, Senator, we have too many people to feed.

Senator Aiken. Right now I believe we are looking to Russia to supply some of this material which we so desperately need. As long as they are willing to pay the big banks of this country 13 to 14 percent interest plus, we will probably get the fertilizer from there, but we have been wasteful.

Senator McGovern. Senator Dole?

Senator Dole. Does this task force deal solely with fertilizer?

Mr. Fedor. That is one of the things that some of the members of this task force deal with.

Senator Dole. Well that happens a lot in the Senate.

It has been suggested by someone if we bag all the stuff that is said on the Senate floor, they would have a surplus.

I tried to read your statement quickly, and I just got to the price discussion, which is very disturbing of course to farmers and everyone else. I know we are going to have the Fertilizer Institute next and perhaps they can respond to that, but what do you foresee as far as price is concerned?

Mr. Fedor. The best preliminary data that we have to date is that since the 1st of July fertilizer prices at the manufacturing level have risen to an average of anywhere between 25 and 30 percent. The price behavior of fertilizer for the rest of the year very much depends on what the demand for fertilizer is going to be for next year, which of course depends on crop prices. If we are close to the range in which the demand increases, let us say for nitrogen, leaving a shortfall of the order of 7 percent, then I would expect there to be further price increases. The exact number we really don't have.

That, combined with the fact that the shortage of fertilizer is a world phenomena and world prices are still twice as high as they are in the United States at the retail level, that of course is another source of pressure on domestic prices to rise even higher than they are right now.

Senator Dole. Have exports increased?

Mr. Fedor. In the past year exports have not increased substantially. We continue to increase our exports of phosphate or phosphatic nutrients where we are one of the primary suppliers in the world. Actually our nitrogen exports have actually fallen somewhat, particularly in the last five—well in the first 5 months of calendar year 1974. The Cost of Living Council did have commitments for example, from the fertilizer industry with which the fertilizer industry complied, which reduced the amount of exports that they had planned on as of October 25. We don't look for any substantial changes in the export situation this coming year. We are very close on balance to being a net importer or a net exporter of nitrogen products. Our current estimate is that we will be a net exporter by an amount equaled to 2 percent of domestic production, whereas in phosphates we will be around 20 to 25 percent net exporter.

Senator DOLE. In addition to having the task force assemble information, are you working with the Fertilizer Institute?

Mr. FEDOR. Yes, sir. The fertilizer industry itself also has a coordinating committee. We have been working with various individuals at the Fertilizer Institute itself and Ed Wheeler in particular. In the past we have worked on a number of problems, such as natural gas supplies, application problems, monitoring. We continue to work with them. We are hoping to streamline the monitoring system and to be able to publish on a monthly basis kind of a compendium of all of the data that would be relevant or interesting to people who are following the fertilizer industry, and we need the cooperation of the industry to continue to do that.

We hope to continue the government's ability, with the help of the industry, to respond to problems as they develop in the foreseeable future.

Senator DOLE. Are you able to assess the performance of the industry as a whole or investigate whether or not there might be price gouging and things of this kind occurring where the brokers are in the picture making big profits at the expense of farmers? Do you have any say in the monitoring? Do you monitor that aspect of it too?

Mr. FEDOR. Yes, in response to Senate Resolution 289 the Cost of Living Council through the Internal Revenue Service, which is working with the stabilization program or rather was working with us prior to the 30th of April of 1974, had done a survey on the kinds of questions that you are raising. I sent a letter to Senator McGovern in June summarizing the results of that survey.

Senator MCGOVERN. We have that letter, and we will see that it is made a part of the record.

[The letter of June 5, 1974 from the Economic Stabilization Program Cost of Living Council follows:]

ECONOMIC STABILIZATION PROGRAM,
COST OF LIVING COUNCIL,
Washington, D.C., June 5, 1974.

Hon. GEORGE S. MCGOVERN,
U.S. Senate,
Washington, D.C.

DEAR SENATOR MCGOVERN: In keeping with Senate Resolution 289, the Cost of Living Council has continued to monitor producer/wholesale fertilizer prices, in addition to directing the Internal Revenue Service to investigate complaints of price gouging.

Based on the latest monitoring information, the following table shows changes in fertilizer prices at the producer/wholesale level since decontrol:

MEDIAN PRICE OF FERTILIZER AT PRODUCER/WHOLESALE LEVEL

	Oct. 24, 1973 (dollars per ton)	Jan. 2, 1974 (dollars per ton)	Apr. 25, 1974 (dollars per ton)	Percent change Oct. 24 to Apr. 25
Phosphate rock	7	15	15	114
Phosphoric acid	78	119	119	53
Diammonium phosphate	75	111	115	53
Triple superphosphate	55	89	89	62
Anhydrous ammonia	65	105	115	77
Urea	72	110	119	65
Ammonium nitrate	62	90	97	56

Median prices at the producer/wholesale level have increase for 4 of the 7 major fertilizer materials since early January. Most of these increases occurred during January and February before price commitments were made to the Council and include price adjustments to reestablish traditional pricing alignments in regional markets which were anticipated by the Council.

According to a survey by the Agricultural Stabilization and Conservation Service of the United States Department of Agriculture, the following table represents changes in prices paid by farmers for fertilizer (retail prices) since decontrol:

MEDIAN PRICES OF FERTILIZER MATERIALS AT THE RETAIL LEVEL

	Oct. 25, 1973 (dollars per ton)	Jan. 21, 1974 (dollars per ton)	May 10, 1974 (dollars per ton)	Percent change October 25 to May 10
Diammonium phosphate	119	168	187	57
Triple super phosphate	95	135	151	59
Anhydrous ammonia	103	176	216	110
Urea	98	166	208	112
Ammonium nitrate	82	127	147	79
Potassium chloride	68	86	92	35
Mixed fertilizer	87	122	133	53

The data indicate that fertilizer prices for nitrogenous fertilizers have risen significantly faster at retail than at wholesale. World supplies of these fertilizer materials are short and prices in the world markets have been more than double domestic price levels. Imports of these higher priced nitrogenous fertilizers have been a major factor affecting retail prices because their resale on the domestic market raises significantly the average prices paid by farmers.

As you are aware, these retail firms were not a party to the October decontrol commitments. In fact, most retail establishments not already exempt under the small business exemption were freed from controls on February 1, 1974.

The Council also directed the Internal Revenue Service to conduct a sample audit of fertilizer pricing behavior at the retail level. The report, covering a random selection of 29 firms, was completed in late April. The IRS investigation concluded that most of the audited retail firms had not changed their method of pricing nor had they been guilty of price gouging. Where higher prices were being charged, the investigation showed that sales of higher priced imported material were yielding higher average prices in most cases. The several individual investigations of retailers where price gouging had been alleged also indicate conformance with traditional pricing practices.

Any excessive prices apparently originated at the fertilizer broker level. Brokers obtain fertilizer from many sources including imports. To confirm price gouging by brokers would require an additional detailed audit of brokers' records and, again the small business exemption becomes important because most brokers have qualified for this exemption since its promulgation in May, 1972.

While the Council's monitoring activity has indicated general compliance with price commitments made by the major domestic fertilizer producers and wholesalers, indications from the industry are that prices will increase again on July 1 following the expiration of the voluntary price commitments.

The preliminary outlook for the 1974/75 fertilizer year indicates another tight supply situation, especially for the nitrogenous products. The interagency fertilizer task force is now studying possible actions to alleviate supply shortages in the future as well as reviewing fertilizer demand/supply projections to 1980. This study is concentrating on the impediments to expanded fertilizer production and is scheduled for completion before June 30.

Sincerely,

KENNETH J. FEDOR,
Administrator, Office of Food,
and Chairman, Interagency Task Force on Fertilizer.

Mr. FEDOR. The general findings were, as far as manufacturers were concerned, which is really the part of the industry along with

the retailers that we spent the most time with, there didn't appear to be any "price gouging." Much of the dramatic increases in the prices that were reported often times could be traced back to imported fertilizer. As I mentioned before, they are imported at a price almost two times the domestic price.

We didn't investigate brokers per se. The brokers had for all practical purposes always been exempt from the price controls since they were small, and therefore they could get in on the exemption for small firms under the pricing regulations, and also the Cost of Living Council on the 1st of February had decontrolled all nonfood retailers.

Senator DOLE. In our State, and I am certain in other States we have had retailers go out of business because the suppliers would no longer supply them. Agrico is one, I think, and there are others who would only supply certain amounts. The result was to leave a pocket of farmers in different areas in different States without any source of supply, and they would go to another supplier, who, of course, had more customers than they could handle. It left some people without any source at all. This is a matter of great concern to us. We expressed it to Ed Wheeler from time to time. He has been helpful where he could, but there are some cases where we haven't been able to resolve it. Was that covered in your study? What do you do about the farmer who has been buying from Agrico for 10 years and Agrico disappears?

Mr. FEDOR. I think I will let Dawson speak to that. He has spent a good deal of his time in the last 6 months talking to the very people you are referring to.

Senator DOLE. So have we.

Mr. FEDOR. Dawson, what do you do about that?

Mr. AHALT. Senator, we at the Department of Agriculture tried to contact as many suppliers and industry people as we could to try to help alleviate these problems. But there is no easy way to solve these distribution problems. We were simply in a situation of very strong demand and some firms were in the process of making changes in their marketing programs. I hope that that situation is behind us and that the marketing channels will be more established or at least not moving around in the coming year. We have also used our field people to try to help producers, but if the fertilizer isn't there, there is no way we can get it. We have simply tried to do everything that we can to provide information in any way that we can, but we have no legal authority to intervene.

Senator DOLE. That was my next question. You don't have any legal authority? Is all the authority you have persuasion and cooperation and consultation and commiseration?

Mr. FEDOR. More of the latter.

Senator DOLE. If I may, I would like to ask why propane prices are going up again?

Mr. FEDOR. Why propane prices are what?

Senator DOLE. Going up.

Mr. FEDOR. I don't have the answer to that. Dawson?

Mr. AHALT. No, I don't have the answer.

Mr. FEDOR. John Sawhill I believe is going to be here tomorrow and you might ask him that.

Senator DOLE. There is always somebody coming in. It is like going to the theater; the fellow behind has the ticket.

But it is a problem. That is all the questions I have.

Senator AIKEN. George, may I say one thing? I was just thinking that back in the mid-1920's, potatoes sold for 10 cents a bushel. Last spring they sold for $10 a bushel. In 1938 Congress enacted the minimum wage at 25 cents an hour. A year from now it will be up to $2.30 an hour with a broadened coverage. Everything is going up together apparently and that is our job to keep it as close together as we can. That is all I have to say.

Senator MCGOVERN. I think if we run out of fertilizer, not only in this country but around the world it is not going to be very long until we start running out of food. When that happens, then it does go through the roof.

Senator AIKEN. In 1955 I believe our agricultural exports were about $3 billion a year. This year—nobody seems to know for sure—they will be $20 billion to $30 billion; it depends on who makes the prognostication. So we are living in a different world.

Senator MCGOVERN. Mr. Fedor, do I understand that you are soon going to be leaving government service?

Mr. FEDOR. Yes, sir.

Senator MCGOVERN. Do you know who your replacement is going to be?

Mr. FEDOR. No, not yet.

Senator MCGOVERN. Are you reasonably sure this Interagency Task Force will continue should you leave the Federal service?

Mr. FEDOR. Yes, sir, I talked to Mr. Rush about this. And as you may have noticed, there was an announcement to that effect extending me in that role until sometime later in the summer at which time we hope to have or we will have someone replacing me. Who specifically it will be, I have no idea. I need to talk to Mr. Rush when he returns about that.

Senator MCGOVERN. I think it is very important that this Interagency Task Force be continued. It is the one place where we can reasonably sure that there is a group that is keeping the appropriate officials in the county aware of the critical importance of both fertilizer supply and fertilizer price. And I would hope, that if anything, the monitoring and producing effort of this interagency group could be stepped up, not only with reference to fertilizer, but farm chemicals and fuels and the other things that we are talking about here today because they are also closely related as you know.

There was one item I don't think you commented on in your statement, Mr. Fedor, and that is any information on the supply of feed phosphates—both the current and future situation. You will recall we talked about that in the earlier hearings, and I am wondering if you or any member of the panel could bring us up to date on that?

Mr. FEDOR. Dawson?

Mr. AHALT. One thing that has augmented the supply situation for feed phosphates has been the increased slaughter of livestock this spring. Bone meal is a source of phosphorus for animal feed, and thus has helped add to the supply of phosphates for feeding in 1974.

Senator McGovern. Do you expect any increase in available fishmeal supplies in that same context?

Mr. Ahalt. Well fish meal supplies will probably be slightly larger in the coming year than they were in the past year. They will however, in all likelihood, not get back to the levels that we had in earlier years. This is one of the things that has added to the tightening up in the supply.

Additionally there has been the phosphate production, which has been running at capacity, and we expect some new facilities to come onstream next year which should alleviate some of the tight situation that we had in early 1974.

Senator McGovern. I asked some time ago the Department of Agriculture to give the committee a comprehensive report on both the current and future fuels and energy requirements of agriculture and agriculture related industries. Do you know what the status of that is?

Mr. Ahalt. Yes, that is well along in progress. I will get a report—here is Mr. Bell.

Mr. Bell (U.S. Department of Agriculture). About the middle of next month, Senator.

Senator McGovern. August 15 or somewhere there about?

Mr. Bell. Yes, sir.

Senator McGovern. There was another communication. I am not sure the Task Force here is aware of it, but on the 11th of June, Senator Talmadge wrote to the Secretary of Defense, Mr. Schlesinger. I won't read the whole letter, although I would like it to be made a part of the record. The gist of it is an inquiry from the chairman of this committee, Senator Talmadge, asking whether or not the Department of Defense has production capacity for nitrogen fertilizer that might be made available, that is, if our own defense requirements for the production of explosives is going down, with the termination of the war in Indochina, the Senator has asked whether that frees up any excess capacity or any excess inventories of chemicals that might be made available for fertilizer production.

As I say, that can go into the record.

[The letter from Senator Talmadge dated June 11, 1974, to James R. Schlesinger follows:]

June 11, 1974.

Hon. James R. Schlesinger,
Secretary,
Department of Defense,
The Pentagon.

Dear Mr. Secretary: Enclosed is a report published by our Senate Committee on Agriculture and Forestry regarding the United States and World Fertilizer Outlook which should be reviewed by your staff.

Supplies of fertilizers, particularly nitrogen materials, have been critically short this year. A significant factor contributing to this condition was the unusually low level of inventories available at the beginning of the year. Also, U.S. fertilizer manufacturing plants are now operating at full capacity. But, current total capacity is not sufficient to meet demands during the next year or two, especially as it relates to the production of nitrogen fertilizer products.

In view of this limited capacity problem, plus the fact that we will start the next fertilizer year (July 1, 1974) with record low inventories, I would like to ask that you conduct an immediate survey of DOD production contracts and essential requirements for anhydrous ammonia, ammonium nitrate,

sulfuric acid and other fertilizer-type materials during fiscal year 1975. Information also is requested on DOD's current inventory of each of these products. What I am leading up to is the possibility of DOD making nonessential production capacity of these products available for nitrogen fertilizer manufacturing purposes. The same would apply to any inventories of nitrogen material, or products that could be converted into nitrogen fertilizers during the next 24 months.

You can readily appreciate the significance of the above request in view of the present fertilizer shortage, and with the fact that over one-third of each year's crop production in the United States is directly due to fertilizer application.

United States and world food reserves are currently at the lowest level they have been in 25 years. All available cultivatable cropland in the United States is in production this year. The same is likely to be true next year. And to the extent that the future demand for food continues upward, any future increases in food production will have to come in the form of yield per acre increases, which will depend largely upon the availability of fertilizer.

Your cooperation in assessing what, if anything, DOD might do to assist in helping alleviate these expected shortages over the next couple of years, will be appreciated very much.

With every good wish, I am

Sincerely,

HERMAN E. TALMADGE,
Chairman.

Senator MCGOVERN. Do you have any information on that? We have had an interim reply from Secretary Schlesinger, but nothing that give us any specific answer to the query.

Mr. ROSENBLATT. I don't have anything specific on that, sir, other than as I said in my statement, the military requirements of ammonia are slight overall so that whatever marginal amounts are available would not make much of an impact on the situation. Of course any amounts would be welcome.

Mr. FEDOR. Mr. Donnelly of the Secretary's office was to be here. He wasn't here prior to our getting started. Is Mr. Donnelly here?

Senator MCGOVERN. Does the Department of Defense still have under contract nitrogen production capacity? Do they tie up some of the productive facilities that could otherwise be used for fertilizer production? Is that a substantial factor to your knowledge?

Mr. AHALT. I don't know.

Mr. ROSENBLATT. A member of my staff seems to have some answer.

Senator MCGOVERN. Could you identify yourself?

STATEMENT OF THOMAS GILLETT, OFFICE OF BUSINESS RESEARCH AND ANALYSIS, BUREAU OF DOMESTIC COMMERCE, U.S. DEPARTMENT OF COMMERCE

Mr. GILLETT. My name is Thomas Gillett and I am from the Department of Commerce. The Defense Department doesn't produce any, but they have a priority system in which they may place a priority order on the producers and the Department of Commerce enforces those priorities.

Senator MCGOVERN. The point I am getting at, does that mean that that capacity is taken out of production as far as fertilizer is concerned if it is not called upon by the Department of Defense?

Mr. GILLETT. No.

Senator McGOVERN. In other words they don't have idle plant capacity purely to meet some possible requirements from Defense?

Mr. GILLETT. No, they do not.

Senator McGOVERN. So the probability then is that not much can be expected in the way of diversion of possible fertilizer production?

Mr. GILLETT. In the first place it is quite a small part of the total. It is less than 1 percent.

Senator McGOVERN. Less than 1 percent?

Mr. GILLETT. And what could be freed up from that I don't think would be very much.

Senator McGOVERN. Just one other insertion in the record. I wrote to Senator McGee on May 9, the chairman of the Subcommittee on Agriculture, Environmental and Consumer Protection of the Senate Committee on Appropriations. I asked if it would be possible to increase the appropriations to the Department of Agriculture on the biological nitrogen fixation program to see whether through research and development in that field, whether more could be done to develop crops that produce their own nitrogen supply. I was very pleased that Senator McGee supported that and that the entire Senate did. As a matter of fact, this week we have added $1.5 million to the agricultural appropriations budget for that purpose, which is about a fivefold increase from what the Department has now. I am hoping that will make a contribution that will pay for itself many times over.

That can be placed in the record also.

[The letter to Senator McGee, dated May 9, 1974, from Senator McGovern follows:]

U.S. SENATE,
COMMITTEE OF AGRICULTURE AND FORESTRY,
Washington, D.C., May 9, 1974.

HON. GALE W. MCGEE,
Chairman, Subcommittee on Agriculture, Environmental, and Consumer Protection, Senate Committee on Appropriations, Washington, D.C.

DEAR MR. CHAIRMAN: The following is in reference to providing additional appropriations to the Agricultural Research Service of the U.S. Department of Agriculture to expand their research efforts concerning biological nitrogen fixation.

In our work this year concerning the supply and availability of essential fertilizer supplies, it became very apparent that the production of nitrogenous fertilizers in future years will continue to be subject to the type of constraining forces that have been limiting their production this past year, such as limited supplies of natural gas which serves as an essential feedstock in the production of anhydrous ammonia.

Nitrogen fertilized supplies this year may run as much as 15 percent short of demand here in the U.S. Even greater shortages of nitrogen are expected in some parts of the world. While the U.S. was a net exporter of nitrogen this past year, the net amount was small. However, in future years it is expected that the U.S. will become increasingly dependent on foreign supplies of nitrogen, mainly because, as I alluded to earlier, the dependence upon natural gas as a feedstock.

Any major expansion in the production of wheat, feedgrains, rice, and cotton in future years will largely have to come in the form of increased yields per acre, which, in turn, will be dependent upon the availability of fertilizer, particularly nitrogen. There is very little additional fieldcrop acreage available today to accommodate any further expansion in the production of these crops in the future.

It is for these reasons that we wish to urge the Appropriations Committee to provide at least a $3.7 million appropriation to the Agricultural Research

Service for expanding their research program concerning biological nitrogen fixation.

As you will note from the attached letter received by Senator McGovern, ARS is now expending only $350,000 per year for this type of research which provides for only 4 scientific man years (SMY's) of effort. Also the present program of research within ARS concerning this subject does *not* include the following additional needs which are cited in the attached letter. They are: (1) increased efficiency of nitrogen fixation by non-legumes, and (c) development of methods for more efficient use of nitrogen by plants and animals. A $3.7 million program would permit present efforts to continue plus provide for the following additional SMY's of effort to be devoted to the areas of research we have just cited above. Respectively, (a) 15 SMY's; (b) 10 SMY's; and (c) 10 SMY's.

In view of the importance of nitrogen in the production of food and fiber in the world, plus the need now and in the future to conserve the use of essential fuels such as natural gas, we wish to urge that the Committee give the highest priority to providing ARS with at least $3.7 million for fiscal year 1975 for expanding its biological nitrogen fixation research program.

Sincerely,

GEORGE S. MCGOVERN,
Chairman,
Agricultural Credit and Rural Electrification Subcommittee.

U.S. DEPARTMENT OF AGRICULTURE,
AGRICULTURAL RESEARCH SERVICE,
Washington, D.C., April 9, 1974.

Hon. GEORGE S. MCGOVERN,
U.S. Senate.

DEAR SENATOR MCGOVERN: We are pleased to respond to your recent inquiry concerning the biological nitrogen fixation research in the Department.

Nitrogen is an essential constituent of protein and is, therefore, the key to greater production of both vegetable and animal protein. In order to meet the expanding dietary requirements of the population we must increase protein production. This is placing an increased demand on fertilizer nitrogen use. Until recently, nitrogen fertilizer was abundant and relatively inexpensive. This resulted from the fact that it is possible to convert atmospheric nitrogen into a form usable by plants. This process requires the use of natural gas. Approximately two percent of the natural gas produced in the United States is used to manufacture fertilizer nitrogen. The recent shortage of natural gas, combined with the need for increased food production, has resulted in a shortage of nitrogen fertilizer and an increase in price of almost double that of a year ago. Recent estimates indicate that we will probably be about 1.5 million nutrient tons short of demands during the present year. This is not likely to improve appreciably in the near future. Biological fixation of nitrogen could help meet the needs for crop and livestock production as well as conserve a premium source of energy.

At one time, the Department had a sizable research effort on biological nitrogen fixation. But with the availability of adequate supplies of inexpensive nitrogen, our research efforts on this were redirected to more pressing needs. This Service currently has 4 SMY's engaged directly in research on biological fixation by legumes. We also have an additional 4 SMY's engaged in related research such as increasing yield of soybeans, beans, alfalfa, and other nitrogen fixing crops and conserving and utilizing fertilizer and soil nitrogen more efficiently. The FY74 support for the total program is approximately $350,000. An additional $350,000 has been requested in the FY75 budget. There clearly is a need now to increase our research effort on biological nitrogen fixation and improved nitrogen-use efficiency. Three broad areas need to be considered: (a) increased efficiency of nitrogen fixation by legumes, (b) induction of nitrogen fixation by non-legumes, and (c) development of methods for more efficient use of nitrogen by plants and animals.

The greatest potential for success in biological nitrogen fixation lies in increasing the efficiency of nitrogen fixation by legumes. The *Rhizobium* bacteria that lives in legume roots is responsible for nitrogen fixation. In the case of soybeans, they now fix an average of 100 pounds of nitrogen

per acre annually. Alfalfa can fix an average of 150 pounds of nitrogen. The potential is probably 4– to 6–fold higher. Nitrogen fixation is related to soil moisture, pH and other growth factors such as supply and balance of essential nutrient elements. A healthy, fast growing plant can fix five times as much nitrogen as a slow growing plant. Expressed in terms of current N fertilizer costs, a four-fold increase in the United States would be worth $1.4 billion per year for soybean acreages, and $1.2 billion per year for alfalfa acreages. Expressed in terms of crop yields, these values would be several times greater. Similar potentials exist for beans, peas, and other edible legumes and for use of legumes in grass and rangelands, crop rotations with feedgrains, and winter cover crops. The potential also is increased when one considers the large number of legumes that are not now cultivated. There are about 13,000 species of legumes, but only 2 percent of these are cultivated.

We can also improve the efficiency of nitrogen fixation by other organisms. For example, the algae that grow in rice paddies now fix approximately 40 pounds of nitrogen per acre annually. The potential for increase here is probably two-fold. This would result in a saving of approximately $8 million annually on our present acreage. Additional effort could be prudently directed towards nitrogen fixation of organisms other than *Rhizobium*.

The biggest breakthrough, but at the same time, the biggest gamble, lies in research leading toward the development of a mechanism for nitrogen fixation in non-legumes. This approach would require a combination of tissue culture, somatic hybridization, transduction, biochemical genetics and basic plant physiology. Recent work demonstrated that the nitrogen fixation ability of a certain bacterium could be transferred to one that does not normally fix nitrogen. This breakthrough provided new encouragement that it might be possible to impart a nitrogen fixing ability to certain plants that do not now have that ability. If, for example, we could develop a method whereby corn or wheat could furnish only 10% of their nitrogen requirements through biological fixation, this would result in a savings of 800,000 tons of nitrogen on wheat and about 2.3 million tons on corn in the United States. Thus, on these two crops alone, we would be able to cut down nitrogen use by over 3 million tons annually.

We must develop management practices to enhance biological fixation and utilize fertilizer nitrogen more efficiently. At present, crops use an average of about 50% of the fertilizer nitrogen applied. Some of that which is not used is converted into gaseous nitrogen by soil organisms and it returns to the atmosphere. Part of the unused portion is leached below the root zone into the groundwater, part is lost in surface runoff and is washed into streams and lakes where it contributes to a deterioration in water quality. Part of the nitrogen is incorporated into soil organic matter where it is only slowly available for plant use.

More precise methods are needed to predict the amount of nitrogen that will be released from soils to plants during the growing season. This amount will not have to be added as N fertilizer. We also need a better understanding of the mechanism involved in the conversion and loss of nitrogen fertilizer as gaseous nitrogen so that this can be controlled. The ability of plants to convert inorganic nitrogen into edible protein depends upon an adequate supply of nitrogen, but the plants must have adequate moisture and an adequate supply of the other essential elements, all in the proper balance. If the amount and balance of these elements are not proper, plant growth and yield can be curtailed or plant quality is reduced. A prime example of this is the situation with certain forages receiving high levels of nitrogen fertilization. Under certain climatic conditions this can upset the balance between potassium, calcium and magnesium. The result is a reduction in the forage quality that causes grass tetany in cattle consuming the forage. Increased research effort is needed on the nutrient requirements of crops leading to improved yield and quality with maximum efficiency of fertilizer nitrogen.

We appreciate your interest in this phase of our research program and hope that the information provided satisfies your need. The estimates provided are for information. They have not had the approval of the Department or the Office of Management and Budget and should not be considered a request for funds.

Sincerely,

T. W. Edminster,
Administrator.

Senator McGovern. Well, gentlemen, unless you have some additional points to make then we do have a number of other witnesses to be heard from this morning.

Dr. Birnbaum, can you just say something very briefly on the AID front as to what our obligations are with reference to the situation abroad?

STATEMENT OF DR. PHILIP BIRNBAUM, ASSISTANT ADMINISTRATOR FOR PROGRAM AND POLICY COORDINATION, AGENCY FOR INTERNATIONAL DEVELOPMENT, U.S. DEPARTMENT OF STATE

Dr. Birnbaum. In fiscal year 1975 AID is proposing to finance 700,000 product tons of which 470,000 product tons are expected to come from U.S. sources. That would amount to something like 1 percent of U.S. domestic availabilities, and approximately 6 percent of what our commercial total exports are. We have been mindful of the problem and have tried to come to a level which we feel meets up LDC, less developed country high priority needs as well as takes full consideration of the domestic situation.

Senator McGovern. Could you tell us where the principal recipients are? What countries are you talking about that will be on the receiving end of any fertilizer made available through the AID program?

Dr. Birnbaum. South Vietnam, Pakistan, Bangladesh, Afghanistan, Cambodia, the Sahelian Region of Africa, certain Latin American countries, and also India are on our planning figures.

Senator McGovern. Are other countries doing more? I mean are we using what influence we have to get other fertilizer producing countries to make available supplies to these deficit areas?

Dr. Birnbaum. There has been a concerted effort to get other countries to do more. The FAO has had a series of meetings to make sure the minimum amounts are available to the LCD's. They are faced with severe shortages and a balance-of-payments problem as the result of prices going up two and three times over the 1973 levels.

Senator McGovern. Thank you.

Dr. Birnbaum. So an effort is being made to get a concerted effort.

Senator McGovern. Any encouraging results from those efforts?

Dr. Birnbaum. You may want to comment, Mr. Ahalt.

Mr. Ahalt. Yes, there have been, Senator. At the Fertilizer Commission meeting in Rome in early July, Norway and New Zealand, two small countries, pledged substantial amounts relative to the size of their economies. The Western European industry itself pledged something in the neighborhood of 50,000 tons of material that they would divert to the less developed countries.

Senator McGovern. Well thank you very much, gentlemen. We may have some additional questions that we will want to submit in writing, but we do have other witnesses we want to hear from this morning. We do appreciate your appearance here today. I think this interagency group is very important. I appreciate your testimony.

[The prepared statements of Messrs. Fedor and Birnbaum follow:]

STATEMENT OF KENNETH J. FEDOR, SENIOR STAFF ECONOMIST, COUNCIL OF ECONOMIC ADVISERS, ON BEHALF OF THE INTERAGENCY TASK FORCE ON FERTILIZER

Mr. Chairman, this statement on the fertilizer situation is presented jointly by the Department of Agriculture, Department of Commerce, and the Council of Economic Advisers. Representatives from other agencies who participate with the Task Force as the need arises, are also here to answer questions if necessary. We would like to begin by updating the current fertilizer situation and provide a brief summary of the Interagency Committee's expectation for next year, concentrating primarily on nitrogen and phosphate. The written testimony also includes sections inserted in response to specific requests by the Agriculture Committee's staff on pesticides, the activities of the Agency for International Development in the fertilizer area, and nonfertilizer use of nitrogen and phosphate, and the Task Force's continuing work on the long-term problems associated with expanding U.S. fertilizer production and capacity.

I. REVIEW OF 1973/74

The fertilizer situation evolved pretty much as expected in the year ending June 30, 1974. Preliminary estimates indicate supply of nitrogen to U.S. farmers was up about 8 percent, resulting in an estimated shortage of 5 percent of the quantity demanded. The supply of phosphate remained at the previous year's level, resulting in a shortfall of about 12 percent of the quantity demanded. The supply of potash was up 15 percent, sufficient to satisfy the expected increase in the quantity demanded. Some of the shortage in other nutrients, however, showed up in additional demand for potash last spring, thereby tightening the situation and creating some spot shortages of potash.

The results of this imbalance in supply and demand were reflected in two ways: 1) a dramatic increase in fertilizer prices, as shown in Table 1–3; and 2) more intense shortages of fertilizer in certain parts of the country.

Data reported by Fertilizer Control Officers from 12 Southern States, Missouri and Ohio, for example, indicate that sales of fertilizer nutrients in the July, 1973 through April, 1974 period were 26 percent above the level for the same period a year earlier. Nitrogen sales were up 32 percent, phosphate down 12.5 percent, and potash up 22 percent. We expect data will show these levels declined through the remainder of the year since the inventories that were drawn upon in previous years do not exist this year. However, these levels could suggest that these states are receiving more fertilizer at the expense of other states for which we do not have data.

II. AN EARLY APPRAISAL OF THE OUTLOOK FOR 1974/75

The fertilizer situation is expected to continue tight in 1975. We expect the quantity of fertilizer nutrients supplied to U.S. farmers to increase 8 percent. The quantity of fertilizer demanded could range from a decline of 4 percent to an increase of 9 percent, depending upon crop prices. Since the size of the 1974 crop is still uncertain, estimates of crop prices and the resulting demand for fertilizer during the next crop year are quite tenuous at this time, leading to the use of a range of demand estimates in this paper. If crop prices remain high, increases in demand will exceed the increase in supply, perpetuating the current situation. If the low level of demand occurs, a slight surplus would be achieved. However, this surplus would be quickly absorbed within the industry in an effort to rebuild inventories to more acceptable levels. In neither situation will there be relief from high prices; there could be considerable pressure to drive prices higher.

The primary uncertainty on the demand side relates to fertilizer application rates. If crop prices remain strong, planned application rates could increase. But if crop prices decline significantly, which seems unlikely at this time, application rates may stabilize or fall slightly. Small changes in the acreage of various crops could also affect demand slightly. Although total crop acreage

is not expected to change much from 1974, corn acreage is expected to increase slightly and wheat acreage to decline.

A. Nitrogen

1. *Supply.*—The USDA estimates the *production* of ammonia, the basis for nearly all nitrogenous fertilizers, will increase 6 percent over this past year. This increase will arise primarily from the startup of two new ammonia plants, the restart of idle plants, plus some upgrading of existing plants. This past year, plants have operated at unusually high rates. The mild winter reduced the need for natural gas curtailments, and when they were encountered, the Federal Power Commission acted swiftly to assist ammonia producers. In some instances where plants have relied on gas regulated by state authorities, resolution of curtailment difficulties has been slow and ammonia production affected. Except for reducing these natural gas supply problems and the forementioned additions, it is doubtful that ammonia producers can squeeze more from their existing plants.

Nitrogen *exports* will probably not change much from this past year. Exports have declined the past few months, largely because of the commitment by major manufacturers to divert substantial tonnage from export markets to the domestic market (Table 6). Continuing high world prices could result in exports returning to their previous levels next year. Imports increased somewhat this year, and will probably stabilize at the current level. On balance, the United States will probably continue to be a net exported in 1974/75, but by a very slim margin—about 2 percent of domestic production (Table 7).

Inventories going into this fertilizer year are at rock bottom. Not only have we lost a potential supply to draw upon; meager inventories greatly complicate the logistics of distributing fertilizer to the right place at the right time.

Taking all these factors into account—inventories, world trade, and production, *the quantity of nitrogen supplied to American fertilizer users for 1975 crops is expected to be up 7 percent, to 10.3 million tons.*

2. *Demand.*—The demand for nitrogen is expected to range from 9.3 million tons, with the low crop price scenario, to 10.4 million tons if crop prices hold around current levels. This range arises from nitrogen application rates of 110–120 pounds per acre on corn, 30–36 pounds per acre on wheat, and 54–60 pounds per acre on cotton, in combination with small shifts in individual crop acreages. The low estimate is equal to the estimated demand of 9.3 million tons for this past year, while the high estimate is an 11 percent increase.

Making allowances for handling and distribution losses, we estimate that 10.1 to 11.2 million tons of nitrogen will be required to fertilize the 1975 crops. With a projected supply of 10.3 million tons, *we could have anywhere from a 7.8 percent shortage to a 2.4 percent surplus of nitrogen.* A deficit of that magnitude would drive prices higher and/or reduce the small net export balance currently projected. Should a small surplus develop, the extra nitrogen would virtually disappear in the corners of empty storage bins.

B. Phosphatic Fertilizers

1. *Supply.*—Domestic production in 1974/75 is expected to be almost 12 percent higher than last year. U.S. phosphate manufacturers began increasing their capacity two years ago, and six new plants are scheduled to come onstream this fertilizer year. If operations run on schedule, production of phosphate should increase 12 percent this year. Unfortunately, much of the increased production will not be available until next spring—too late to be useful for the early part of the 1975 crop year. More plants will be coming onstream later in 1975, but will be too late to benefit the 1975 crops.

Exports of phosphate are expected to continue to increase since the United States is a primary free world supplier. About 22 percent of domestic production will be exported. Imports may increase slightly, but will account for less than 4 percent of domestic production. On balance, the United States is expected to have a net export balance equal to less than one-fifth of domestic production, a slight decline from last year (Table 7).

With little opportunity to draw upon inventories, *the net supply of phosphate to American farmers could increase about 13 percent to 6 million tons.*

2. *Demand.*—The demand for phosphate fertilizers is expected to range from 4.9 million tons with the low crop price scenario to 5.8 million tons with the high crop price scenario. This range represents a 10.5 percent decrease to a 5 percent increase from the estimated 5.5 million tons for 1974.

To supply the estimated demand, total requirements will be from 5.4 to 6.2 million tons. Thus, *the phosphate situation could range from a 13 percent surplus to a 4 percent deficit,* a marked improvement over last year, with much of the shortage problem concentrated in the early part of the crop year.

C. Potash

Turning briefly to potash, it appears that the situation will be somewhat tighter than it was last year. Potash distribution seems to perenially cause more problems than availability. The problem may again consist of obtaining enough railroad cars to distribute the potash, particularly U.S. imports from Canada, where more than one-half of our potash originates. Our transportation specialists tell us that the number of covered hopper cars used to transport potash has increased 10 percent since last year and is increasing monthly. They don't anticipate a repeat of the transportation difficulties encountered this past year. Canadian inventories are low, however, and the avoidance of a scarcity of potash also depends somewhat on their ability to operate mines at higher operating rates.

D. Prices

Fertilizer prices have increased beyond all expectations, and are still rising. Based on spot checks in 50 states by the Department of Agriculture, July retail prices for nitrogen fertilizers have increased from 99 to 121 percent over the October 25, 1973 level when prices were decontrolled. Phosphate prices have increased around 70 percent, and potash about 45 percent in this same time period (Table 3). These price increases probably do not fully reflect the latest round of price increases by manufacturers earlier this month, when their prices jumped 55–130 percent over the October 25 level on nitrogen products and 65–120 percent on phosphate products. The jump in manufacturers' prices this month accounted for over 30 percent of the increase (Table 1).

One of the objectives of exempting the fertilizer industry from price ceilings last October was to reduce the incentive to export by allowing domestic prices to rise toward the higher world market price levels. In spite of the price increases we have experienced, the margin had not been reduced as of July 1, 1974 (Table 2). Export prices for the major trade products have increased from 300 to 500 percent since 1972 when the world fertilizer situation began tightening. Most of this increase has occurred in the past 12 months. Prices on export contracts in May were more than 200 percent over those in July 1973. Export prices are approximately double domestic retail prices.

High world prices point out that fertilizer shortages are a world phenomenon. LDC's will still be short of fertilizer nutrients in 1975. If they have or obtain the currency to be active in world trade, prices could increase further, although not as rapidly as they have this past year.

E. Impediments to Expanding Fertilizer Production in the Intermediate Future

The Interagency Task Force on Fertilizer is preparing a study describing the major impediments to expanding U.S. fertilizer production in the intermediate future and identifying specific programs which can be adopted and implemented by both the government and the fertilizer industry to reduce these impediments. Although the study has not been completed, some of the primary problems have been identified and are described briefly in Appendix A of this testimony.

This study like many of the others which have been completed during recent and past periods of short fertilizer supplies has generally centered around shortages of energy, shortages of phosphate rock, coming shortages of sulfur and shortages of potash in the United States in the longer run. In addition, it has looked at the shortages of transportation equipment. But this is not new—these long-term shortages are generally the same shortages which hinder production today. These problems have absorbed much of the time and effort

of the Fertilizer Task Force in the last nine months and will continue to demand attention in the foreseeable future. The purpose of the study is to provide the background for crystalizing these efforts and to provide part of the impetus to continued government and industry awareness and work on these problems.

F. Pesticides

The quantity of pesticides used in agriculture has been increasing about 10 percent per year since 1970. Pesticides increase crop production by controlling pernicious organisms that either destroy the vitality of the plant or its product. Further, pesticides substitute for more expensive labor, machinery, and fuel. When we are trying to maximize food production in the face of shortages of these inputs, pesticides play an increasingly important role.

During the spring planting season this year, shortages of cotton, soybean, and wheat herbicides were frequently reported, as were unusually high prices for a few products. In monitoring surveys conducted by the Department of Agriculture, 11 states either reported a tight situation or difficulty in obtaining some pesticide products in April; 24 states reported problem in May; and 44 states in June. Extended wet weather in much of the Midwest aggravated the situation as growers had to re-treat some fields with pesticides. However, no more than 2 percent of our agricultural counties are currently reporting acute shortages of pesticides, where neither the desired product nor satisfactory substitutes are available. Some suppliers reported that more serious shortages were avoided this year by drawing from inventories remaining from the previous season.

The growing season is now underway and the major period of insecticide use is just beginning. Cotton growers anticipate that insecticides for cotton boll-weevil and bollworm control will be tight this summer, with prices of some materials up as much as 25 to 50 percent over last year.

Except for a few products, which are in very short supply, we do not expect prices to be up more than about 15 percent over last year.

The current tight pesticide situation results from the greatly increased demand with only moderately increased supplies of pesticides. The increased acreage of corn, cotton, and wheat in the United States pushed the quantity of pesticides demanded to about 10 percent over the 1973 level. In addition, farmers with high crop price expectations are anxious to use chemicals to assure good crop yields.

The supply of pesticides is constrained for several reasons. Earlier price controls may have put pesticide manufacturers in a relatively poor competitive position with some other industries with the result that some petrochemicals were diverted for the manufacture of products other than pesticides, such as plastics and synthetic fibers and rubber. Price controls aso held domestic prices down relative to export prices, increasing the proportion of pesticides that went into the export market. Some chemical feedstock manufacturers experienced process problems which reduced their output. Also, the energy situation tightened the availability of petrochemical feedstocks used for pesticides. Since plant expansion to serve the growing demand for pesticides takes considerable time and investment, companies will not undertake such ventures without the assurance of adequate petrochemical feedstocks.

We anticipate that the supply situation during 1975 may deteriorate somewhat from that in 1974. Even though price controls have been removed and the Middle East oil situation has improved, there will be no material remaining in stock from the 1974 season to bolster 1975 availabilities. Plant construction has been delayed because of uncertainty surrounding regulations, price controls, and feedstock and intermediate chemical product availability. Producers are still reluctant to expand because of these uncertainties. In addition, world demand continues to increase at a rapid rate, particularly in developing nations where relatively small amounts of these materials have been used in the past. Prices will most likely increase further in 1975. The amount of the increase will depend on wage rates, costs of intermediate products and the strength of 1975 demand.

APPENDIX A

The energy shortage of the nation is highly restrictive on increased production of nitrogen fertilizers. Production of ammonia for fertilizer requires only about 2 percent of total U.S. natural gas supplies. Ammonia production could be increased by 50 percent by reallocating only 1 percent of our natural gas. It is merely a matter of priorities.

Last winter the interagency coordinating group was successful, with the cooperation of the various departments and Federal agencies, in assisting the fertilizer industry in keeping their plants running by making, or in some cases encouraging, reallocation of gas to ammonia producers. This was a short-term effort. Priorities on use of gas in existing plants have been more clearly defined and made known.

In the longer run, however, no system has been set up, to the best of our knowledge, to give priorities to a potential new plant for operation on the interstate pipeline system. New producers can find intrastate gas for new plants. This system, however, results in the cost of anhydrous ammonia being high—since intrastate gas sells for more than interstate. It also results in plants being built in location far from the end-use area—thus increasing ultimate distribution costs.

Shortages of electrical energy in the phosphate mining area have contributed to increasingly severe shortages of this raw material for phosphatic fertilizers. Unless this shortage of electrical energy is overcome we will not be able to supply the new phosphoric acid plants in the United States without drastic reductions in rock exports. New plants are of no value to anyone without the needed raw materials. This is a short-term problem which may well become more and more acute as new draglines and new phosphoric acid plants are built.

The United States is using all the sulfur produced domestically and importing large amounts from Canada. Within a year the United States will need over 1½ million tons of additional sulfur on an annual baisis. To get the added sulfur the United States must either import more, or use more energy in the form of natural gas or fuel oil to assist in extracting more sulfur from our frasch mines. For a short time span inventories may be drawn down for the added sulfur. These inventories will be very short lived, however, with the sudden new splurge in production.

The shortage of transportation equipment which has plagued the distribution of fertilizer in the last year will continue to be problematic until new equipment is available and better utilization methods are devised. Long range programs to build more railroad cars are in process. Until these are available, the problem of shortage of cars can be expected to worsen.

Another shortage of which we have heretofore heard little—but shortly will hear much more—is that of our national capacity to build more new fertilizer plants. Within the past five years anhydrous ammonia plants could be and were contracted for and completed in a two year span. For a new plant contracted today the delay could well be three to four years. The additional construction delays are caused by general shortages throughout the economy as well as renewed efforts to assist in the construction of new fertilizer plants outside the United States.

One last long-run problem facing the fertilizer industry is the cyclicality of capacity buildups with the attendant problem of cyclicality of returns on investment. Today's undercapacity can be traced directly to the overcapacity buildup in th mid–1960's. That overcapacity led to financial losses and no new plants being built the last five years. We do not have a solution for this problem other than the partial one of better collection and dissemination of the knowledge of what is being done to bring on new capacity.

This in brief covers the major points of our longer-run study to date.

TABLE 1.—MEDIAN PRICE OF FERTILIZER MATERIALS AT PRODUCER/WHOLESALE LEVEL

	Oct. 24, 1973 (dollars per ton)	Jan. 2, 1974 (dollars per ton)	May 20, 1974 (dollars per toh)	July 17, 1974 (dollars per ton)	Percent change Oct. 24 to May 20
Phosphate rock[1]	$7	$15	$16	$10–$16	128.6
Phosphoric acid	78	119	142	150–157	82.1
Diammonium phosphate	75	111	117	145–165	56.0
Triple super phosphate	55	89	89	91–125	61.8
Ammonia	65	105	120	130–155	84.6
Urea	72	110	119	145–155	65.2
Ammonium nitrate	62	90	97	91–115	56.5

Source: Columns 1, 2 and 3—Cost of Living Council, column 4—Chemical Marketing Reporter.

TABLE 2.—WORLD FERTILIZER PRICES

[Per ton]

	Oct. 24, 1973	Jan. 2, 1973	May 1, 1974	July 22, 1974
Phosphate rock	$13	$28	$42–54	$42–63
Phosphoric acid	NA	NA	300–325	475–500
Diammonium phosphate	104	200	250–260	375–380
Triple super phosphate	100	181	230–240	310–325
Ammonia	NA	NA	250–300	325–335
Urea	NA	NA	300–350	325–350
Ammonium nitrate	NA	NA	NA	NA

Source: U.S. Department of Agriculture, Cost of Living Council.

TABLE 3.—RETAIL PRICES

[Per ton]

Commodity	Oct. 25, 1973	Apr. 15, 1974	July 15, 1974	Percent change Oct. 25, 1973, to July 15, 1974
Anhydrous ammonia	$103	$210	$228	121.4
Ammonium nitrate	83	147	165	98.8
Urea	98	200	217	121.4
Nitrogen solutions	72	135	150	108.3
Phosphates:				
Triple super phosphate	97	147	164	69.1
Diammonium phosphate	120	182	209	74.2
Potassium chloride	68	92	98	44.1
Mixed fertilizers	87	130	147	69.0

Source: Agriculture Stabilization and Conservation Service, U.S. Department of Agriculture.

TABLE 4.—ACRES OF CROPS HARVESTED, FERTILIZER APPLICATION RATES, AND FERTILIZER CONSUMPTION, UNITED STATES, 1972–75

Crops	1972			1973			1974			1975				
	Acreage harvested (million acres)	Application rate (pounds per acre)	Consumption (1,000 tons)	Acreage harvested (million acres)	Application rate (pounds per acre)	Consumption (1,000 tons)	Acreage [1] harvested (million acres)	Planned application rate [2] (pounds per acre)	Planned consumption [2] (1,000 tons)	Acreage harvested [2] (million acres)	Planned application rate [2] (pounds per acre)		Planned consumption [2] (1,000 tons)	
											High [4]	Low [5]	High [4]	Low [5]
Nitrogen:														
Corn	57.4	110.4	3,170	61.8	106.0	3,274	68.8	110.0	3,780	71.0	120	110	4,260	3,908
Wheat	47.3	28.5	674	53.9	30.2	815	64.0	32.0	1,030	61.9	36	30	1,114	929
Cotton	13.0	57.8	375	12.0	54.0	324	13.5	55.0	370	12.8	60	54	384	346
Soybean	45.7	3.1	70	56.4	3.4	95	54.4	3.0	80	54.9	3.5	3.0	96	82
Total specified crops	163.4		4,289	184.1		4,508	200.7		5,260	200.6			5,854	5,262
Other crops	130.0		[3] 3,727	137.5		[3] 3,831	138.3		[3] 4,040	137.4			[3] 4,496	[3] 4,038
Total	293.4	54.6	8,016	321.6	51.8	8,339	339.0	54.9	9,300	338.0			10,350	9,300
Phosphate:														
Corn	57.4	59.4	1,705	61.8	55.0	1,700	68.8	59.0	2,030	71.0	60	53	2,130	1,881
Wheat	47.3	16.3	385	53.9	17.1	461	64.0	17.0	540	61.9	18	15	557	464
Cotton	13.0	30.3	197	12.0	29.2	175	13.5	30.0	200	12.8	32	27	205	173
Soybeans	45.7	12.2	279	56.4	13.4	378	54.4	13.0	350	54.9	14	10	384	275
Total specified crops	163.4		2,566	184.1		2,714	200.7		3,120	200.6			3,276	2,793
Other crops	130.0		[3] 2,307	137.5		[3] 2,358	138.3		[2] 2,380	137.4			[3] 2,499	[3] 2,130
Total	293.4	33.2	4,873	321.6	31.5	5,072	339.0	32.4	5,500	338.0			5,775	4,923
Potash:														
Corn	57.4	59.3	1,702	61.8	56.8	1,755	68.8	59.0	2,030	71.0	61	57	2,166	2,024
Wheat	47.3	5.7	135	53.9	6.1	164	64.0	6.0	190	61.9	7	5	217	155
Cotton	13.0	25.0	163	12.0	24.2	145	13.5	25.0	170	12.8	27	22	173	141
Soybeans	45.7	15.8	361	56.4	17.6	496	54.4	18.0	490	54.9	20	15	549	412
Total specified crops	163.4		2,361	184.1		2,560	200.7		2,880	200.6			3,105	2,732
Other crops	130.0		[3] 1,971	137.5		[3] 1,852	138.3		[3] 1,820	137.4			[3] 1,962	[3] 1,726
Total all harvested crops	293.4	29.6	4,332	321.6	27.4	4,412	339.0	27.7	4,700	338.0			5,067	4,458

[1] Estimate based on Winter Wheat Report, Crop Production CrPr (12–73), Dec. 21, 1973, and Prospective Plantings for 1974—35 States, Crop Production CrPr 2-4 Jan. 22, 1974, Crop Reporting Board, Statis. Rptg. Serv. U.S. Dept. Agr.

[2] Estimated.

[3] Includes an allowance for use on nonharvested crops and nonfarm use.

[4] High demand estimate based on June fertilizer and crop prices, i.e. corn @ $3.00 per bushel, wheat @ $3.75 per bushel.

[5] Low demand estimate based on June fertilizer prices but greatly reduced crop prices; i.e. corn—$1.50 per bushel, wheat—$2.25 per bushel, etc.

TABLE 5.—FERTILIZER SUMMARY, UNITED STATES, 1971–72—1974–75

[In 1,000 short tons]

Item	1971–72	1972–73	1973–74 [1]	1974–75 [1]	
Nitrogen:					
Domestic production [2]	8,971	9,450	10,002	10,600	
Imports	843	881	1,007	1,047	
Total available supply	9,814	10,331	11,009	11,647	
Exports	1,032	1,358	1,333	1,300	
Net supply	8,782	8,973	9,676	10,347	
Demand	8,016	8,339	9,300	[3] 10,350	[4] 9,300
Unidentified demand [5]	766	634	800	800	800
Total requirements			10,100	11,150	10,100
Surplus [deficit]			(424)	(803)	247
Deficit as percent of demand			4.6	7.8	
Phosphate (P_2O_5):					
Domestic production [2]	6,150	6,387	6,604	7,380	
Imports	326	312	257	275	
Total available supply	6,476	6,699	6,861	7,655	
Exports	1,102	1,424	1,560	1,653	
Net supply	5,374	5,275	5,301	6,002	
Demand	4,873	5,072	5,500	[3] 5,775	[4] 4,923
Unidentified demand [5]	501	203	450	450	450
Total requirements			5,950	6,225	5,373
Surplus [deficit]			(649)	(223)	629
Deficit as percent of demand			11.8	3.9	
Potash (K_2O):					
Domestic production [2]	2,432	2,680	2,657	2,950	
Imports	3,088	3,117	3,996	4,078	
Total available supply	5,520	5,797	6,653	7,028	
Exports	657	922	1,033	1,070	
Net supply	4,863	4,875	5,620	5,958	
Demand	4,332	4,412	4,700	[3] 5,067	[4] 4,458
Unidentified demand [5]	531	463	540	550	550
Total requirements			5,240	5,617	5,008
Surplus			380	341	950

[1] Estimated.
[2] Adjusted for producer inventory changes.
[3] High demand estimate based on June fertilizer and crop prices, i.e. corn at $3.00 per bushel and wheat at $3.75 per bushel.
[4] Low demand estimate based on June fertilizer prices but greatly reduced crop prices; i.e. corn—$1.50 per bushel, wheat—$2.25 per bushel.
[5] Unidentified demand is an amount of material produced and distributed that cannot be accounted for with the current data system. It may include product loss, changes in retail and farm inventories, and other undetermined items.

TABLE 6.—FERTILIZER EXPORTS AND FUTURE CONTRACTS

[In short tons, except as noted]

Commodity	January to May	July to May (crop year)	Contracts June to December 1974 versus actual exports June to December 1973
Nitrogenous:			
Anhydrous ammonia:			
1974	185,118	511,726	371,700
1973	336,643	640,106	380,359
Urea:			
1974	134,193	318,736	106,902
1973	231,003	511,167	196,352
Ammonium nitrate:			
1974	9,667	36,691	1,132
1973	12,554	20,296	28,153
Ammonium sulfate:			
1974	196,648	495,934	224,322
1973	176,144	432,832	352,030
Phosphatic:			
Phosphoric acid:			
1974	39,233	82,662	227,553
1973	23,394	46,509	50,549
Phosphate rock:			
1974	5,221	11,708	9,113
1973	5,609	11,827	7,467
Concentrated superphosphate:			
1974	303,347	875,584	602,673
1973	254,878	804,259	633,296
Mixed:			
Ammonium phosphate:			
1974	727,697	1,965,618	1,052,720
1973	808,053	1,871,559	1,426,703
Mixed fertilizer:			
1974	217,157	431,868	148,299
1973	132,833	345,212	242,191
N and P_2O_5 content tons:			
Nitrogen fertilizer—Total:			
1974	421,782	1,100,694	612,436
1973	588,476	1,245,556	777,834
Phosphatic fertilizer—Total [1]:			
1974	529,982	1,414,235	932,828
1973	517,880	1,299,031	1,006,480

[1] Does not include Phosphate Rock.

Source: Bureau of Census and Office of Export Administration.

TABLE 7.—U.S. FOREIGN TRADE IN FERTILIZER MATERIALS

	1971–72	1972–73	1973–74[1]	1974–75[1]
Nitrogen:				
Exports as percent of domestic production	11.5	14.4	13.3	12.3
Imports as percent of domestic production	9.4	9.3	10.1	9.9
Net exports as percent of domestic production	2.1	5.0	3.3	2.4
Phosphate:				
Exports as percent of domestic production	17.9	22.3	23.6	22.4
Imports as percent of domestic production	5.3	4.9	3.9	3.7
Net exports as percent of domestic production	12.6	17.4	19.7	18.7
Potash:				
Exports as percent of domestic production	27.0	34.4	38.9	36.3
Imports as percent of domestic production	127.0	116.3	150.4	138.2
Net imports as percent of domestic production	100.0	81.9	111.5	102.0

[1] Estimated.

STATEMENT OF DR. PHILIP BIRNBAUM, ASSISTANT ADMINISTRATOR, PROGRAM AND POLICY COORDINATION, AGENCY FOR INTERNATIONAL DEVELOPMENT

LDC FERTILIZER REQUIREMENTS AND A.I.D. FERTILIZER PROGRAMS

I. Current and Prospective Situation in the LDCs

Shortages of chemical fertilizers, already developing during 1973 and accentuated by the cutback in Middle East oil production, have raised the specter of a setback in farm crops in developing countries, at a time when many of

them are suffering from food shortages. At the same time, extremely large increases in prices have placed another substantial claim on the already hard-pressed foreign exchange situation facing many LDCs.

All countries have experienced a sharp growth in the use of fertilizers since about 1960. For the developed world this growth was particularly steep in the 1960's. For the less developed world very sharp growth has taken place since the mid–1960's as fertilizer demanding Green Revolution varieties were developed and became more widely accepted in country after country. In the absence of the current fertilizer crisis it would have been reasonable to expect LDC consumption of fertilizers to continue growing at about 11–14% per year. Now in real terms, i.e. per capita use, fertilizers used in the LDCs will generally be about at last year's level or slightly declining, in some countries. At a time when food stocks need to be built up to a safe margin, this is a serious matter. Every million tons of fertilizer nutrient not available to the LDCs implies a food loss of 8 million tons.

Given the sharp increase in fertilizer prices, even keeping up with last year's levels would be a considerable financial feat for the LDCs. In March the World Bank estimated that the LDCs would need an additional $1.2 billion or over 140% more for the same level of fertilizer imports this year as last year. Given more recent higher prices the additional cost might be about $2 billion now. But the International Monetary Fund estimates that LDCs will not be able to obtain the fertilizer imports achieved last years; they feel LDC imports will drop by 15% this year, a drop of .9 million nutrient tons.

DEVELOPING COUNTRIES,[1] IMPORTS OF MANUFACTURED FERTILIZERS

[Thousand metric tons]

	Years ending June						
	1968	1969	1970	1971	1972	1973 (estimate)	1974 (projected)
Nitrogen [2]	2,714	2,576	2,515	2,335	2,524	2,600	2,000
Phosphate [3]	1,215	1,068	987	974	1,179	1,400	1,100
Potash [4]	1,033	1,048	1,123	1,313	1,463	1,800	1,800
	4,962	4,692	4,625	4,977	5,166	5,800	4,900

[1] Excluding oil exporting countries.
[2] In terms of N.
[3] In terms of P_2O_5.
[4] In terms of K_2O.

Overall, the worst situation is in nitrogenous fertilizers as these are most valuable to increasing agricultural production, were hardest hit by the oil crisis, have experienced the steepest demand and price increases, and are the greatest single fertilizer need for the LDCs. Despite efforts by the LDCs to increase their production capacity in nitrogen, the deficit of supplies has widened in the LDCs over the past few years.

NITROGEN SITUATION IN LDC's

[Million nutrient metric tons]

	1971–72	1972–73	1973–74
Consumption	5.8	6.6	7.4
Production	3.2	3.8	4.2
Gap	2.6	2.8	3.2

Source: Food and Agriculture Organization, U.S. Department of Agriculture, Agency for International Development.

Most of the current fertilizer problem for LDCs, particularly for nitrogenous products, is availability of product. LDCs recognize the key role fertilizers play in their agricultural production and have therefore been willing to treat the

financing of fertilizers as a top priority, but all too often fertilizers have not been available at almost any price. For example, on behalf of several LDCs AID in late May attempted to procure 352,000 tons of product from any Free World source. A.I.D. received tenders for only 112,000 tons (of which 65,000 tons were priced considerably above the then prevailing market). Over the past several months several LDC governments have asked for U.S. assistance in locating any available fertilizer supplies. FAO reported in early July that for the 1974/5 season the bulk of LDC requirements has not been firmly contracted.

For 1974/5 all authorities agree that the fertilizer situation will not ease for the LDCs. They will continue to face prices which are apt to remain at or above current levels. Given no practical alternative, LDCs will strive to pay these high prices in order to secure some supplies. It was quite clear from the FAO Fertilizer Commission meeting July 2–5, 1974 that problems in securing supplies will continue this year. At the meeting no producer country offered much hope to the LDCs insofar as freeing supplies to LDCs is concerned, although some countries, such as the U.S., have upped financing for LDC purchases of fertilizers.

Looking ahead to 1980 the world outlook for nitrates and phosphates is expected to brighten by 1978 and 1976 respectively, but the picture insofar as the LDCs are concerned will not greatly improve. The LDCs will still be heavily dependent upon imports from the developed countries. On the other hand, the developed countries as a group are expected to be net exporters from now to the end of the decade in all major fertilizers.

FERTILIZER NET BALANCE FOR THE LDCs [1]

[1,000 metric ton nutrient]

	1974	1975	1976	1977	1978	1979	1980
Nitrogen	−2,359	−1,561	−1,773	−1,315	−1,070	−1,308	−1,937
Phosphates		−657	−522				−920–−2,942

[1] Excludes PRC which is expected also to remain in net deficit.

Source: USDA (1974–76), Unpublished TVA data (1977–80).

II. U.S. FERTILIZER EXPERTS THE LDCS

The U.S. plays a major part in the total world trade of fertilizers. In nitrogenous fertilizers we are the second biggest exporter, but we're also the second biggest importer so in net terms we rank #11, with 2 percent of net world trade. In phosphates the U.S. is the #1 net supplier of manufactured product and the #2 exporter of phosphate rock; all in all the U.S. provides 21 percent of net world trade in phosphates and is an extremely important source for both developed and underdeveloped countries. In potash we are the world's largest importer—far overshadowing our exports—accounting for 21 percent of net world trade.

U.S. NET EXPORTS TO THE WORLD

[1,000 metric nutrient tons]

	Nitrogen	Phosphates
Year:		
1964–65	−101	203
1965–66	15	287
1966–67	72	564
1967–68	336	886
1968–69	840	737
1969–70	429	519
1970–71	134	558
1971–72	171	704
1972–73	433	1,009
1973–74 [1]	326	1,303
1974–75 [1]	253	1,378

[1] Estimate.

Source: USDA, unpublished data July 22, 1974.

A very substantial and growing share of U.S. fertilizer exports go to the LDCs. Over the last 4 years the LDC share of U.S. nitrogen exports has increased from 54% to an estimated 72% in 1973/4 while the LDC share of U.S. phosphate exports has similarly increased from 64% to an estimated 79% in 1973/4. The tonnage shipped to LDCs has increased 75% in nitrates and 98% in phosphates over the 1970/1–1973/4 period, while total export tonnage went up 29% and 61% respectively. Details are presented in the chart below.

U.S. EXPORTS OF NITROGEN AND PHOSPHATE FERTILIZERS[1]

[1,000 metric ton nutrient]

	1970–71		1971–72		1972–73		1973–74 (estimate)[2]	
	Tons	Percent	Tons	Percent	Tons	Percent	Tons	Percent
A. Exports of nitrogen:								
To developed countries	457.1	46	271.5	29	425.4	34	352.3	28
To LDC's	519.9	54	664.7	71	800.2	66	906.0	72
Total	977.0	100	936.2	100	1,225.6	100	1,258.3	100
B. Exports of phosphates:								
To developed countries	290.8	36	278.8	27	365.2	28	276.2	21
To LDC's	524.2	64	720.9	73	926.6	72	1,039.0	79
Total	815.0	100	999.7	100	1,291.8	100	1,315.2	100

[1] Unpublished USDA study compiled July 3, 1974.
[2] Based on first 9 months' figures.

It is, of course, difficult to predict what the future course of U.S.-LDC fertilizer trade will be, but given the above describe pattern and a rather well established trading relationship with several major LDCs, it is likely that the LDC share of U.S. exports, will remain large in future years. Without any question, U.S. trade with the LDCs is the single most important interaction involving the U.S. and the fertilizer situation of the LDCs. For many years now, bilateral assistance has been but a small fraction—about 10 percent—of total U.S. fertilizer exports.

III. A.I.D. ACTIONS TO HELP LDCS OVERCOME THEIR FERTILIZER AND FOOD PRODUCTION PROBLEMS

U.S. bilateral assistance efforts are geared to help solve the fertilizer and associated problems facing the LDCs through an inter-relation of four efforts to increase food production: (i) financing the procurement of fertilizer, (ii) assisting LDCs produce fertilizer through construction finance and technical assistance, (iii) financing research on new and more efficient fertilizers appropriate to LDC climates and soils, and (iv) associated programs of agricultural development with particular emphasis on small farmers and rural development. As Secretary Kissinger emphasized at the Special Session of the UN General Assembly April 15, 1974, the U.S. recognizes the seriousness of the present food/fertilizer problem. The U.S. aid request for agricultural development (including assistance for fertilizer) to development assistance countries (i.e. excluding such security-assistance programs as the Middle East and South Vietnam), totals $675 million in FY 1975 which compares with a FY 1974 total of $285 million.

The following discussion details the four kinds of programs involved in the U.S. response to the fertilizer problem and to associated food/agricultural development problems.

A. U.S. Assistance in Financing Procurement of Fertilizer

For many years A.I.D. has assisted selected LDCs finance the procurement of fertilizer. From FY 1966 to FY 1973 A.I.D. financed an average of 1.6 million product tons[1] at an average annual value of $95 million. Through this effort

[1] A production is roughly equivalent to ½ a nutrient ton.

A.I.D. helped several countries secure an important commodity at concessional terms. A yearly summary for FY '66–75 is presented below:

AGENCY FOR INTERNATIONAL DEVELOPMENT FINANCED FERTILIZER PROCUREMENT

	Total metric tons of product	Value
Fiscal year:		
1966	1,943,153	$105,122,385
1967	2,005,453	123,534,681
1968	3,423,250	186,796,553
1969	2,149,538	110,590,805
1970	1,040,148	62,603,988
1971	640,879	33,090,091
1972	708,495	48,867,158
1973	949,137	93,178,265
1974	744,000	105,837,169
1975 [1]	700,000	250,000,009

[1] Estimated.

In FY 1974 AID approved awards for 744,000 metric product tons. In Fiscal 1975 AID proposes to approve contracts for procurement of 700,000 product tons, a decrease over several prior years. The main constraint in deciding on the FY 1975 level was budget availabilities; in order to finance 700,000 product tons about $250 million will be required excluding freight charges which are also a very high cost now. FY 1974 and prior year funds will supply about $138 million and the FY 1975 request includes $112.9 million in new authorities for FY 1975 fertilizer procurement (plus about $164 million for procuring fertilizer and other agricultural inputs for FY 1976 delivery).

Because of tight market conditions in the U.S., AID is operating under two restrictions: a self-imposed restriction not to ship during the prime U.S. fertilizer season of February 1 through May 30, and an additional policy of buying outside of the U.S. from any Free World source whenever possible. *It is hoped that in FY 1975 at least 30% of AID-financed fertilizer procurement will come from off-shore sources.*

The amount of product AID anticipates financing in awards out of the U.S. market in FY 1975 is approximately *470,000 product tons*, which amounts to about *1 percent of total domestic availabilities* (domestic production plus imports) and about *5.9 percent of total U.S. fertilizer exports forecast by USDA*. We should point out that this export level will be considerably less than the amount of AID-financed product awarded out of the U.S. market in FY 1974. The U.S. bilateral assistance program in fertilizers is but a very small portion of the U.S. fertilizer picture, but it is a quite important factor to the recipients.

AID only finances purchases of fertilizer contracted by the LDCs. AID does not buy in its own name. The LDC takes the market action and AID reimburses them or provides financing for their contracts.

Comparing FY '74 and FY'75, AID plans to substantially expand its budget allocation for financing LDC fertilizer procurement. It is an important part of our bilateral assistance program. Given the available resources, to finance more than is planned would cut deeply into related agricultural programs which are aimed at helping bring about long term solutions to the food shortages likely in the LDCs.

B. U.S. Assistance to LDC Fertilizer Production

1. *Construction finance.*—A.I.D. from time to time participates in the financing of fertilizer production facilities in the LDCs. We recognize that the bulk of such financing comes from the private market and from the multilateral donors. A.I.D. financing is limited to situations where a strong economic case exists, where other sources of finance are not sufficient and as part of an overall agricultural strategy in the recipient country. In FY 1975 A.I.D. is actively involved in three such projerts: one in Pakistan and one in Bangladesh, each involving a U.S. participation of about $25 million, and an ammonia/urea plant in South

Vietnam involving about $90 million. We are also considering participation in a few other projects which are now in the study stages.

The Overseas Private Investment Corporation (OPIC), closely associated with A.I.D., is currently supporting the production of fertilizer in LDCs by insuring or financing participations in 15 fertilizer plants and a phosphate rock mine in a total of 13 countries. These efforts involve $264,000,000 in OPIC guarantees and funds not including uninsured equity and debt. Seven new projects are now under review involving up to $115 million in OPIC guarantees and funds, but at this time OPIC is unable to estimate which of these projects will be consumated or insured.

We have followed closely multilateral action in financing fertilizer plants. We support such action as one of the important ways multilateral institutions can help solve the world fertilizer problem.

2. *Technical assistance on production problems.*—A.I.D. and several others closely involved with the LDC fertilizer crisis (e.g. FAO and IBRD) recognize that the quickest way LDCs can help create their own supplies of fertilizer is to improve the efficiency of their own fertilizer plants. By way of contrast: in 1973 the developed countries operated their nitrogen plants at 91 percent of capacity while the less developed world's plants operated at only 67 percent of capacity. LDC plants are now operating at about 70 percent of capacity. If in nitrogen production alone they could increase their operating rates by 10 percentage points they could increase their fertilizer supplies by 14 percent, reduce their deficit of nitrogen fertilizer by about one million nutrient tons and thus lower their import bill for nitrogen products by $700–800 million.

FAO and AID have both accorded improving LDC plant efficiency as the highest priority of any short-run fertilizer program. Within the last six months we have offered assistance to 22 countries facing fertilizer production problems. In response to these offers TVA, under contract to AID, has sent experts to 5 countries as well as intensifying major efforts in three others.

TVA studies thus far confirm that in most instances poor production is due to shortages of power, timely repairs, spare parts and raw materials. Recommendations in four recent cases (Philippines, Indonesia, Colombia, and Bangladesh) indicate that production improvements can be implemented with little additional capital investment which will increase output by at least 20 percent.

During FY 1975 AID plans to extend TVA's technical assistance contract by another two years.

C. U.S. Assistance on Fertilizer Research

The U.S. has supported at moderate levels research on new and more efficient fertilizer products largely through TVA. One of the most promising developments from this effort has been sulphur-coated urea which leaches much less than un-coated urea. The U.S. also supports many efforts throughout the world which involve field-testing of fertilizer applications.

Recognizing the need for a more concerted effort for research on new and more efficient fertilization appropriate for the conditions of developing countries, at the Special Session of the UN General Assembly April 15, 1974, Secretary Kissinger proposed creation of a new international research institution for this purpose.

Nearly all current fertilizer research is aimed at developed countries and does not meet adequately the needs of LDCs in tropical and semi-tropical regions. The proposed Institute would seek the best combinations of both chemically produced fertilizers and biological systems to provide better nutrition and higher yields for developing country crops.

There are many promising possibilities whose realization can be speeded by strong concentrations of interdisciplinary research resources. These include acceleration of the biological fixation of nitrogen from the air in plants and soils; improving plant access to and absorption of nutrients in the soil; improved design of chemical fertilizers to increase efficiency, reduce costs and farm management requirements and provide nutrient combinations tailored to developing country soil and climate conditions; improving multiple cropping systems to provide nitrogen biologically rather than chemically; and possibly recycling of nutrients already available in farm or other waste products. Of particular concern is the need of the mass of small farmers in developing countries for

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lower cost and lower risk systems for increasing crop yields than those used in most developed country agriculture.

The U.S. has proposed to the international body responsible for coordinating international agriculture centers (which involves 20 donor nations, U.S. foundations and the World Bank) that it give prompt attention to the need for this new research initiative. The Technical Advisory Committee to the coordinating group quickly accepted this suggestion and is expected to establish soon a scientific group to explore the needs, possibilities and best means of pursuing new international research initiatives in this complex field.

Meanwhile, given the urgency of the problems, AID is moving ahead with plans to accelerate work on a portion of the suggested scope of activity that clearly can be done most efficiently at the extensive fertilizer research facilities of the Tennessee Valley Authority at Muscle Shoals, Alabama. This is a unique concentration of chemical and fertilizer research resources. Duplication of the TVA facilities would cost in excess of $100 million.

Scientific and technical resources will be concentrated on the need to tailor improved chemical fertilizers for developing country conditions by establishment of an autonomous fertilizer development center that will be located on TVA land and share staff time, research, pilot plant and library resources with TVA. The new center will be established on a basis that provides for its merging with whatever form of international plant nutrition institute may emerge from the initiatives in the coordinating group. AID has tentatively set aside about $15 million to launch this new facilitiy in FY 1975.

D. Associated U.S. Bilateral Assistance Programs

1. AID Food and Nutrition Programs. (Non-security assistance programs—excludes Indochina and Middle East.)

AID now has before Congress a proposal to increase its Food and Nutrition programs for $285 million in FY 1974 to $675 million in FY 1975. In terms of relative emphasis this would change food and nutrition programs from 32% of the FY '74 program to 60% of the FY '75 program. A country-by-country budgetary allocation of the $675 million is presented in Attachment 1.

Of the $675 million total, $125 million is for financing fertilizer procurement and $50 million is for participation in fertilizer production projects. In addition a minimum of some $10 million will be expended on fertilizer by host country governments under small AID-financed agricultural projects such as agricultural credit schemes and production projects. This will leave about $490 million in non-fertilizer based projects in the food and nutrition category. These projects are deemed important to the long-range agricultural self-sufficiency of many countries.

2. *Security-assistance food and nutrition programs*—A substantial amount of assistance in agricultural development will be extended in FY 1975 to countries receiving security assistance, particulalry South VietNam, Egypt, Laos and Jordan. The budget request for South VietNam is $182.3 million excluding commodity import assistance. The budget includes assistance in financing a urea plant. Fertilizer imports to South VietNam of about $125 million are expected to be financed. Other security assistance countries are budgeted to receive about $13.2 million in agricultural assistance. In addition a proposed $80 million import credit for Egypt will include a substantial amount of agricultural input.

In all some $330 million in proposed for FY '75 expenditure for agricultural development, including fertilizer, in countries receiving U.S. security assistance support.

SUMMARY OF FOOD AND NUTRITION PROGRAM PROPOSAL—FISCAL YEAR 1975

[In thousands of dollars]

	Total	Grants	Loans
Grand total	675,034		
Operating expenses	60,921		
Total program	614,113	93,998	520,115
Africa, total	113,496	39,996	76,500
Ethiopia	19,306	2,306	17,000
Ghana	11,000	1,000	10,000
Kenya	6,873	1,873	[1]5,000
Liberia	4,626	626	4,000
Morocco	14,460	1,460	13,000
Nigeria	1,394	1,394	
Rwanda	2,500		2,500
Sudan	700	700	
Tanzania	10,079	3,079	7,000
Tunisia	4,787	1,787	3,000
Uganda			
Zaire	5,403	403	5,000
Central West regional	21,868	16,868	5,000
East Africa regional	610	610	
South regional	7,935	2,935	5,000
Africa regional	1,955	1,955	
Self-help (included in Africa regional)	(750)	(750)	
Asia, total	344,295	16,920	327,375
Afghanistan	9,090	1,090	8,000
Bangladesh	62,100	2,100	60,000
India	75,500	500	75,000
Indonesia	52,810	2,810	50,000
Korea	19,298	298	19,000
Nepal	2,352	952	1,400
Pakistan	56,348	1,348	55,000
Philippines	38,084	3,609	34,475
Sri Lanka (Ceylon)	8,000		8,000
Thailand	2,395	2,395	
Turkey	17,207	707	16,500
Yemen Arab Republic	300	300	
Asia regional	811	811	
Latin America, total	128,150	12,150	116,000
Bolivia	8,839	839	8,000
Brazil	300	300	
Chile	25,800	800	25,000
Colombia	5,258	258	5,000
Costa Rica	309	309	
Dominican Republic	155	155	
Ecuador	649	649	
El Salvador	7,115	615	6,500
Guatemala	15,401	901	14,500
Guyana	3,500		3,500
Haiti	6,504	1,504	5,000
Honduras	12,100	600	11,500
Jamaica	8,000		8,000
Nicaragua	220	220	
Panama	11,465	465	11,000
Paraguay	3,535	1,035	2,500
Peru	11,997	997	11,000
Uruguay	449	449	
Venezuela			
ROCAP	500	500	
East Caribbean			
Inter-American Organizations			
Latin America regional	6,054	1,554	4,500
Supporting assistance, total	980	980	
Jordan	380	380	
East Asia regional	600	600	
Worldwide technical assistance and research programs	26,952	26,952	
Inspector General of Foreign Assistance	240		240

[1] Part of a multidonor loan project.

Senator McGovern. Our next witness is Mr. Ed Wheeler, president, Fertilizer Institute.

Mr. Wheeler, we are glad to welcome you back before this committee. You have testified here before and it is always a pleasure to have you before this committee.

STATEMENT OF EDWIN M. WHEELER, PRESIDENT, THE FERTILIZER INSTITUTE

Mr. Wheeler. Thank you, Mr. Chairman. As long as I am not under oath, I would like to say I am glad to be back.

Mr. Chairman and members of the committee, I have prepared a rather lengthy statement which I would ask the committee to include in the record, but I shall not read from it.

Senator McGovern. All right. That statement will be made a part of the record and you can summarize it. You can summarize the highlights in any way you see fit.

Mr. Wheeler. Okay, sir.

Mr. Chairman, first of all I want to tell the committee publicly how much we appreciate the great effort that has gone into the enactment of S. Res. 289 and what a real therapeutic effect it has has on a bureaucracy which is sometimes lethargic. For example, we were able to obtain, in spite of Doubting Thomases, an additional 1,000 hopper cars per week into the State of Florida. We did win eight emergency cases from the Federal Power Commission back-to-back, and a list of the other good things that flowed out of that resolution is set out in my prepared testimony. We hope that when these hearings have concluded, that even more positive actions will flow from our Government.

Mr. Thornton, of the staff, asked up to cover approximately nine subjects and I will try to be as brief as I can and touch on only the highlights of my prepared testimony.

We delivered to the American farmer this last year 46 million tons of fertilizer as of June 30, 1974, up from 43 million the previous year. It is still our judgment that we could have sold several million tons more if the product were available.

Winding up then, and speaking of June 30, 1974, this is a record-breaking year for us. This was the year of substantial profits. This was a year in which we still believed the nitrogen shortage hovered at the 10 plus percent.

Now I had difficulty in following the testimony given earlier about there only being a 5 percent nitrogen shortfall in view of all the complaints that we have had and in view of the fact that Senator Dole and several of our fellow Kansans here—and I understand there is going to be a gentleman on from South Dakota this morning—have made so many complaints.

I also have difficulty understanding how the USDA can say there was a 5 percent shortage when in July 19, they reported the following:

> Reports continue to show fertilizer in short supply. Nitrogen supplies are tight or acute in nearly 52 percent of all agricultural counties, with more than 8 percent reporting an acute shortage.

I have this document here if you would like that.

Senator McGovern. Fine.

[The July 19, 1974 report from the U.S. Department of Agriculture, the Agricultural Stabilization and Conservation Service follows:]

AGRICULTURAL STABILIZATION AND CONSERVATION SERVICE, U.S. DEPARTMENT OF AGRICULTURE

FARM SUPPLY SITUATION REPORT FOR FUEL, FERTILIZER, BALING WIRE, BALING TWINE, AND PESTICIDES

Gasoline and Diesel Fuel

State reports indicate further improvement in the farm fuel supply situation during the past month. Both gasoline and diesel fuel supplies were reported adequate in about 98 percent of all agricultural counties. The few counties with tight supplies continue to be located largely in the Midwest, and in the South from the Carolinas through Oklahoma and Texas.

Counties reporting tight gasoline supplies were scattered throughout 23 States, with diesel fuel-short counties scattered among 20 States. With the exception of Texas, which reported gasoline supplies tight in 13 counties and diesel fuel tight in 11 counties, the number of counties reporting shortages ranged from 1 to 5 in the balance of the tight-supply States.

Fuel prices continued to move upward, with the farm price of gasoline averaging nearly 34 percent above the November 1, 1973 level, diesel fuel 50 percent higher, and LP gas about 28 percent higher. During the period May 17–July 16, 1974, the average farm cost of gasoline rose 1.7 percent, diesel fuel 3.7 percent, and LP gas 3.9 percent.

Fertilizer

Reports continue to show fertilizer in short supply. Nitrogen supplies are tight or acute in nearly 52 percent of all agricultural counties, with more than 8 percent reporting an acute shortage.

Phosphate supplies were reported tight to acute in nearly 42 percent of all agricultural counties, with over 5 percent reporting an acute supply problem.

Potash supplies were tight or acute in over 30 percent of all agricultural counties. More than 3 percent of these counties reported an acute shortage.

Supplies of mixed fertilizers were tight or acute in over 34 percent of all agricultural counties. Nearly 3 percent of these counties reported an acute shortage.

Fertilizer prices continued to move up. Nitrogenous fertilizer prices range from 101 to 124 percent above the October 25, 1973 level. Phosphate fertilizers are up from 71 to 77 percent, potash up 44 percent, and mixed fertilizer 67 percent higher.

Percentage increases in fertilizer prices from October 25, 1973 (date of CLC price decontrol) to July 16, 1974 are as follows:

Kind of fertilizer	Percent price increase from October 25 to July 16			
	Nov. 2	Jan. 21	March 18	July 16
Nitrogen:				
Anhydrous ammonia	33	71	97	124
Ammonium nitrate	22	55	71	101
Urea	26	69	99	115
Nitrogen solution	23	57	80	111
Phosphate:				
Triple superphosphate	20	42	49	71
Diammonium phosphate	24	41	51	77
Potash: Potassium chloride	11	26	32	44
Mixed fertilizer	20	40	47	67

Baling wire

The shortage of baling wire ranges from tight to acute in some counties in 32 States. These States include almost all of those where baling wire is used.

Of the counties reporting shortages, 40 percent indicated supplies of baling wire are tight, while 29 percent reported an acute supply situation.

The overal baling wire shortage for the year is currently estimated at a little less than 20 percent.

Reports indicate the average retail price of baling wire is about $36 per 100–pound box, with prices ranging from $23 to around $43 in normal marketing channels. The average price of baling wire has risen about $4 per 100–pound box since mid-May, and is currently about 2½ times above the average price a year ago.

Baling twine

Reports show the baling twine shortage is acute in some counties in 28 States. A total of 44 percent of the counties reporting indicated supplies were tight, while 9 percent report the twine shortage acute.

Twine imports have increased over 23 percent for the eight-month period October 1973 through May 1974 (193 million pounds compared to 157 million pounds a year ago.) Overall shortage for the year is now estimated at about 5 percent if imports continue at this level through the summer.

Declared value of baling twine imports during May 1974 was 41 cents per pounds compared to 14 cents per pound in May 1973.

Twine retail prices reported average about $30 per 40–pound bale for natural fiber twine, with prices ranging from $23 to $37 per bale. This compares with an average of about $9 per bale a year ago.

The retail price of synthetic fiber twin averaged $25 per 20–pound bale, with prices ranging from $13 to $37 per bale. (Man-made fiber twine accounts for about 10 percent of the U.S. supply.)

Pesticides

Pesticides supplies were reported tight to acute in some counties in 44 States. Herbicide supplies were tight in over 22 percent of all agricultural counties, with an acute shortage in only 1 percent.

More than 18 percent of all agricultural counties reported tight supplies of insecticides, with only 1 percent reporting the supply situation acute.

Fungicide supplies were reported tight in nearly 16 percent of all agricultural counties, with slightly over 1 percent reporting an acute shortage.

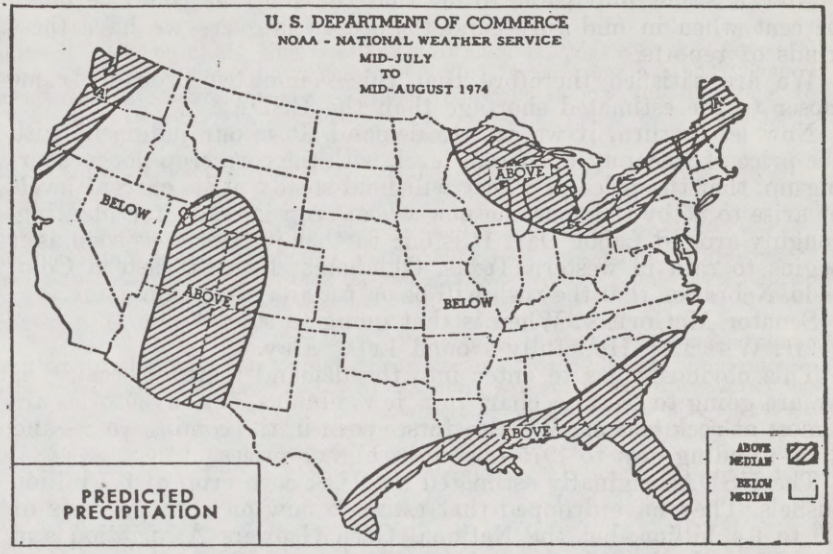
Other Production Inputs

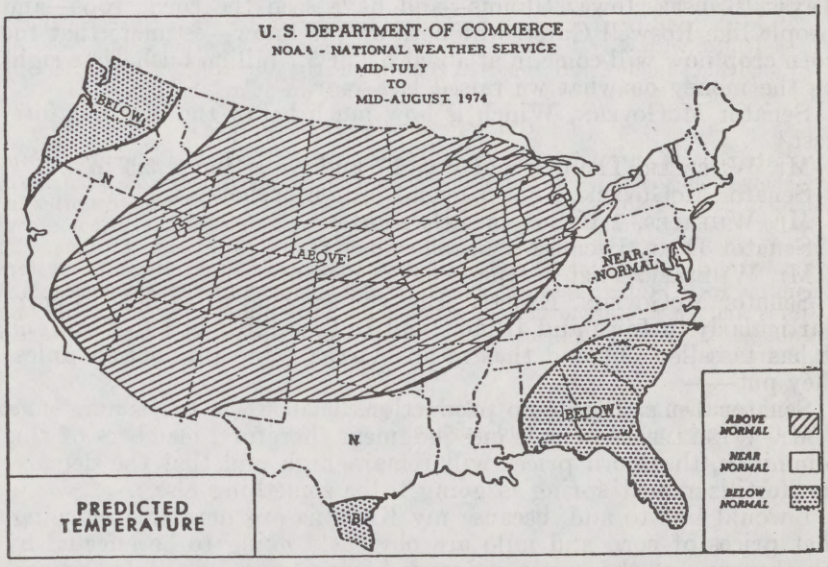
State reports on supplies of other important farm production inputs continue to show some shortages of the following materials: machinery and repair parts, tight in some counties in 15 States and an acute shortage in some counties in 2 States (Pennsylvania, Michigan); tractor tires and tubes, tight in some counties in 13 States, acute in some counties in 3 States (Michigan, Indiana, Montana); lubricants, motor oil and antifreeze, shortages of some items in scattered counties in 6 States; fencing materials, tight supply in some counties in 15 States and an acute shortage of some items in 9 States; irrigation pipe and drainage tile, tight supplies in some counties in 3 States, an acute shortage in 1 State.

Weather

See attached weather map indicating precipitation and temperature outlook for the period mid-July to mid-August.

AVERAGE MONTHLY WEATHER OUTLOOK





These prognostic charts show the expected categories of average temperature and total precipitation for the period indicated. They are taken from the Weather Service's publication *Average Monthly Weather Outlook* which contains additional information necessary for complete interpretation.

Mr. WHEELER. It also refers to other products, although it is not as severe there.

Now it seems impossible to me that the shortage could be but 5 percent when in mid-July—and the season is over—we have these kinds of reports.

We are satisfied therefore that this committee probably came closer to the estimated shortage than the USDA.

Now let us turn, if we can, to demand. It is our judgment with the price of wheat at its current level, with the corn crop not measuring up, that the price of wheat will hold steady at its current levels or arise to $5 by the time the new wheat crop is ready for planting, roughly around Labor Day. It is our further judgment as soon as it begins to rain in western Texas, Oklahoma, Kansas, eastern Colorado, Nebraska, that the rush will be on for anhydrous ammonia.

Senator MCGOVERN. When is that going to start?

Mr. WHEELER. Hopefully around Labor Day.

This obviously has to enter into the demand texture, because as we are going to see in a chart in a few minutes, our inventories are almost at rock bottom. We also forsee corn in the coming year—and I am alluding now to 1975—being at higher prices.

The USDA originally estimated the U.S. corn crop of 6.7 billion bushels. They have dropped that estimate now on a range basis of 5.9 to 6.4 billion, but the National Corn Growers Association and ourselves, who have been out in the Midwest—and I allude now to Texas, Kansas, Iowa, Illinois—and have seen the corn crops—and people like Roswell Garst, who both of you know—estimate that the corn crop now will come in at about 5.5 or 5.7 billion bushels or right on the money on what we raised last year.

Senator MCGOVERN. Which is how much below the original forecast?

Mr. WHEELER. The original was 6.7 and we estimate 5.5 to 5.7.

Senator MCGOVERN. That is over 1 billion bushels?

Mr. WHEELER. 1 billion bushels short.

Senator DOLE. Because it hasn't rained?

Mr. WHEELER. That is true in large measure.

Senator MCGOVERN. Exactly. But you see field after field of corn, particularly in Iowa and Illinois and Indiana, that is 4 feet tall and it has tasselled out and that means virtually no production unless they put——

Senator DOLE. Right, no production.

Mr. WHEELER. Now it is our judgment therefore, members of this committee, that corn prices will remain high and that the demand for fertilizer next spring is going to be something else.

I would like to add, because my Kansans are here this morning, that prices of corn and milo are obviously going to be effected by whether or not the cattle industry begins to make a turn around and the cattle feeders can afford to buy the corn. We will have a situation with corn in my judgment at $4 by Labor Day and cattle hovering at 40 cents to 45 cents and the feeders cannot come out on that kind of a basis.

What will happen is an enigma to me for once.

Now the foreign governments shot craps on the American grain market and they lost. They believed some of the hocus pocus coming out of the USDA that there were going to be record crops all around hoping the grain market would break and they would sail in and buy. Well two things went wrong: first, the crops are not there and now they are going to have to come back in and start to buy, as we will see later on in the testimony, whether they want to or not. And in my judgment this will mean a strong grain demand and a strong fertilizer demand.

I cannot, of course, make any prediction on the shortfall for next year because we can't tell whether the farmer seeing $7 or $8 soybeans will switch heavily into soybeans, and out of corn. We think cotton prices will ease up a little bit. This means the delta country in the south could switch. But in any event the shortage will grow in intensity and——

Senator McGovern. Is there another reason for moving into soybeans, namely the fertilizer shortage? Do you detect that?

Mr. Wheeler. This could be a possibility, or fertilizer high prices could—and I will get to this in a minute, could——

Senator McGovern. The combination of either shortage or higher prices would have that effect in other words?

Mr. Wheeler. Yes, sir, I agree with that.

Now if we can, I would like to move through my charts rather quickly because I know that I am using up too much time already. What we have done here, members of the committee, is to take the latest information available to us as of June 1 of our 5–year reporting system to illustrate to you the very, very poor level of inventory.

I would point out to the chairman and the members of this committee that in 1972, as of June 1, we had 37½ days of production on hand of nitrogen. In the beginning of 1973 this dropped to about 23 days. As of June 1, 1974, all the Nation's producers had exactly 12 days production in their possession.

On phosphates the figures speak for themselves. In 1972 we had 18 days. In 1973 we had 14 days. And as you can see from my chart there [chart 1] as of June 1, 1974, the inventory level measured as days of production was 11 days.

The tremendous turn around that has occurred in the fertilizer industry is best illustrated by potash, and we have combined the United States and Canada figures there because while my prepared testimony indicates 65 percent of U.S. potash is imported, that figure has now risen to 75 percent.

Now the draw-downs is nothing short of fabulous. You can see that the two countries had 51 days on hand in 1972 and that drops off a little bit in 1973 and then plunged so that we only have 13½ days production on hand in both the United States and Canada.

Now you can tell by drawing an imaginary line across that chart that in no basic material do we have more than 14 days production in the hands of our producers. This does not reflect any stocks that might be held by the dealers. This is the material that the producers still have title to. We do not have capacity to survey the nearly 10,000 retailers in this country.

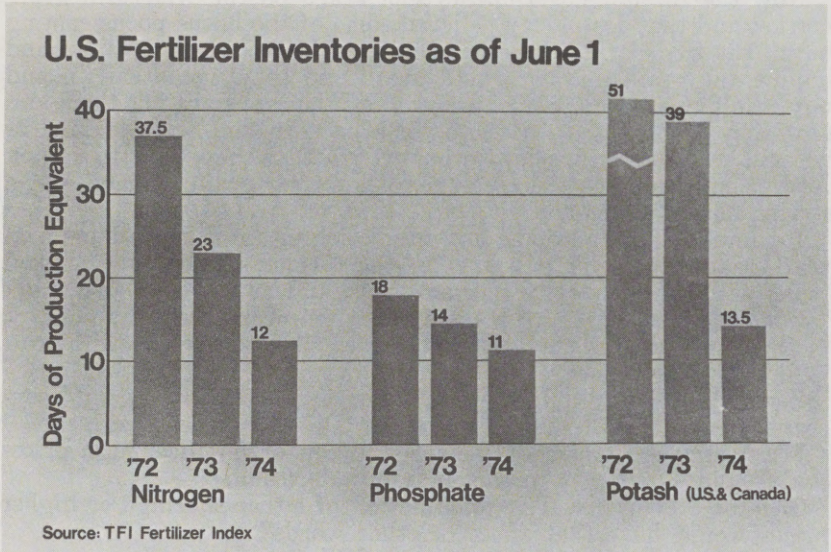


CHART 1

My own personal conversations with a number of them, Senator, would indicate that they are in no better shape than we are and I suspect Mr. Gilliland has some comments on that.

Now chart 2 shows that as of 1972 the nitrogen capacity of the United States was 17 million tons. We anticipate that by the end of 1975 the capacity will be 18,500,000 tons. Of that 18,500,000 tons, 75 percent goes to the agricultural community and the balance goes for paper making, glues, and so forth.

Summarizing quickly, we believe that between the end of June 30, 1974, and the end of June of 1975, agriculture will receive an additional 600,000 tons of nitrogen, but this is premised on two propositions: number one, if adequate gas supplies are available to keep the present plants running—and I will go into that later on when we talk about fuel—and second, it depends on the plants performing 2 years back to back at the highest rate of capacity that has ever been achieved, namely, 98 percent. And I should like to caution that both of these are two big "ifs."

The next chart [chart 3] concerns phosphoric acid and looks a little bit better. The current capacity as of June 30, 1974, is 6,751,000 tons. By the end of June 30, 1975 this will increase 728,000 tons or 7.5 million tons. By June 30, 1976, as you can see, this figure then rises to 9,161,000 tons; an increase of 2.4 million tons over current production. And we hope that we will be out of the woods and not have to face this issue in 1976.

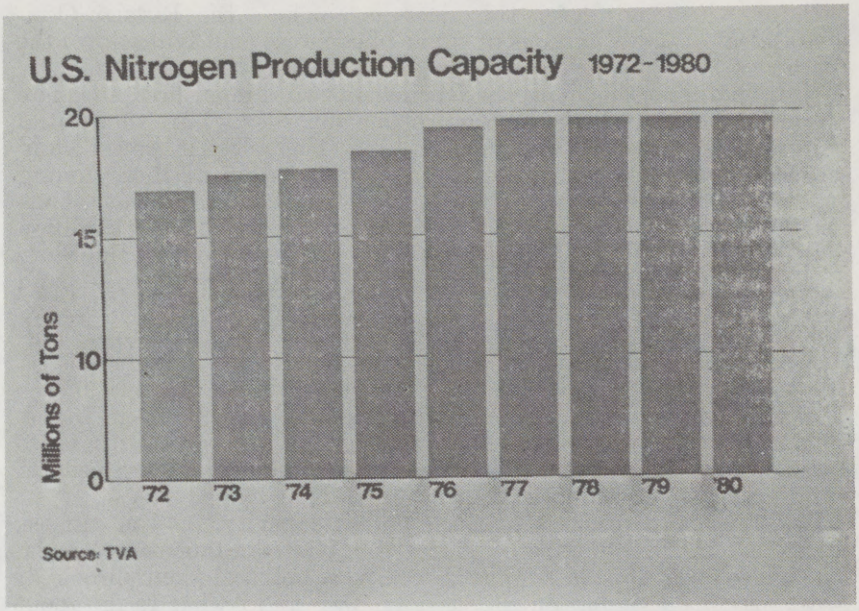


CHART 2

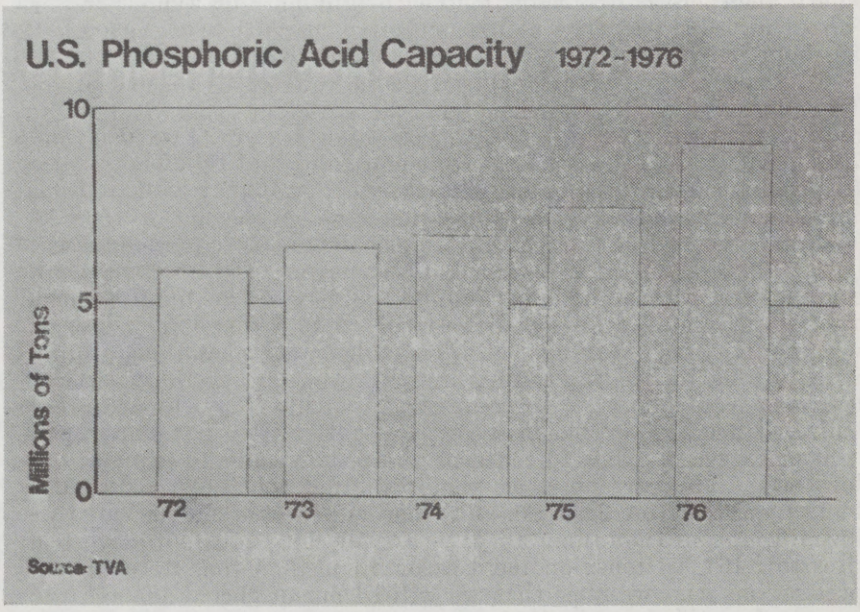


CHART 3

Before the Chair asks, this does not include the Russian-Occidental deal of 1 million tons of super phosphoric acid lying down the road.

Now obtaining this capacity depends on two things: first, adequate power in Florida, which is a big problem for us as we are substantial power users and they are in effect allocating electric power; and second, we are going to have to have a resolution of those zoning environmental problems in Florida to get new mine capacity. Current U.S. mine capacity on phosphate rock is about 40 to 41 million tons of rock. Of that, Mr. Chairman, 34 plus comes out of the State of Florida. We have yet to win a single zoning request to expand our mining capacity, yet everyone in our industry knows that by 1980, just 5 years away, U.S. mining capacity must rise to 60 million tons. We had the same problem in the Rocky Mountain area. All of our companies want to open up new mining capacity in the Rocky Mountain area and more particularly the State of Idaho. This now calls for the interagency task force to work with us to speed up USDA and the Forestry Service and the Department of Interior in issuing the permits.

Let's turn now to chart 4 on the potash capacity. As you can see, we expect no real change in either the United States or Canada. The reason for this is simple. There is a political donnybrook of great magnitude going on in Saskatchewan as to what to do about their interest in these mines. They have proposed a very sharp increase in taxes. Saskatchewan political philosophy is Socialism and there is great reluctance on the part of our people to expand until these issues are resolved. The bright note on the scene since this chart was prepared is Mississippi Chemical Co. of Yazoo City, a cooperative, has announced they have purchased an idle mine and will have it on stream in 3 years at a cost to its farmers of $50 million.

Summing up these four charts, they tell a story. For all intents and purposes there is little relief at hand and that relief is premised primarily on a stupendous performance by our production machinery and adequate gas supply.

Now I would like to turn to a subject that is most predominant of all and that is price. You will recall, members of this committee an earlier testimony—which incidentally I re-read last night to make sure of what I had said earlier—fertilizer is a commodity just like Senator Dole's wheat or just like John Smith's corn in Iowa. It will respond in the same fashion that corn, wheat, cotton have responded in domestic price in direct proportion to world price. Fertilizer domestic price would too were it not for the fear of reimposition of controls. Therefore, the world demand and the world price obviously influence the price that our producers have charged.

But many of our farmers and some politicians believe that these price increases are unilateral. They are not. Our transportation costs through ICC action alone have risen 25 percent this last year and against 50 million tons of material to be transported that is some sum.

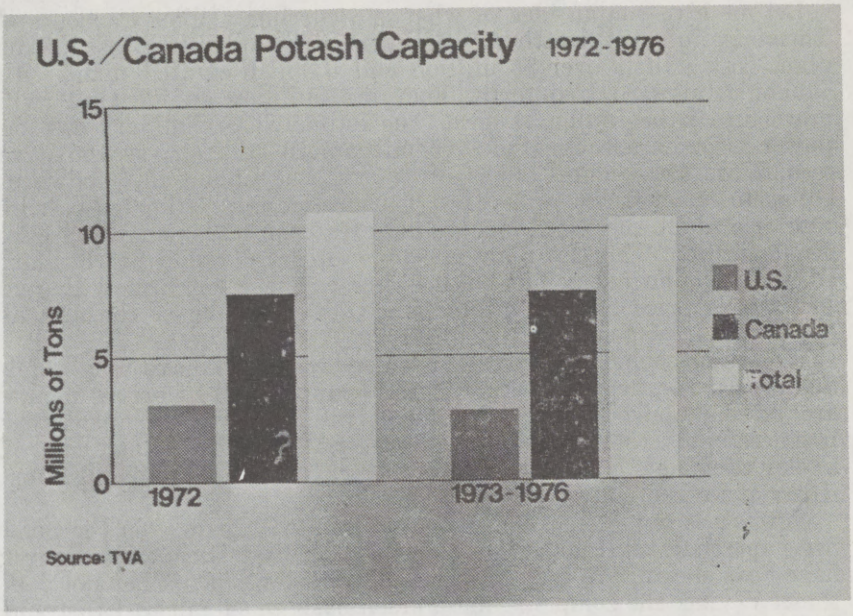


CHART 4

Our cost of oil being used primarily for drying and so on is up 300 percent because of what our friends overseas have done to us.

Our cost of electric power—and we are substantial users of power—have risen dramatically because more and more State commissions are permitting an automatic flow through of increased fuel costs. We are not critical of them, but we have to pay these bills.

Every plant in the State of Florida has been hit by wildcat strikes. Our men simply cannot live with the cost of living going up and so management has settled everyone of them in less than 48 hours because they know they are the most skilled people in the world and we don't want to lose them.

But as I say, all of our costs are rising very, very rapidly. Now the only way that we see out of resolving this shortage type thing—and Lord knows we are going to be back in here again next spring or at least some of us are—is to——

Senator DOLE. Have your profits risen any?

Mr. WHEELER. Yes they have, and they have risen very sharply, but bear in mind when you start to discuss the DISC, they started from a loss.

Now the only way is for new production. The only way to solve this is to have new production, and if you are going to have new production, you have to have profits coming in.

Let me give you an idea of what is occurring. Collier Carbon and Chemical Co. built a rather comprehensive complex in Alaska. This plant cost a little over $5 million and is an integrated plant with ammonia, urea, and so forth. They are building an identical twin brother to it beginning at once. The estimated preliminary cost on that same unit has risen to $165 million. In addition, as you have seen, W. R. Grace and Co. has announced a new plant at Woodward, Okla., to be onstream in 3 years. The preliminary estimated cost of a prairie plant, meaning none of the urea complex or anything else, is $70 million. The last plant they put up was around $15 million. In addition, no competent engineering construction firm will give you a firm price because production costs are rising at the rate of 1½ percent per month compounded.

We are not a prime interest customer because we have been a dog financially for years. Therefore, our companies to borrow money are paying above the prime interest rate, plus the compensating balances, plus the shaving of points. So that the actual cost of money to us now is approaching 16 percent and this means high fertilizer prices no matter how you slice it.

Now all is not gloom and doom, and we will bring you the good news on chart 5. Incidentally, this is the first time these figures have been shown. We just got them and the news media has not seen these. We ask the companies on a crash basis to submit to Ernst and Ernst, because of some antitrust problems, their forecasts of their capital expenditures over the next several years. You will note that nitrogen producers spent but $109 million in 1973 and this figure peaks out at $935 million in 1976.

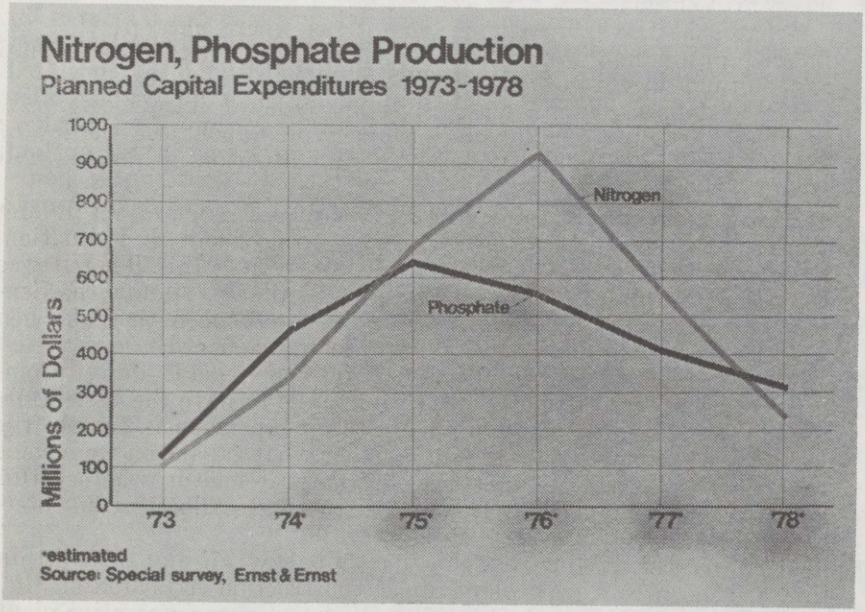


CHART 5

There has been a good deal of talk about what environmental controls are going to do to us. Farmers now will begin to feel the cost of environmental controls. Ninety-six million dollars will have to be invested from 1974 to 1978 to comply with the current regulations. You can see the balance of the breakdown of how we arrive at these figures. Now we will go back to chart 5.

Now as to phosphates, the expenditures this year were $130 million. They will peak out in 1975 at $642.7 million. As I indicated earlier, immediately following that big capital expenditure in 1976 we finally will be in business with the phosphates if we get the mining capacity. Now this is the industry where we really take a beating on environmental protection. By 1978, we will spend $207 million on the environmental aspect alone.

Senator McGOVERN. Why that sharp fall-off beginning in 1976?

Mr. WHEELER. On the nitrogen?

Senator McGOVERN. Yes.

Mr. WHEELER. Because most people think that if we get the gas—and this chart was prepared with the idea that Canada was going to be a source of gas—that capacity will have then begun to move up on demand and that your spending level will go down. I don't think anybody in the industry thinks that beyond the late 1975 period or early 1976 period there will be a phosphate deficit, ergo that curb rates. I will come back to the gas supply situation in just a minute.

Senator McGOVERN. Did those expenditures include both Canada and the United States?

Mr. WHEELER. Yes, sir. They include all expenditures by domestic sited companies whether that plant is going to be here or off the coast of Venezuela.

Senator McGOVERN. Would you tell us where most of that expanded production would come from, that is, where these capital expenditures would go?

Mr. WHEELER. On nitrogen? The big bulk of it was originally planned for Alberta. I have some misgivings about the efficacy of that forecast in view of the fast changing situation up there. I will check up on that in a minute.

Suffice it to say we think there is a heck of a lot of rethinking going on in the industry now over what to do about that situation. So we can't tell you yet. All we can say to you is this. That it was the estimated forecast if raw material is available. I know the Senator's concern about the gas thing and we will touch on that when we discuss the recent Federal Power Commission order.

Senator McGOVERN. As I said before, the Federal Power Commission people will be here, but I would like to have the best information you can give us as to whether this expansion is because the Canadians are moving ahead and whether what expansion we have is the result of intrastate contracts for natural gas or whether this actually represents some anticipated natural gas allocation in interstate?

Mr. WHEELER. Well part of this line, let us say 1975 and 1976, within that are the new Agrico plant under construction estimated at $120 million, the new Grace plant at $70 million, the new cooperative plant

at Tunis, N.C., at I believe around $70 million or $80 million—oh, it is $45 million.

So we know those projects are underway and commitments are made. The balance of them, however, Senator, are based on what they think they are going to be able to construct in Canada. As an example, Cominco has a firm go ahead from Alberta. C.F. Industries, the big co-op that supplies your people in South Dakota, has a go ahead on one unit and they think on a second unit. The problem comes in that there has been some 17 or 18 plants announced, but the Alberta government has indicated they will not permit more than four to six plants. Second, Alberta probably now has passed a law that will preclude fertilizer being shipped from Alberta on Alberta gas unless it is in its final form ready for sale to the farmer. This means you can't bring ammonia out of Canada and convert it to urea or nitrate. It has got to be converted in Canada. This has had the effect of throwing the young bridegroom into the cold shower.

Third, another problem up there is that you can't really seriously believe on some 18 plants announced, each using 40 million cubic feet a day—and figuring you have to have 15 years, that the Alberta government is going to let this kind of a draw down occur on their resources.

Last, but not least, and if you recall I said it before, there is a growing anti-U.S. corporation feeling in Canada. After all, we own 65 or 70 percent of the assets of that country and they don't like it. So they are really beginning to put the brakes on Americans being up there. In any event, Mr. Chairman, they will not permit more than 49 percent U.S. ownership on any new plants.

I would like to conclude this discussion now on price by saying that reimposition of price controls or profit margin will do the very thing that we ought to avoid at all costs. Namely if our Government, our Congress, puts some price control or profit restraints all of this investment will grind to a halt because if the cost of these plants continue to rise, the lack of flexibility in any kind of pricing system which we found out to our grief in phase I and II and III, will be the absolute red light to stop the construction of these plants.

Now I have said to the industry nearly at the risk of my current position about 3 weeks ago this: "If you continue to raise prices with farm commodities holding steady, then woe be unto the producer that doesn't recognize what he is doing." For example, in the northern part of Florida is a large cow-calf corporation. They have quit buying ammonia nitrate because it is too high based on what the calves will bring. And if our producers insist on taking these prices higher and even higher ignoring the relationship of agricultural price, which is a nice way to say the farmers' ability to buy, then they do it at their peril. If our producers don't pay attention to what is happening to the farmer and the commodity price begins to sag, then they have done it to themselves.

Let us turn now to allocation, and I will go rather quickly. There has been some demand from certain sources in the country to go to mandatory allocation. I noticed recently Congressman Sebelius ran a questionnaire in his district, which is roughly 200 miles wide and 20 miles long, it is predominantly agriculture, and of the 25,000

questionnaires the Congressman got back, 76 percent of the respondents said that we do not favor the mandatory allocation of scarce inputs. You will never convince the farmers that the Government can do better than a free market.

Now if we would go to allocation—and it has sex appeal and of that there is no doubt—but consider that a mandatory allocation program does nothing to increase production, but only spreads the shortage. Does it do it equitably? I ask you with all candor on how it worked out with fuel allocations. Somebody had to give up gasoline, and it was the individual driver; it was ourselves.

If we have to take fertilizer away, then shall we take it away from the grape growers of California and give it to the big cherry growers of Michigan? Shall we determine that we want more rice and less corn? The farmer is the one that really gets creamed in that melee.

Last but not least, our farmers have invested tremendous sums of money in its cooperative plants. C.F. Industries is the number one producer of ammonia in the United States and soon to be No. 2 is Farmland Industries of Kansas City. It would be a gross miscarriage of justice to take away the farmer-owned plant production and give it to retailers who for one reason or another do not have material. I can assure you that you will not find enthusiasm among the co-ops for that kind of approach.

Senator McGovern. Mr. Wheeler, before you leave the subject of allocation, could I just draw your attention to a couple of typical inquiries of the kind I am getting from dealers in my State? One is from the Domestic Seed and Supply Co. at Madison, S. Dak., Ray Schultz. He said he has to get a commitment right away, or at least in the very near future, for some 400 tons of diammonium phosphate for fall and spring application and get the initial shipments no later than September 1. He cannot so far get that commitment. His principal supplier in the past has been the First Mississippi Corp.

My good friend Tom Abernethy is here. I would like to talk with him about this later.

Mr. Abernethy. There will be a small charge for it.

Senator McGovern. He also said he needs about 400 tons of anhydrous ammonia, about half in the fall and half next spring. He has been getting that from Terra Chemicals in the past but there is no commitment to date.

Then another company—and I won't go into all of these but I will put this into the record—the Chester Farm Service of Chester, S. Dak., headed by Mr. Lewis Ostraat, has distributed liquid products, primarily anhydrous ammonia, supplied heretofore by Mobil Oil Co. Now Mobil has notified him and about a half a dozen other dealers in the area that they are no longer going to supply their needs. He has a sizable investment but has no source of supply so far. He needs about 500 tons of anhydrous ammonia beginning this fall to fill the needs of about 100 farmer customers.

Those are just a couple of examples, that will go in the record.

[The document entitled Fertilizer Needs in South Dakota, dated July 24, 1974 follows:]

FERTILIZER NEEDS IN SOUTH DAKOTA—JULY 24, 1974

1. Ray Schultz, Domestic Seed & Supply Company, Madison, S.D. 57042, 605/256-6525. He needs a commitment as soon as possible for 400 tons of diammonium phosphate for fall and spring application, with initial shipment of at least part of it to arrive no later than September first. His principal supplier in the past has been *First Mississippi Corporation.* He needs about 400 tons of anhydrous ammonia, about half in the fall and half next spring, but *has no commitments to date.* He has dealt with *Terra Chemicals* in the past.

2. Lewis Ostraat, Chester Fam Service, Chester, S.D. 57016, 605/489-2171. He has distributed liquid products, primarily anhydrous ammonia, which have been supplied to him by Mobil Oil Company. Mobil has notified him and about half a dozen other dealers in the area (including Albert Duerksen of WIN Inc., Alexandria, S.D. 5711) that they will no longer supply their needs. Mr. Ostraat has a sizable investment but has no source of supply. He needs about 500 tons of anhydrous ammonia beginning this fall to fill the needs of about 100 farmer customer.

Senator MCGOVERN. Do you get into a lot of distribution and allocation problems of that kind?

Mr. WHEELER. Yes, sir.

Senator MCGOVERN. What kind of hope can we hold out for these people?

Mr. WHEELER. We obviously are getting a lot of complaints about it. It will begin to really boom when it starts to rain in Kansas particularly.

There are two problems that I know about in this particular area. One is this. Companies with no inventory are holding back to the minute to announce what they are going to do to their dealers in the way of allocation. I think Farmland has completed its effort to notify its people of what they are going to get. A number of these people will be getting their allocation figures sometime around mid-August, and hopefully these people will be included. The dealer that you first alluded to probably was supplied by Atlantic Richfield who has now been taken over by the First Mississippi Co., and I will have to check with them on that.

We frankly are having to live from hand to mouth and we do have these problems. Jim Webster of your staff and our staff have been working closely together. Senator Dole's man and our man live together in some kind of unholy wedlock trying to resolve these problems. We don't contend that our distribution system is fair and equitable in all cases. One of the big problems we have particularly in western Kansas and in the irrigated areas, Mr. Chairman, dealers are being allocated material on a historical basis. The trouble with that is it does not provide for growth. But the trouble goes back to here, to this chart [chart 1] the plants don't have room for growth.

I am on the mailing list of most of our big cooperatives, and their members are upset about this. They are spending money like there is no tomorrow to expand but they have to live frozen into position until the capacity rises. But we have tried, as I think anybody on the staffs here this morning know, to straighten these things out where we can. Senator Dole was hit hard in his State by drastic realinement of dealerships. Now you will recall we had those companies before this committee in February and you will also recall that they wouldn't back down beyond the persuasion and threats that I can bring to them—and obviously, Mr. Chairman, I can't

mandatorily allocate, as it is a violation of Federal law. But we think the worst of the shakedown is over. It pretty well has to be or there won't be any dealers left.

Senator McGovern. The Chairman, Senator Talmadge, has been concerned about this situation in Georgia. Chevron is the supplier he has brought up and a question of whether——

Mr. Wheeler. I'm glad you brought that up, Senator McGovern, to prove that I have done my homework. They have been assured that they will not be cut off this coming year. Chevron flew the two prominent dealers to San Francisco to talk to Mr. David Barlow, who is the executive vice president of that company, and you will not be plagued by any of Senator Talmadge's pen pals from Georgia.

Senator McGovern. I hope you take care of South Dakota and Kansas.

Mr. Wheeler. Well this is the point I have been trying to make.

Senator Dole. And in alphabetical order.

Senator McGovern. There are 13 very high priority States.

Mr. Wheeler. Yes, I understand because this is a vintage year in certain States for certain crops called votes.

Senator Dole. And politicians.

Mr. Wheeler. We obviously are not satisfied with the supply situation. I am nonplussed by this array of witnesses this morning saying that we are going to have a 5 percent shortage or we have a 5 percent shortage because it doesn't wash. Now I thought the committee might have been a littl bit high in saying the shortage was 20 percent. I still think my 10 to 15 percent figure is good, but there is no way that this committee is going to convince me that this shortage is not better than 10 to 15 percent ergo these farmers wouldn't take time to come down here and visit with you.

Senator McGovern. I agree with that.

Mr. Wheeler. So we are in a tight situation. I have been accused of being an alarmist. I have purposely tried to low key it this morning. We are going to be in a jam. And when you are in a jam, it causes the problems that you described. And as you know, Senator Dole has a direct line to my home and office to call me hourly about this situation.

It will be tight, but, Senator, a mandatory government allocation program would not resolve the plight. You still have that same production. You can't increase production by allocation. And to fill up a 10-story office building with Government workers to allocate at this stage of the game would be chaotic.

If we can now, I would like to move quickly to a very badly misunderstood subject on the next chart [chart 6]. In my testimony I have pointed out to this committee that based on U.S. Department of Agriculture figures that the period of July 1, 1972 to May 31, 1973, that U.S. imports were 7.3 million tons. One year later that figure had risen 1½ million tons, or our imports are now 8.8 million tons.

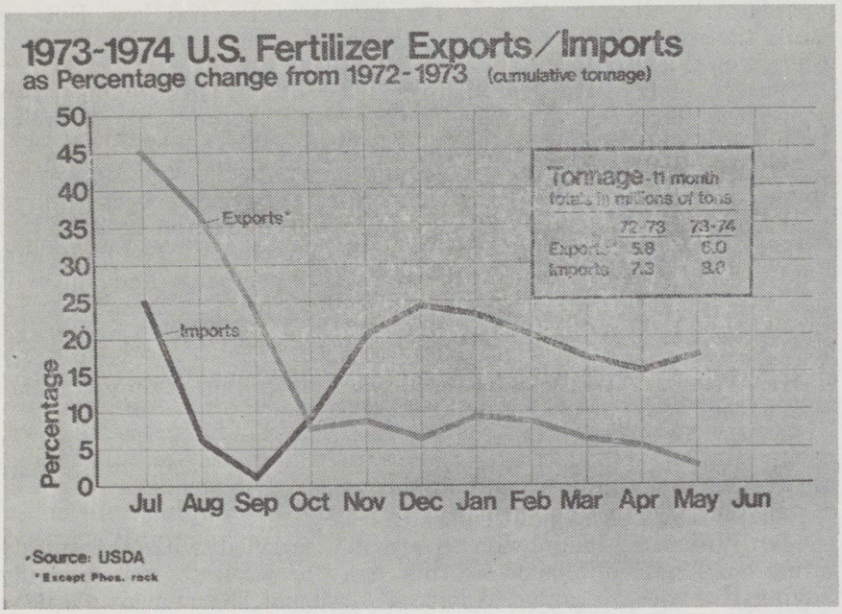


Chart 6

Turning now to exports, from July 1, 1972, through May 31, 1973, we exported 5.8 million tons exclusive of phosphate rock. In that same period a year later, July 1, 1973 to May 31, 1974, the exports rose 200,000 tons, or a total of 6 million. Therefore, as of the end of that period the United States was a net importer of 2.8 million tons of materials exclusive of phosphate rock.

Now a number of witnesses here this morning are concerned about their material, and I want to take a very quick look at it. Their material was nitrogen. We exported in this period just described, that is July 1 through May 31, 1974, we exported 529,000 tons of ammonia. We imported 378,000 tons for a net export of only 150,000 tons against a base of about 12 million tons produced.

Urea—and we have squawks about urea—we exported 318,000 tons, but we imported 611,000 tons.

Senator DOLE. What was that?

Mr. WHEELER. I am talking about urea. We exported 318,000 tons and imported 611,000 tons, or a net import of 292,000 tons.

On nitrogen solutions, we exported none and we imported 144,000 tons.

Senator DOLE. What about the relative prices of the exports and the increased imports?

Mr. WHEELER. The export price, as a quick rule of thumb, is to multiply the f.o.b. price by 2. Let's take the current price on ammonia, and it is about——

Senator DOLE. The point is, are we paying more for the imports?

Mr. WHEELER. Oh, yes.

Senator DOLE. Why don't we just keep the exports?

Mr. WHEELER. Because the geographical location of plants will determine the material that will be exported in every case. The Cook's Bay plant, for example, cannot move the ammonia in the United States except on American bottoms, and you recall the discussion we had earlier on the Jones Act. Because we could not get the Government to act, they either had to shut the plant down or they will ship it to Mexico. We let 75,000 tons of ammonia go out of that Cook's Bay plant simply because we couldn't get a waiver of the Jones Act. This was absolutely indefensable when the Pacific Northwest is crying for ammonia.

In addition, we have some long-term ongoing contracts. We have nearly all of our companies with buyers in Europe now trying to buy particularly urea. Here again, the urea being loaded in the United States for shipment to Kansas is at about $150 f.o.b. Donaldsonville, La. That same material coming out of Rotterdam into Kansas leaves Rotterdam at about $300 per ton f.o.b. vessel. A lot of our dealers, and indeed our co-ops, have been accused of gouging the farmer, but they are passing through this tremendous price because you have to put about $30 ocean going shipping rate on it, transloading at the ports, movement in by rail or barge. When that material gets up here, it is as expensive as if they had silver in it.

Senator DOLE. We just can't take that from Louisiana?

Mr. WHEELER. No.

Senator MCGOVERN. Mr. Wheeler, at the hearing that Senator Curtis and I had out in Omaha on behalf of the committee, there was some discussion of the possibility of a blend price on foreign imported fertilizer with the domestic production. Is that a feasible solution?

Mr. WHEELER. That arose out of a discussion between Agrico and one or two other companies and the Cost of Living Council trying to arrive at a satisfactory price. Here is the problem, Senator, on this blend price. Let's assume that farmer Thornton comes in early in the season and gets the domestic produced urea at say $150 plus a markup of $50 so it is arbitrarily $200. Farmar Dole comes in about 3 weeks later because he has been out campaigning and not paying attention to his crops and you say, "Farmer Dole, all I have for sale is imported urea." So Farmer Thornton pays $200 and Farmer Dole pays $400. I would tell you that I have talked with many retailers and they are in a quandry to know how to handle this.

Shall they come up with an average price of $300? Then the Senate committee says to them: "What in the world are you doing marking up domestic urea $150?" Shall they split it out and mark it Holland-Dutch urea and Donaldsonville, La. urea? And if I had the answer to that, those dealers would think I was so smart they would take me out to lunch. We don't know what to do about that situation.

I am hopeful that the co-ops will comment on that in their testimony this morning because they are faced with that dilemma, but I don't know what the answer is to that.

Senator MCGOVERN. That couldn't be done by U.S. manufacturers with the understanding they might be subject to a post audit on how they are doing it?

Mr. WHEELER. Well anything could be done.

Senator DOLE. I am not proposing this, I am merely raising some questions as to whether it is practical or not.

Mr. WHEELER. You can see where it is fraught with problems not so much with the producers with the big tremendous quantities, but it is the retailer that catches all of the sound and fury from the farmers. How do resolve that equitably? I hope the gentleman from South Dakota—one of your constituents, Senator, who is here today—makes a comment on that because he is a big retailer up there. I am sure maybe Mr. Gilliland will respond, but it is a difficult problem.

Senator MCGOVERN. You recall in October the Cost of Living Council sent out a telegram to all of your companies asking them if, in return for decontrolling prices, they would make certain commitments on the delivery of fertilizer to the domestic market and holding down exports. A number of companies replied in a rather positive way saying they could give certain assurances of what they could do in the balance of 1973 and in the first half and second half of 1974, and I will put that in the record.

[The telegram sent to U.S. fertilizer companies by the Cost of Living Council, dated October 5, 1973, follows:]

TELEGRAM SENT TO U.S. FERTILIZER COMPANIES BY THE COST OF LIVING COUNCIL—OCTOBER 5, 1973

The CLC has been cooperating with the fertilizer institute in an effort to evaluate the impact of present price controls on domestic fertilizer supplies.

To clarify the data submitted to TFI, the Council is interested in the following supplemental information to Mr. Wheeler's original question: How much tonnage of the following fertilizer materials would your company be willing to direct to the domestic market during the following periods if price controls on domestic sales of fertilizer were eliminated.

	Anhydrous ammonia	Urea	Ammonia sulfate	Diammonium phosphate	Triple superphosphate
1973: (October–December)					
1974:					
(January–June)/					
(July–December)					

Please express responses in fertilizer (not nutrient) tons.

As in the original TFI request we are asking how much off-shore sales of fertilizer you would give up if domestic prices were decontroled.

TOTALS FOR 38 COMPANIES REPORTING AS OF OCTOBER 11

[In 1,000 tons]

	1973	1974	
	October to December	January to June	July to December
Anhydrous ammonia	63.0	260.0	233.0
Urea	45.0	100.0	145.0
Ammonia sulphate	82.0	232.0	254.0
Diammonium phosphate	65.0	335.0	271.0
Triple superphosphate	80.0	148.0	161.0
	340.0	1,125.0	1,064.0

TOTALS FOR 40 COMPANIES REPORTING AS OF OCTOBER 12

[In 1,000 tons]

	1973	1974	
	October to December	January to June	July to December
Anhydrous ammonia	63.0 (55.8 N)	292.0	255.2
Urea	45.0 (20.7 N)	100.0	149.3
Ammonia sulphate	82.0 (16.8 N)	282.0	254.0
Diammonium phosphate	69.5 (12.5 N) (14.0 P)	341.5	283.0
Triple superphosphate	80.0 (16.1 P)	148.0	161.0
	344.5	1,163.5	1,102.5

TOTALS FOR 40 COMPANIES REPORTING AS OF OCTOBER 17

[In 1,000 tons]

	1973	1974	
	October to December	January to June	July to Deccember
Anhydrous ammonia	68.0	307.0	290.2
Urea	45.0	100.0	149.3
Ammonia sulphate	82.0	282.0	254.0
Diammonium phosphate	69.5	346.5	303.0
Triple superphosphate	80.0	158.0	201.0

TOTALS FOR 29 COMPANIES REPORTING AS OF OCTOBER 17

[In 1,000 tons]

	1973	1974	
	October to December	January to June	July to December
Anhydrous ammonia	68.0	203.0	180.0
Urea	40.0	80.0	145.0
Ammonia sulphate	82.0	282.0	244.0
Diammonium phosphate [1]	65.0	275.0	226.0
Triple superphosphate [1]	5.0	78.0	141.0

[1] Occidental Chemicals reported 100,000 tons of DAP and 100,000 tons of TSP for all of 1974.

Senator McGovern. Do you think the companies can give similar assurances in a forward period assuming that the same consideration is given to them, that is, no further controls on prices, and no export controls and that it is to be handled on a voluntary basis? Do you think we can get the same kind of assurances in the future?

Mr. Wheeler. I don't know. It has not been discussed at any meetings I have attended. There is no doubt in my mind that we favor the domestic market every time because the foreign market is as fickle as a 16-year-old high school girl. In the long haul our market is the American farmer. Through good years and bad he continues to buy the bulk of the tonnage with a 5 percent per year increase compounded each year.

Senator McGovern. You may proceed.

Mr. Wheeler. I would like to make one further comment and then begin to move toward a close. We understand and we have not seen the testimony, but that Senator Stevenson is concerned that the

DISC corporations encourage exports. We also understand that Mr. Gilliland's organization is somewhat concerned about it or at least going to raise a question on it. Therefore, this testimony, Senator McGovern and Senator Dole, is anticipatory. But the figures which I have seen in the preliminary drafts of the testimony show the exports and would imply that all those shipments were under the tax relief given by DISC. This is not so.

The biggest exporting companies in the industry are obviously the biggest producers. And in talking to the vice president of IMC, yesterday about that, he said: "That is ridiculous. When we have a 5-year loss tax carry forward, we don't even have a DISC corporation."

Texas Gulf, which is another big exporter, particularly into Canada, does not have a DISC corporation. For these people to imply that all of these exports moving under DISC is because of that, that is absolutely ridiculous. There is no reason to have them when you have lost your shirt first. In the 45 telegrams that I got between 1 yesterday and 9 this morning when I came up here, not one company said the DISC influenced their export decisions. Indeed, one of them said that anybody that exports on that basis ought to have their head examined.

Obviously the exports are for two reasons: either the profit in those shipments, or the trade out that is going on particularly between Florida rock going into Holland, and they are trading us back urea and nitrogen. Keep in mind that since I saw you last Morocco has taken the price of phosphate rock from $42 to $62. A year ago that rock was selling for $12. It has put the European market into a near state of panic. Ergo, they would rather trade for Florida rock and ship back urea.

But to imply that these DISC corporations are the cause of all this is really ridiculous.

Let us turn now, if we can, to one thing that Senator asked AID about this morning. Senator, by pure happenstance, in the Oil and Gas Journal of July 22 appeared a rather startling article on one of the proposed recipients for AID, and that is India.

India's current winter wheat crop alone has a demand line of 1.9 million tons of nutrient. Its supply is 970,000 tons or a shortfall of 980,000 tons of nutrient on their wheat crop.

The total estimated nutrient needs on all other crops of nutrients for the coming year in India is 2.87 million tons of nutrient.

The best that they will get is 1.46 or a shortfall of 1,410,000 tons of nutrient. This is typical of the less fortunate nations.

Bangledesh has not succeeded in getting a ton of material on four public tenders. AID came on the street with a 350,000 ton tender and finally was able to purchase 47,000 tons of material. They are now on the street with a mother tender.

I should like to have the Chairman enter that into the record.

Senator McGovern. Fine.

[The article from the Oil and Gas Journal dated July 22, 1974, follows:]

[From the Oil and Gas Journal, July 22, 1974]

High Costs Choke India's Processing Expansion

India's refinery and petrochemical expansion programs are in serious trouble. Increased construction costs and crude-oil prices have already caused cancellation of at least one planned refinery. And joint ammonia/urea plants with Japanese interests are being jeopardized by runaway cost increases.

These adverse developments come with the country already facing critical shortages of fertilizers and petroleum products.

Sources connected with the Indian oil industry estimate there will be a crude shortfall of 11 million bbl by the end of this year. Their calculation is based on the government's restricted allocation of foreign exchange for imports.

India imported 267,800 b/d of crude and 76,600 b/d of products in 1973. Domestic crude production was 144,000 b/d.

The foreign-exchange allocation this year will permit imports of only 250,000 b/d of crude and 62,000 b/d of products. Domestic crude production is expected to slip to around 140,000 b/d. Based on 1973 demand, average shortfall could be over 36,000 b/d for 1974.

CRUDE SUPPLY SHORT

Another problem is lack of a firm source of crude supply. The government has commitments of 56,000 b/d from Iraq, 20,000 b/d from Iran, and 22,000 b/d from Saudi Arabia. An additional 98,000 b/d may be available from Saudi Arabia. Even if the total amount is made available, it will be 32,000 b/d short of the public-sector refining needs.

The new 50,000-b/d refinery at Haldia is due on stream this year. It may not be able to operate at more than 10,000 b/d if additional sources of crude are not arranged.

Further, production in the Ankleshwar field in Gujarat State is reported to be declining, which will further limit domestic crude supply.

Faced with a decline in foreign-exchange assets, the government has drastically cut allocations for crude imports by Burmah-Shell, Caltex, and Esso. The cut is 24 to 34%.

These refineries will be running at reduced rates for the rest of the year.

The increased cost of crude has caused the government to cancel its planned 90,000 b/d refinery at Goa. A 120,000-b/d refinery at Mathura is still planned.

FERTILIZER SCARCITY

India's winter wheat crop will suffer from the shortage of nitrogen fertilizer. Supplies will be only about 970,000 tons, compared to a need for 1.95 million tons.

The Agriculture Ministry has predicted that the fertilizer shortfall will be about 27% for the 1974-1975 crop year.

But the shortage may be much larger, since many believe that neither imports nor domestic production will be close to ministry predictions.

Total estimated nutrients needs for the fall season are estimated at 2.87 million tons, availability not more than 1.46 million tons. In addition to the nitrogen fertilizer shortfall, phosphate needs of 605,000 tons will be far in excess of the expected supply of 260,000 tons.

Potash will be closer to balance. Requirements are estimated at 318,000 tons, supply 235,000 tons.

PLANS FALTER

Soaring cost of building up new fertilizer plants is threatening several projects, leading to a possible long drawn-out shortage. Capital costs of urea plants have risen by more than 35% in the last 7 months, Indian sources report.

Total cost of three naphtha-based units that were to be erected with Japanese financial credits and technical guidance now is estimated at $146 million more than originally figured.

A coal-based plant with a capacity of 1,400 tons/day now will cost $289 million. When proposed by Imperial Chemical Industries for North India, the plant's estimated cost was $213 million.

At prevailing prices of construction materials and noncoking coal, urea would have to sell for at least $300/ton to be profitable. Currently, it sells at $256.

If equipment orders for the Japanese-assisted plants are placed in the fiscal year ending next May, it's estimated each will cost 75% more than the $133 million originally projected. Urea from these plants would retail at $330/ton if they are to be economically viable.

Mr. WHEELER. We have a new policy statement from the U.S. Government, which I would like to have the Chairman enter into the record. We received a letter from Mr. Kenneth Rush addressed to me dated July 12, 1974. I will omit the mechanical parts, but it reads:

In these circumstances it seems wise to do what is feasible to increase the capacity of these countries to produce their own food. With this objective in view, the U.S. Agency for International Development will be inviting bids on a world-wide basis for its planned FY 1975 procurement of fertilizers for these countries. It is the hope of this Administration that U.S. fertilizer producers will seriously consider responding to the best of their capacity to these AID bid invitations.

Senator MCGOVERN. That will go in the record.

[The letter from Kenneth Rush dated July 12, 1974, follows:]

THE WHITE HOUSE,
Washington, D.C., July 12, 1974.

Mr. EDWIN M. WHEELER,
President,
Fertilizer Institute,
Washington, D.C.

DEAR MR. WHEELER: The United States Government is deeply concerned with the threat of famine which for a variety of reasons overhangs a number of the poorest and more populous countries of the developing world. Recent bad weather, shortages of foreign exchange due to the escalation of prices of essential imports like oil, the absence of food reserves and a serious shortage of fertilizers have left many of them in a highly vulnerable position.

In these circumstances it seems wise to do what is feasible to increase the capacity of these countries to produce their own food. With this objective in view, the U.S. Agency for International Development will be inviting bids on a world-wide basis for its planned FY 1975 procurement of fertilizers for these countries. It is the hope of this Administration that U.S. fertilizer producers will seriously consider responding to the best of their capacity to these AID bid invitations.

Sincerely,

KENNETH RUSH,
Counsellor to the President for Economic Policy.

Mr. WHEELER. Now as you know, we committed ourselves to hold these exports down. We frankly demanded some clarification. Do you want us to help AID nations or don't you? This is the administration's response.

It is my considered judgment that they will not come within gun shot of the current tender on the street. Every free nation on the world is eligible to bid and the shortfall is going to be frightening. The $64 question is what do we do? Time is running out.

This means that we either have to have the Congress of the United States fund big grain purchase or these countries are really going to be in a pitiful condition.

I should like to close now, Senator, if I could, by making some comments on the fuel situation and my sincerest apologies to you for taking so long.

First I would like to say that after Senator McGovern and Senator Dole educated the Federal Energy Office that fertilizer was an agricultural input, we were given 100 percent of the fuel allocation. Here again, Senate Resolution 289 bore fruit and we are not having trouble with liquid fuels. Recently the Federal Power Commission in response to Senate Resolution 289 came out with the rather lengthly discussion of what to do about gas and gas supplies.

First they held that they would not come up with an cross-the-board ruling on fertilizer but would continue to go case by case, which is a great thing for the legal community of the United States.

Second, they did not come to grips in this last pronouncement with a basic problem we have. They say that if you have a number—well, if you have a firm gas contract, you have priority 2. If however, the gas plant has an interruptible contract, you have priority 3. And in my judgment, the Commission did not spell out why they are going to make that differentiation when we so badly need this ammonia. There was no reason for them to leave those interruptible contracts in priority 3 and you will see the reason for it in just a minute.

Third, we were disappointed to say the least that the Commission did not come to grips with the basic question that the chairman of this committee had been trying to get an answer on, and that is what are you going to do about gas supplies for newly constructed plants? It was at this point I wanted to discuss the Canadian situation, but we have done that and I shall move on.

Now one of the problems that they did not come to grips with in our judgment is should the Congress of the United States do something now about priority at the intrastate level? The North Carolina Public Service Commission has directed the following notice to be served on our companies in the State of North Carolina.

In a letter pursuant to that order signed by Mr. William G. Hill, vice president of North Carolina Natural Gas, the following was received by Royster Corporation and others:

> In our opinion under the Federal Power Commission 467 (end use) of gas curtailment you could anticipate full interruption of your interruptible natural gas service during the entire 151 days from November 16th through April 15th of 1975.

The same thing obtains in California. Collier informed me yesterday that it appears now that one of their big plants is going to be interrupted about 180 days. The answer to a 180 day interruption is a brass padlock because you can't run these plants 6 months out of a year. So that the Federal Power Commission must return to its drafting board and come up with some suggestions to the Congress that we can alleviate this intrastate problem.

Now I know that there are some members of the Senate Agricultural Committee that do not agree with our position in our industry. But we basically believe that the heart and sole of this gas problem is a policy of 20 years of failure in regulating the wellhead price of gas. Any time you want to get production in this country of something, you say to the guy, "Sam, we are going to let you make a profit," and then stand clear.

This situation is most illustrative in our farmers. When the price of wheat rises to $5, the farmer will plant everything and anything to get that profit going to result from that production and the gas companies will do the same thing. It is interesting for us to note that of the four plants underway, that three of them are on intrastate gas. Conceded that the price to be paid in Oklahoma is going to be 50 cents per thousand cubic feet was an escalator in it, but that sure beats a plant in the Mideast. That beats a plant in Canada. It is located within the confines of the United States where we know that supply is going to be dependable.

We recognize that this is a touchy issue in the Congress of the United States but we also recognize that the Congress cannot escape looking ahead until 1980. We have to have 18 new anhydrous plants on stream by 1980 assuming that the present ones continue to produce at high levels. If we don't have the gas, then we don't get that kind of production.

Senator McGovern. Hasn't there been some relaxation by the Federal Power Commission on new gas rates, Mr. Wheeler?

Mr. Wheeler. Yes, sir, but the rate was 42 cents on certain gases, and this is not across-the-board at all. It was 42 cents on certain gases, but it is at least 8 to more cents below current price.

I think we are going to see two additional plants shortly announced in Donaldsonville ergo that big shoot up of the $200 million investment so that will out of Louisiana and intrastate gas. But if we want to have the State of Texas and the State of Louisiana and the State of Oklahoma dictate what is going to happen to us, this is just fraught with peril. We think the best way to resolve this ruckus is to resolve whether we shall use this gas for boiler fuel or shall we use it for feedstock? Let the law of supply and demand regulate that. Now as you would probably know, I have had a lengthy discussion with Senator Stevenson on this, and I must report the score is Stevenson one and Wheeler nothing.

Senator McGovern. Well even if you got your way in terms of deregulation of natural gas, that still doesn't provide any priority on fertilizer supply.

Mr. Wheeler. If you get the gas, Senator, you don't need the priority if you get the production.

Senator McGovern. Do you think that——

Senator Dole. You have to have some priority.

Senator McGovern. Pardon?

Senator Dole. You have to have some priority for a while to get geared up.

Mr. Wheeler. Well if you deregulated the price of natural gas tomorrow morning, it would take at least 30 months or 36 months before the necessary wells would be drilled and pipeline installed. If you sign a contract this morning with M. V. Kellogg to build a plant, 40 months lead time is required. This is what is bothering me. I don't think the Congress is going to do anything on this until after this election, and they get reorganized next year to get going, but with a three-year lead time beyond the time the wells come on, because you are not going to put a plant at East Branch, S. Dak.,

and pray that the gas finally gets there, well you have to have those reserves behind it and——

Senator McGovern. But you could get a decision by the Federal Power Commission that natural gas be made available on a priority basis and whatever supply we have, that it be made available on a priority basis.

Mr. Wheeler. That works okay until you get to the point when they start to shut the gas down on other types of manufacturing.

Our capacity in the United States is 22 trillion cubic feet a year. It has been sliding just slightly. We are not holding our own. Yet we know that capacity has got to rise on gas production. The best way to get it to rise is to go the economic route. Now we had proposals, for example, to have a Federal energy corporation created to explore this, but I always think of that great expression that from the great company that delivers your mail you are now going to get your natural gas.

Senator Dole. That is a private corporation now.

Mr. Wheeler. I know, but we know who the chief stockholder in the corporation is.

But we think this should be resolved in the marketplace. It is inexcusable to continue to use gas as boiler fuel in big power generation activities and——

Senator Dole. Mr. Chairman, I am going to have to leave.

Senator McGovern. We are going to have to ask you to wind up, Mr. Wheeler.

Mr. Wheeler. Let me be a minute longer and conclude——

Senator McGovern. We do have two other witnesses.

Mr. Wheeler. I'm sorry. Yes, I will. Let me conclude by saying we foresee next year being in a very, very tight situation from supply and product. We urge the committee to take as bold as leadership on this gas thing as it did earlier with our other problems, because they really began to get solved.

We greatly appreciate particularly the help of Jim Thornton of this staff for assisting us in these efforts.

Senator McGovern. Thank you.

Senator Dole. I just want to ask a couple of questions and he can furnish the answers for the record because I know we do have two more witnesses. But I would like to know who owns these plants overseas, or where we get these foreign imports that cost us double, and triple that we could pay for the domestic supplies if you didn't ship those overseas? Are they owned by the same people?

Mr. Wheeler. No, in many countries, of course, the plants are owned by the government itself.

Senator Dole. Is there any joint ownership of the American, well any interlocking ownership?

Mr. Wheeler. No there isn't, Senator. Obviously the co-ops don't have any interlocking and they are the biggest in the United States. Number three is Allied and it does not now have any fertilizer interest overseas. It had an interest in one plant and they had a divorce.

Of the top 10 producers I am absolutely certain there is no interlock of any kind or fashion.

Senator DOLE. That would answer one tough question that we get all the time and you get all the time on the price of the importer versus what we would pay for the domestic fertilizer if it wasn't exported.

Second you have the so-called brokers' question and the profit question. You touched on everything except the profits you made. You went all around the increased costs and all, but you never talked about the profits. You said they were substantial. Were they excessive?

Mr. WHEELER. Senator, we will be able and we will file with this committee a report that should be out of the industry by about the 15th day of August. Annually Ernst & Ernst surveys the industry. It will break out return on investment and so forth. It is a matter of public record, and I will furnish it to the staff as soon as it is available, because candidly I do not know.*

The preliminary cash flow for a 10-year basis up through December 31, 1973, indicated that period the industry did not switch into the black. Obviously, with this additional year in there it will be in the black, but we will have to see what the numbers are. We will be pleased to furnish that to the staff.

Senator DOLE. Finally, if you have any examples of where brokers have moved into the fertilizer business or any suggestions that we might be able to follow in order to do something about it——

Mr. WHEELER. In a nutshell, Senator, over the years there have been a number of old line brokers. They have been in the business for years and years and years. Now coming out of the woodwork are more brokers than Mr. Carter has pills. Recently an offer was made to AID by a company whose letterhead I shall leave off the top part, but the second part was, "Restaurant equipment company" offering 1,400,000 tons of urea—which they didn't any more have than the man in the moon—and so on.

The purpose of these people are to go to a farmer or retailer who is desperate for material and say, "I can get you material for $400," and then go to someone else and get it for $200 or $300.

We by and large have a very, very responsible bunch of retailers and good citizens of the realm. They are, however, some retailers who have been known in the dead of night to move material out of Kansas to a broker in Nebraska and then call Senator Dole the next day and say, "I need more fertilizer." And we know of dealers that have done it.

Senator DOLE. And I think I have talked to them.

Mr. WHEELER. You bet. But there was a bad misunderstanding, Senator McGovern, in the last hearings that you and I were parlaying back and forth that all dealers were bums. I am sorry that the particular newspaper that printed that did not examine the verbatim transcript——

Senator MCGOVERN. I never said anything about them being bums.

Mr. WHEELER. And you can bet I didn't. I have some as members. But we went back to the verbatim transcript and the exchange between you and myself at that time is the same as it is today. Obviously in a tight situation you are aways going to have a few

*The material requested by Senator Dole is not available at this time. However, it will be furnished to the Committee upon its availability and may be viewed upon request.

people who would cheat but the majority of nearly the 10,000 dealers in this country are as honest and good a people as you would ever want to work with.

I can't say to you honestly, Senator Dole, we don't have some Mickey Mouse going on with certain dealers and with certain wholesalers and with certain brokers. We are watching right now to see if some material appears on these public AID tenders as to where it comes from.

Senator McGovern. Well, Mr. Wheeler, thank you for your testimony. This is as good a time as any for me to say on behalf of myself, and I think the other members of the committee, we appreciate what the industry has done in the last year and the responsible efforts made on production, pricing, allocation, exports, and so on. But we also want to underscore what you yourself have warned member industries, that is, that this committee's first interest is in the welfare of the farmers of this country and the fact that they get the necessary supplies at reasonable costs.

So we will continue to watch this very closely as you properly have said. We appreciate your testimony.

Mr. Wheeler. And thank you, sir.

[The prepared statement of Mr. Wheeler follows:]

Statement of Edwin M. Wheeler, President, the Fertilizer Institute

Mr. Chairman and Members of this Committee: You will recall that the last time I was before this committee I identified our organization and I shall try to shorten the preliminaries here today. The Fertilizer Institute now represents 90% of total U.S. production. Re-phrased, only 2 of the major U.S. producers are not members of ours and I have reason to believe that soon this will shrink to one. We are a non-profit corporation, organized under the laws of Delaware and have as our principal place of business located at 1015 – 18th Street, N.W., Washington, D.C. 20036. The Fertilizer Institute, succinctly stated, is a trade association.

You will also recall, I trust, that when I appeared before this subcommittee in February I made the opening comment that many times these hearings conclude with a big fat zero. That is to say, no action is taken although sometimes resolutions come forth that express bold propositions and no enforcement or urgency is expressed.

I am pleased to say that the hearings in February, resulting in the adoption of Senate Resolution 289 by unanimous vote on the floor February 27th exceeded our fondest expectation. To begin with, the sense of urgency in the Federal agencies was felt almost at once. As an example, the Federal Power Commission has promptly processed all of our requests for emergency supplies of natural gas. In the eight cases that we have filed with the Commission, they have acted favorably on all eight. The Interstate Commerce Commission equally understood the sense of urgency as expressed in the aforesaid resolution. Consider that with the prodding of the Secretary of Agriculture and the able and urgent request made by the Chairman of this Subcommittee, the Interstate Commerce Commission promptly gave us 1,000 additional hopper cars per week in assisting us in moving phosphate out of Florida. I think one would have to concede that Senate Resolution 289 was one of those rare resolutions from this body that bore fruit. On behalf of the industry and I am sure our farmers would join, we wish to commend not only the committee, but publicly I should like to commend the aggressive and able staff members who made S. 289 bear fruit.

As we understand the request of the committee today, we are asked to address ourselves to nine different areas. We shall try to be succinct, yet at the same time give this committee an opportunity to take a look at what is ahead of not only the fertilizer industry but indeed much of the agriculture

community. Mr. Thornton of the staff has asked us to cover therefore the following subjects:

1. Brief review of the situation as of June 30, 1974.
2. Demand.
3. Supply.
4. Price.
5. Allocation problems.
6. Export vs. Import.
7. Gas and Fuel Supplies.
8. Expansion.
9. Reporting systems, e.g., Commerce Department.

1. BRIEF REVIEW OF THE SITUATION AS OF JUNE 30, 1974

There is no precise way to prove whether or not the forecasts of USDA, our industry, or the committee itself was accurate in the nitrogen shortfall. Recently the cutbacks in forecasted harvests had been attributed by the USDA to the weather problems. It has been said by the Department that the shortfall of major crops was not due to fertilizer, fuel, pesticide, herbicide shortage, but all due to weather. We hope the department feels confident with this statement. We hope that they are as equally comfortable with this declaration as they are in their ever-decreasing forecasts of what this country is actually going to produce this year. Candidly, we think they know no more about the input situation than they do on the output situation and we shall examine that and I shall add candidly at this point, critically, in just a few moments. Suffice it to say, based upon conversations with dealers, Congressmen, and many, many personal meetings, we feel that the country was not able to get its fertilizer requirements and that the shortfall was just about what we told the committee it would be last year, namely, 10 to 15% short on nitrogen, and about 5+% on P_2O_5. Nevertheless, the year has ended and for our industry we would have to say in all candor, it has ended profitably, albeit at alarmingly low inventory levels.

2. DEMAND

It is too early to forecast with any precision what the U.S. farmer will need over the next 11 months. We hedge because one is uncertain as to the planting ratios of corn (high nitrogen) vs. soybeans (near zero nitrogen); wheat (increasingly high nitrogen) vs. rice (high nitrogen). Farmer decisions aren't made this early.

Therefore, the following estimate of the situation is not that of The Institute, but is my own personal judgment based on the NOW situation.

First, I believe wheat prices will continue to be strong even to the point of $5.00 at the country elevator. Our wheat harvest was high—but no buster. It would now appear that the Canadian crop will be disappointing due to late planting caused by wet weather. Assuming the emerging nations can come up with the necessary financing, export demand will be intense. Indeed, we could see the situation where our own government will have to purchase for and/or finance these countries to prevent outright starvation. We therefore believe that just as soon as badly needed rain is received in Texas, Oklahoma, Kansas, Eastern Colorado and Nebraska, a booming demand will ensue for ammonia or its derivatives. Re-phrased, it is our current estimate that our thin stocks will be depleted by the wheat farmer.

Corn yields in the U.S. were originally estimated at 6.7 billion bushels. This estimate has been lowered to 5.9–6.4 billion. It is my judgment based on personal observation plus consulting many other sources that our corn crop will actually yield about 5.5 to 5.7 billion bushels. Corn prices are already reflecting this impression. If we are right, this figure compares to a harvest of 5.6 billion in 1973 or no gain in production. Strong corn demand-price could be well tempered by the disaster so apparent in the beef and pork industry both here and abroad. Nevertheless we believe the market for corn will be strong and we can anticipate record demand for our material late this fall and an all-out surge next spring. Parenthetically, sorghum grains would seem to be in the same situation.

Soybeans will be a real disappointment unless the rains come soon and fall is late. High bean prices will bring a demand for phosphates and potash but will not have any real effect on nitrogen.

I would expect that rice will set production records but demand also will remain high. We anticipate cotton demand and acreage will be down in the coming year.

All signs added together would indicate the largest potential domestic demand we have ever faced with production remaining essentially static. I purposely do not forecast a shortfall with any precision simply because of the unsolved factors in a complicated formula. I would expect, however, based on the current outlook that the shortage this coming year will be even more severe than last.

3. SUPPLY

We, therefore, turn now to the third subject that the Committee asked us to review, supply.

As the first graph shows, we have oversimplified this issue by presenting to the Committee a bar chart showing the inventory in the last three years presented on a basis of day's production. For example, Chart 1* shows that as of June 1, 1972, we had on hand in the possession of the nitrogen producers 37.5 days; worth of production. On June 1, 1973, this figure had dropped to 23 days of production. As of June 1, 1974, the United States had dropped down to 12 days production on hand. Restated, this means that if a mighty hand from above were to suddenly stop all production in the United States as of that time of nitrogen, at the end of 12 days all of the material in the hands of the producers would be exhausted. Switching quickly then, to phosphates on the same basis, you will note on the center graph of Chart 1, that as of June 1, 1972, there were 18 days material on hand. In 1973, there were 14 days on hand. And, as of June 1, 1974, there were but 11 days' worth on hand. So that the Committee can understand how rapidly the world fertilizer situation has changed, we now move to potash which includes the U.S. and Canada. As you will recall from earlier testimony, the bulk of the potash used in the United States comes from Canada. As of this year, 65% of all American consumption comes from non-U.S. sources. Quickly, then, the chart shows that we had a very healthy 51 days on hand as of June 1, 1972, relatively little deterioration in 1973 with 39 days on hand, but notice now that the potash inventory reserves have dropped very drastically to 13 and ½ days as of June 1, 1974. Summarizing Chart 1 then, you can see that in no single basic nutrient does the United States begin July 1, 1974, with more than 14 days or a half a month in reserve, and this should cause alarm to anyone who is studying the current fertilizer/grain supply situation.

I should like to now turn to Chart #2 which is the U.S. nitrogen production capacity, based on 1972 to 1980 data. We have adapted this data from the Tennessee Valley Authority, both on published articles as well as extensive conversations since the Chairman of the Subcommittee had indicated that hearings would begin. Both the TVA and ourselves agree that this is going to be the situation over the next two or three years. If you will note from Chart #2, our production capacity of total ammonia in the United States in 1972 was 17,004,000 tons. It has not significantly changed over the last year or two and those changes are attributed basically to de-bottlenecking. We now forecast that during the next year the industry capacity will reach 18,543,000 tons or, this will be the maximum production possible in the United States as of June 30. Note that while this is the total ammonia capacity, about 75% of this material is used in agriculture and the balance goes into other industrial products such as paper-making, glues, and so forth. This means, then, essentially that we have about 600,000 tons more nitrogen as of the end of June, 1975, than we had as of the end of June, 1974. The caution light should flash, however, in that the capacity of 18.5 million will only be obtained if we do not have severe cutbacks due to the lack of gas in the inter- and intrastate system. It is true that we had earlier forecast that we would lose nearly 400,000 tons this past year due to gas interruptions. Equally true, it appears that we in fact this last year

*See charts 1 through 6 beginning on p. 54.

lost only 230,000+ tons, but one should bear in mind that it was not the great planning of industry or government that occasioned this, but it was due in fact to the mild winter which the United States has just passed through. Ergo, we would point out that to obtain this increase of about 600,000 tons requires the plants to perform extremely well and requires that the Lord bless the United States with mild winter. I should also like to point out to the Committee that this last year our plants have been running all-out at a very high rate of production capacity approaching 98% and we have some misgivings that we can repeat this high level of achievement. These plants must be overhauled once each year and their catalyst replaced as well as heavy maintenance performed. Many of our plants ran 14 to 15 months without what we call a turn-around. We do not believe that we will be able to achieve this same record this year, but assuming that we do, then we are saying that there are good prospects for 5–7% more ammonia for agriculture use in 1975.

Turning to phosphoric acid capacity, which is the real measure of available phosphates in the United States because it is the basic underlying product of all phosphates, we move to Chart #3. As of the end of June, 1974 the capacity in the United States was 6,751,000 tons and in spite of the many many announcements of new capacity made by the industry we do not believe the industry will exceed 7,479,000 tons as of June 30, 1975. Earlier forecasts given by many authoritative persons has been reduced simply because of the inordinate delays in the construction and facilities. We do see great relief on the scene in 1976 as the graph shows, rising to 9,161,000 tons. The industry was hopeful that this tonnage would be achieved earlier, but alas, the construction delays of which we are all familiar has precluded this. Restated, we believe phosphoric acid capacity will be the limiting factor on triple super phosphate, diammonium phosphate and feed grain phosphate this coming year. We would say to the Committee, hopefully in the next round of hearings, that finally we are producing sufficient phosphoric acid within the United States. Phosphate rock capacity is being strained and increased supply of this essential material is a must if the aforesaid goal is to be attained. We must have prompt action by Florida environmental agencies or we are going to be in serious trouble. Major expansions are proposed in the Rocky Mountain area and again prompt action is a must by the Departments of Interior and Agriculture.

Chart #4 relates solely to potash. As you can see, there is not going to be any appreciable gain in mining capacity either in the U.S. or Canada. The reason for this is quite simple. There is a basic divergency of opinion by the government af Saskatchewan and the potash producers as to the governmental levies that should be imposed upon the material; the amount of control that the Saskatchewan government ought to exert in the manner of marketing this product, and I should say in all candor that there is grievious concern by our producers as to whether or not any further investment ought to be made in Canada until the delicate political situation is resolved. It is fair to say that the basic governmental concept of Saskatchewan is one of Socialism. This being so, one could expect greater and greater encroachment by the Provincial Government on production and until this whole situation is resolved our American companies are reluctant, to say the least, to make the necessary investments to step up production. We think that the Committee and agriculture generally are going to be very surprised at the tight situation on potash this coming year.

Having seen the first four charts, then, you can readily tell that nitrogen, phosphate, and potash availability will change relatively little.

4. PRICE

No hearing would be complete without a discussion on price. It will be recalled that the price of fertilizer was decontrolled in October, 1973, and the price rose rapidly. At the time it was my public statement that the domestic price would probably rise toward the export price. It did just that. No one could foresee, however, the soaring export or world price. Dr. Dunlop, it will be recalled, asked the industry as of January 10th not to increase its prices on a voluntary basis through June 30, 1974, and the producers by an overwhelming majority responded to that request. Prices remained steady

therefore between January 10th and June 30th. As an example, ammonia, which is the basic product, remained relatively stable at $120.00 FOB production site. Since July 1st I should report to this Committee that the price of ammonia now has risen to the vicinity of $145.00 to $160.00 FOB depending upon company location and so forth. Similar increases have been experienced in triple super phosphate, diammonium phosphate, and many other products not exclusive of potash. Many farmers and many retailers believe that these are unilateral price increases. They are not. Over the last year our transportation prices have increased at least 25%. Transportation is a major item in the movement of nearly 50 million tons of product. Prices for oil, of which we are heavy users particularly in reagent and drying applications, has risen nearly 300%. Our price of electric power has soared off the charts and we are large users of that utility. Electric power, particularly in Florida, is based primarily on oil and its tremendous price has reflected itself in the electric rates. The electric power companies are powerless to protect themselves and we mean no criticism of them. Our phosphate operations in Florida have been hit by many wildcat strikes simply because the men could not meet the onerous cost of living increases at their then contract rates. All along the line our costs have soared. We, therefore, are not the captains of our soul on pricing.

It is fairly clear that at any time one wants to arrest a price rise of such dramatic significance that has afflicted us, the way to resolve that situation is with additional production. This is a basic law, or an ancillary law of supply and demand. But let us consider that the ammonia being produced today comes from plants that were constructed in the early or mid 1960's. A thousand-ton-a-day plant bore a price tag of about 15 to 20 million dollars. Today, the price of that identical plant has now risen into the area of $70 million. No engineering and/or construction organization will give you a firm price on these plants simply because costs prices are rising so fast. I think a classic illustration of the rising construction cost is that announced recently by Collier Carbon and Chemical Co., a wholly-owned subsidiary of Union Oil. In the mid 60's it built a rather comprehensive complex in Alaska. This plant cost a little over $50 million and is an integrated plant with ammonia, urea, and so forth. Collier is now going to build a twin brother to this plant and the preliminary estimated cost is now $165 million!

If we are to have expansion with prime interest rates hovering at 12%, with the cost of plants doubling and trebling as a conservative forecast, we are not going to be able to raise the capital or, indeed, get any board of directors to allocate the necessary staggering sums to build these plants unless the plants command a price for their product commensurate with the investment.

Chart #5 is a special study we requested Ernst and Ernst to make for us on a very hurried-up basis. As this chart shows the capital expenditures in the nitrogen industry for 1973 was a relatively modest $109 million for that year. In 1974, this figure rose to $332,900,000. The forecast by the reporting companies is that it shall rise to $689 million in 1975, and will take a further jump, peaking in 1976 at $935,600,000. Even in our relatively small industry this is a staggering annual increase in investment. Environmental controls alone are $96,091,000 in the next five years. We, obviously, as an industry will not proceed to move to this type of capital commitment unless a profit can be reasonably anticipated. We have received information both privately and publicly which would indicate that these new plants must command a price well above current FOB pricing. Were the Senate Committee to recommend roll-backs or freezes this capital commitment would be abruptly stopped and the problem we seek to resolve would grow increasingly worse because *the only way out of the current dilemma is additional production.* We would caution the committee that availability of gas is an important issue and we shall addres ourselves to that in few moments. This same Chart #5 shows that the phosphate producers are spending very rapidly. Note if you would that in 1973 the industry spent $130 million. This zooms to $458 million and peaks, as I had indicated earlier, in 1975 to $642,700,000 and begins to taper off. On this product we will expend $207,179,000 for environmental protection. We will have, therefore, adequate phosphates available to us in about

a two-year span assuming that the zoning and environmental difficulties are resolved, particularly in Florida, soon in North Carolina, and rapidly now building up in the Rocky Mountain States.

In other words, the investment that is being made is all premised on the satisfactory resolution of environmental problems. I should like to caution the Committee that we may well come back to them in the not too distant future and implore the Committee to work out some system whereby environmental permits can be issued on a more expedited basis in the phosphate industry because, while it sounds like a simplistic cliche, we cannot produce phosphates without rock no more so than we can produce nitrogen without gas.

The next Chart, #6, shows the long-term trend which this Committee has seen before with all major agricultural inputs being placed on an index of 100 as of 1950. You will note that in this interim period the price of real estate has risen to an index value of 468%, up 300%. Farm wages are close behind with an index of 340. Fertilizers, even with price increases up through April of this year, were still only an average 28 percent higher than 1950.

Now, of course, prices since April will substantially change that index by the time the next figure is computed in September.

But, while it is true that prices advanced, it is also true that prices started from below any kind of a reasonable level, they departed from a point where the industry was losing money to the point where the industry now is not only earning money but earning money to the extent that it would encourage additional capacity. Anything that the Congress would do to discourage earnings would also discourage any additional expansion. Expansion we must have if we are going to resolve not only the problems in the United States but among other nations to which we shall allude.

5. ALLOCATION

The Committee staff has asked us to comment on the allocation problems. By and large, it would appear now that the difficulty of switching in to all types of homemade self-help of allocation have worked out well. The dealers also have begun to realize that they have got to live with a tight situation over the next several years and they, themselves, have adopted methods of self-help. The companies, by and large, started out with an annual allocation but because of the disappearance of inventory they have had to go to a month by month allocation system. We have had a shake out of a number of marginal dealers and, while this was painful it is a fait accompli and we do not believe that allocations problems per se will be with us this coming year. What we are saying, therefore, is that it would appear now that the shortages are going to be equitably distributed.

We note that the chairman of this Subcommittee announced in the Congressional Record recently that this Committee was concerned with the fair distribution of materials. To us, and we do not mean to be harsh, this means that the Committee is thinking about the possibility of governmental intervention in allocation. Recently a friend of mine in the other body conducted a survey which showed an overwhelming response of 76% of the 25,000 persons responding in this district, did not favor the allocation of scarce agriculture inputs. To make this record clear, our industry is adamantly against mandatory allocations.

Mandatory allocations do nothing but spread the shortage

Mandatory allocations must make the most devastating decision of all in that farmers who get fertilizer under such a system will prosper and those raising crops that some bureaucracy determines are not essential get nothing or at the very least a minimal amount. I think no bureaucracy has the wisdom to decide as to whether corn in more important than rice or vice versa. While it could be said that the grape vines of California ought to be reduced, if you are a farmer in the Midwest, I doubt seriously if the California farmer or his Congressional delegation would agree. The more basic problems presented by a mandatory allocation system are the lack of flexibility. Consider that ordinarily the Southeastern part of the United States opens first in the spring, but we have seen the situation where they would be afflicted by heavy rainfall and could not get into the fields. The allocation system, however,

would have material stuck in Georgia, Mississippi, Alabama, that could not move north where the weather was open without a great flurry of paperwork and the usual bureaucratic delay. The entire flexibility of our current distribution system would be taken away from us by such a mandatory program.

I do not believe that the Senate realizes that one of our principle producers of fertilizer material is the cooperative system itself. The farmers have invested millions and millions of their dollars into these facilities and you would be, in effect, taking away material from the cooperative producer and placing it in the hands of retailers who for years have bought from brokers and have no identification with any producer, let alone the cooperatives. We do not believe that the cooperatives would give any kind of credence to this proposal. The list is endless on reasons why this system should not be adopted.

Lastly, to buttress this entire argument, no one knows yet what the American farmer is going to do insofar as the acreage of wheat, corn, soybeans, rice, and so on next year. The farmer and the farmer alone will make this decision. An allocation system to supply the farmer based on that last minute decision could not possibly be implemented in time to get him the necessary fertilizer materials. Imperfect though it may be, we believe that the companies are doing a reasonable job in getting its dealers and its farms through a tight situation. The current system, while not always equitable, has that degree of flexibility and responsiveness which has always been the hallmark of American agriculture and American agricultural inputs. We implore the Congress to carefully consider the grave problems raised by allocation. Indeed, these problems are more grave than that which is sought to be solved by the creation of a large bureaucracy. We think it is true that many problems and complaints are ahead. But we think it equally true that the creation of a large bureaucracy will not relieve us of that headache.

6. EXPORT VS. IMPORTS

We turn now to one of the most misunderstood subjects that seemingly defies a satisfactory explanation to farmers, retailers, or for that matter, politicians: the export versus import subject. Our records are based primarily on Department of Commerce data (Chart 7) and while we have some question about their efficacy, they nevertheless show that beginning for the period July through May 1972–1973, 7.3 million tons of material were imported. For the same period ending May, 1974, our imports had risen to 8.8 million tons, up 1.5 million. Turning now to the exports, for the period ended May, 1973, we have exported 5.8 million tons. For the period ended May, 1974, this had risen only 200,000 tons to 6 million tons. Restated then, our imports rose during this period 1.5 million tons, our exports rose only 200,000 tons for a net *import* balance of 2.8 million tons. We are tremendously concerned that many members of this body do not recognize that the imports and exports are a relatively small percent of the tonnage produced and/or sold in the United States. Going back through the period ending June 30, 1973, we sold to the American farmer from all sources, 43 million tons, and were the final figures in for 1974, we believe this figure would be somewhere around 47 million tons give or take.

Therefore, one can see that with a domestic sale of 47 million tons and an export of 6 million tons we are talking about a relatively small percent. Further, of the 6 million tons exported during the period shown, several million tons moved into Canada for which we got back many millions of tons of imported potash. We do not understand why the great concern is shown on the import versus export argument when the percentage of either product is relatively small, based on what is being supplied the U.S. market.

Looking ahead on imports and exports is a dangerous business. We will comment at the end of this statement about the reporting setup established by Dr. Dunlop at the time of decontrol. Suffice it to say, we do not have any reports from the Department of Commerce about on-going export commitments over and above that which was shown the Committee in February, 1974. The Department of Commerce for its own reasons has not seen fit to issue any reports either to the industry or to its association or, bluntly, myself, so that I do not have any scientific evidence at hand as to the commitments during the balance of Calendar Year 1974. I will say, however, it is my

personal judgment that we will not step up the exports out of the United States, indeed, I believe based on current knowledge that we will begin to import increasing tonnages from off-shore sources, these tonnages being mainly limited to nitrogen.

These tonnages will reflect world prices coming in from Europe. World prices today are about double the current U.S. producer prices. To rephrase this so that there can be no doubt, the prices of urea domestically in the U.S. is about $150 a ton FOB production. Its counterpart coming out of Rotterdam is now approaching $300 a ton, plus ocean-going transportation, plus handling in the United States, plus inland transportation.

In spite of the fact that the companies could get nearly double the price in exports, we do not anticipate them favoring the export market with increased tonnage. As I reported to this Committee in February, our companies favor the American customer, the American farmer, and know that in the long pull he is *their* market. By far and away, most of our companies will favor their long-term interests—the American farmer.

7. GAS AND FUEL SUPPLIES

We turn now the situation on gas and fuel supplies. To quickly summarize, since the Committee hearings held in February the Federal Energy Administration has granted us full 100% of current fuel demands. We have had no problems in obtaining liquid fuel supplies and see no reason to say other than "Well done" to this Committee and move quickly to the most important item this area of inputs—natural gas.

Several days ago the Federal Power Commission released a rather lengthy report in response to Senate Resolution 289. Summarized, the resolution says that the Federal Power Commission sees no reason to change its priority ratings for our industry and Commissioner Springer points out, correctly, that in the eight applications for emergency gas supplies for the fertilizer industry the Commission has favorably responded to all eight. In this regard the report is accurate and we believe a direct tribute to this Committee's earlier resolution. The Federal Power Commission is careful to avoid any discussion of future gas requirements for *new* plants. We are disappointed, of course, that the Federal Power Commission did not make recommendations on this very sensitive subject.

We believe that the industry must raise from its current production level to somewhere around 25 million tons of anhydrous ammonia by 1980. The gas is not available from interstate suppliers and we have ample evidence of companies being refused the right to connect up these proposed new plants. As explained in the earlier hearings, if we cannot get the gas from the interstate system then we must explore off-shore sources. This means of course either Canada, Latin America, or the Middle East. Since having testified before this Committee, many things have occurred in Canada which would indicate to me, as a matter of personal judgment, that we will get somewhere between 4 and 5 additional plants within that country over the next several years. This will fall far short of our requirements.

There is no indication that Venezuela, for example, is going to lay out the welcome mat to us building plants in that country with the idea of exporting the nitrogen back to the U.S. We do have some indication of interest in the Middle East. The question is, however, is it in the interest of the United States to build these plants in the Middle East? As I indicated earlier I do not believe that it is. I do not think that the best interests of the United States are served in plants constructed in a rather politically volatile situation. Further, the transportation costs against this material would be rather stupendous and would add nothing to the value of the nitrogen arriving on U.S. shores except a higher price.

It is interesting to note that while the Congress vascillates and the Federal Power Commission vascillates we do have several plants being built in states that have intrastate gas. Is it not fair to ask, therefore, why can plants be built on an intrastate basis and not on an interstate basis? In our judgment the answer is simple: where the wellhead price is not controlled we will be able to buy some gas. We do not think, that this is the whole answer. The Congress of the United States ought to decontrol the wellhead price of newly discovered gas. The additional cost of gas, rising above the current pronounce-

ment of the Federal Power Commission of $.42 per mcf would not have that great an effect on the end cost of anhydrous ammonia. We think that the Congress of the United States ought to say to all comers, "We want additional supplies of natural gas. We are going to encourage you by letting the basic well-proven law of supply and demand encourage you to find that gas."

We do not concur with Senator Stevenson's proposal to forever regulate the price of gas at the wellhead. Surely, over 20 years of experience of wellhead regulation has proven what a disaster that policy is. We honestly and earnestly believe and recommend to this Committee that it should take the lead in recommending to the Congress that newly discovered gas should be permitted to flow through the interstate pipeline system at whatever the market is willing to pay. We believe that higher gas prices will discourage the misuse of this fuel such as for boilers and the mere production of steam. We think that a higher price will route the gas where it belongs—as a feedstock into producing other materials. We think that of all the subjects before this Committee today, the situation on future nitrogen expansion in the United States is the most important of all.

We undoubtedly will be back before this Committee next year explaining a new approach to the production of anhydrous ammonia. While the industry has not yet had an opportunity to put together its collective viewpoint, a serious consideration must be given to the use of coal and/or lignite of which we have great abundance as a source for anhydrous ammonia. Tremendous, expensive research needs to be done to convert lignite and coal into anhydrous ammonia. But this question must be answered: Is it better to place this nation on a Middle East dependency basis or to spend a relatively modest number of millions of dollars to make the United States' agricultural system dependent upon domestic coal and lignite-based nitrogen? We think the answer is self evident.

8. REPORTING SYSTEMS

At the time of the decontrol, Dr. Dunlop envisioned a rather complicated monitoring system on the industry relating to domestic price as well as current exports plus the companies reporting to the Commerce Department their on-going or longer-term commitments. We held several meetings with the Commerce Department personnel involved, making our recommendations which, in effect, were overruled and the Commerce Department went its merry way. As earlier indicated in my testimony, we have only seen one result after this system was installed. To be fair to this Committee we have asked Secretary Dent to cease requiring the input of this data. We have made this request for several reasons. First, all companies which we represent are absolutely inundated with requests from the Federal government for information. Second, the information being reported to Commerce Department is being disseminated to no one—to the people that report it, to the industry, to the Agriculture Department, to the news media. If there is a report, it is the best kept secret in the government. Third, the only justification for a system of this nature is to inform. This system does not inform and we never really believed that it would inform. Our comments, therefore, are that this system of reports should be cancelled without more. It serves no useful purpose to the government. It serves no useful purpose to the industry. It is just another one of the hundreds of burdensome reports that we have to file. If we could see a merit in a system which would give us information, say at the end of 10 to 20 days at the close of the business month, or a system which would indicate what our export tonnages are going to be in December, then we might concede that the system had some use. As presently "operated" —if at all—we think reporting systems really have relatively little merit. Concluding, there is very little information that is not already at hand either through the Tennessee Valley Authority, the United States Department of Agriculture, the Export Division of the Commerce Department or immodestly, ourselves.

CONCLUSION

We appreciate the opportunity to appear before this Committee. We have not tried to paint either a sublime picture or one of great despair. It is our firm judgment that the shortage this coming year is going to be of a more intense nature than experienced this past year. We believe that this Committee

can help the fertilizer industry and, obviously, the American farmer and, ultimately and more importantly, the American consumer by one again leading on this question of adequate natural gas supply; of encouraging expansion; and helping us as they have done so well in the past in breaking the bottlenecks of freight car supply and logistical matters. If we can be of further service to this Committee we would be happy to be of assistance.

Senator McGovern. I do want to apologize to the next two witnesses who have been waiting to testify. We are putting them on very late. If Mr. Gilliland and Mr. Tinsman are here, we would like to have your testimony now.

STATEMENT OF RICHARD L. GILLILAND, EXECUTIVE DIRECTOR, NATIONAL FERTILIZER SOLUTIONS ASSOCIATION, PEORIA, ILL.

Mr. Gilliland. Mr. Chairman and members of the subcommittee, the National Fertilizer Solutions Association is headquartered in Peoria, Ill., in the heartland of the corn and soybean production area of the United States. It represents some 740 member companies in all phases of fluid fertilizer production, equipment manufacturing, additive producers, and independent fertilizer dealers. We have the largest membership of any national fertilizer association in the United States and represent a balanced relationship between the dealer-consumer aspect of the fertilizer industry.

In the past 18 months, the fertilizer industry on all levels has come out of chaos into crisis. The industry only recently came out of a 5–year period of overcapacity, overproduction, minimal growth in demand, excessive inventories, and low profits. Now it is at the other end of the spectrum, faced with shortages everywhere.

Many factors were involved in the turnabout. New plant construction was almost completely halted by poor economics during the period of overproduction, but world food needs continued to grow and some regions had significant shortfalls in food production. This stimulated demand for and prices of U.S. farm products. Export of feed grains, for example, rose some 30 percent in the last 2 years. These increases caused farmers to seek to produce more by using more fertilizer per acre and cultivating more land as the USDA released 40 million acres for production during the same period.

All of this added up to a rapidly escalating demand for fertilizer at a time when the industry was just returning to a balanced supply-demand situation and before it had resumed a capacity expansion program.

The situation was further complicated by price controls which held domestic fertilizer prices at abnormally low levels and made it more profitable to export than to sell to American farmers. The large upturn in exports did, however, have a bright side—because it got the fertilizer industry started on plans for expansion earlier than otherwise would have been the case. This will help in the future, and that is looking into our crystal ball, possibly by the middle of 1987, to assure adequate supplies for domestic as well as export markets.

By the time price controls were lifted, in October 1973, demand was such that domestic fertilizer prices moved upward rapidly. The

greatly improved profit picture is stimulating new investment in the industry. It now appears that capacity additions planned in North America, and if should be undermined if all are carried to completion, will be capable of meeting domestic demand and making the region a worldwide nitrogen supplier. Hopefully, some of the lessons of the past decade will guide in the future course of the industry as it responds to changes in the market.

The number one question in the minds of the independent fertilizer dealer and his farmer-customer is: what about the supply situation for this fall and next spring? Keep in mind we the retail fertilizer dealer, who represents some 85 percent of our association's membership, is the one to whom the farmer looks for overall crop planning, supply of fertilizer materials, agricultural chemicals, and, yes, even the application of these products to his land.

During the 1973–74 season, the dealer did not have the product to sell because of problems beyond his control.

I am confident that every member of this subcommittee received numerous communications from both farmers and fertilizer dealers in his respective State. The major concern of the domestic dealers and farmers is how to compete in the purchase of this necessary raw material for food production. Without exception, manufacturers had dealers on an allocation basis for the past fiscal year. These allocations were not based on expectations or extrapolation of sales figures, but rather on a percentage of the tonnage purchased during the previous year or years. Nitrogen materials in particular were severely allocated to most domestic dealers with allocations running from 70 to 90 percent with the extremes of 100 and 0 percent not uncommon.

It would appear that the concern for domestic raw material fertilizer supply is related to the following three issues:

One, the role of DISC. The Revenue Act of 1971, Law No. 192–178, contained the provision for the creation of the Domestic International Sales Corp. commonly referred to as DISC. The objective of DISC was to "increase our exports and improve our balance of payments." The long-term tax deferment or exemption has substantial appeal to existing exporters. While the success or failure of DISC in meeting the balance-of-payments objective is a broad area, it should be noted that this program reduces the availability of fertilizer raw materials for domestic agriculture and, furthermore, any tax incentive to encourage export of these limited resources places domestic agriculture in a precarious position.

If DISC was created to encourage domestic plant construction and its related employment rather than foreign construction, that is one thing; but to create a tax incentive to encourage export of natural resources or immediate upgrades of natural resources that are in tight supply is quite another consideration.

The domestic dealer and farmer are waiting for their share of fertilizer raw materials. Their task becomes more difficult when they not only cannot pay the going price because of controls, but also must "buck" the enormous effects that the DISC tax shelter offers fertilizer exporters.

And in my testimony I am quoting a recent Washington Post article which is first quoted from the U.S. Treasury Annual Report of DISC, dated April 1974, page 15 of that report. In 1972, which

is the latest DISC report available to the Government or anybody, there were 1,000 participating companies, 9 months later there were 3,400 and after 13 months, 5,000. We have attempted to gather factual information concerning the impact DISC has had on the domestic fertilizer market, but our efforts have been to no avail.

In no way should this be construed as a condemnation for those companies participating in DISC for the Government established the incentive and literally called for participation. Some of the ramifications are seen in the following charts—and our charts pretty much agree with Mr. Wheeler's charts—and you can see chart 1 there.

CHART 1.—U.S. IMPORT–EXPORT BALANCE

	Import	Export	Net change	Net change percent U.S. production
	Nitrogen×1,000 tons			
1971	929	1,077	−148	1.0
1972	843	1,031	−188	1.3
1973	851	1,350	−499	3.6
1974	1,000	1,200	−200	1.4
	Phosphate×1,000 tons			
1971	283	900	−617	8.5
1972	326	1,102	−776	10.3
1973	315	1,424	−1,109	14.7
1974	320	1,600	−1,280	15.9

However, we would like to point out that in 1973, which was a crucial year for us, we imported total nitrogen—and I did not break it out—but total nitrogen, which would be urea and all the types, amounting to 851,000 tons, and exported 1,350,000 tons. This is a 3.6 percent net change in U.S. production, but the exports also in nitrogen particularly is approximately 10 percent of the total domestic production.

I would also like to point out that the 851,000 tons of imports was imported into this country, as Mr. Wheeler stated, in excess of $300 per ton.

CHART 2.—U.S. SUPPLY—DEMAND BALANCE IN 1,000 TONS

Year	Supply[1]	Demand[2]	Demand percent supply
Nitrogen:			
1971	14,687	13,090	89.1
1972	15,052	12,948	86.0
1973	14,990	13,598	90.7
1974	15,063	14,715	97.7
Phosphate:			
1971	7,255	6,033	83.1
1972	7,568	6,325	83.6
1973	7,826	6,914	88.3
1974	8,056	7,590	94.2

[1] Includes production, imports, by-products.
[2] Includes agricultural and industrial use, exports, and shrink.

Senator Dole. Do you have any recommendation of what can be done about that?

Mr. Gilliland. We are going to get into it, yes.

Next, priorities of natural gas, for most crops, yields are nearly

a linear relationship to nitrogen applied in quantities of normal use. The need for lowering the feed grain per bushel cost is directly related to the adequate supply of nitrogen fertilizer. This association appeals to the subcommittee for the highest priority in natural gas to be used as feedstock for ammonia production. This would be a priority above feedstock for industrial consumption. What sense does it make for the American public to sit fully clothed in a warm house and then go hungry?

Part three, consequences of the informal domestic price freeze. Domestic price controls this past spring had a major impact on fertilizer supply. Domestic anhydrous ammonia, by and large, wholesaled at approximately $120 per ton, F.O.B., production point. Industrial ammonia ranged from $120 to in excess of $200 per ton. The international price for anhydrous ammonia at the same time was approximately $265 per ton, F.O.B. New Orleans.

Inequitable geographic distribution of nitrogen and industrial priorities outranking agriculture are ramifications of a domestic ammonia price that is lagging behind the world marketplace. In effect it has placed domestic agriculture in a "what's left over" position. If the wholesale price were allowed to move to a more unified, worldwide price, problems of geography, and use would be alleviated by the normal supply and demand forces.

Senator DOLE. That is your recommendation?

Mr. GILLILAND. Yes, sir. It would create the incentive for increased production, the search for additional gas, and would allow nitrogen to be used on those crops where it would be most productive.

The informal price controls of last spring stem from the hypothesis that the cost of food grain at the marketplace and price indexes are greatly affected by the cost of fertilizer. And nothing could be more erroneous. In commodity marketing, supply and demand forces create great leverage. It is an adequate supply of fertilizer, particularly nitrogen, that is the only means to reduce the cost per bushel. It is the only means to bring to the marketplace sufficient bushels to keep a restraint on feed grain prices.

In conclusion I would like to resubmit to the committee three points: one, to further investigate—and we are not condoning nor are we condemning DISC in the fertilizer industry but all we are asking is for this committee to investigate the implications of DISC upon the domestic fertilizer market, which we cannot seem to put our finger on and neither can the Government agencies that we have asked for information and——

Senator MCGOVERN. We will take that suggestion under consideration.

Mr. GILLILAND. Second, to resubmit to the Federal Power Commission, as I know you have, or any other agency, a request for a priority for natural gas to insure domestic agriculture a necessary supply; three, to discourage the return of domestic price controls for they are the artificial barrier which would keep the domestic dealer from competing in the purchase of fertilizer raw materials.

Thank you.

Senator MCGOVERN. I wanted to just ask you a couple of brief points here.

Senator DOLE. Mr. Chairman, I don't have any questions.

Senator MCGOVERN. Thank you, Senator Dole.

In a communication I had from the Cost of Living Council in June in reply to a letter I sent to them, they said the data indicated that fertilizer prices for nitrogen fertilizers have risen significantly faster at retail than at wholesale.

What is the explanation for that? Why have we had a more dramatic increase in the retail price than we have had in wholesale?

STATEMENT OF R. HOVEY TINSMAN, PRESIDENT, TWIN-STATE ENGINEERING, DAVENPORT, IOWA, AND VICE PRESIDENT, NATIONAL FERTILIZER SOLUTIONS ASSOCIATION

Mr. TINSMAN. Well, it is certainly true that it has taken place. If you were to take it say on a 12-month basis, I am sure there are no such things as off-season discounting. There are not the cash discounts that have been experienced in the past; all of which went to a stronger margin.

I am sure it has to do with supply and demand forces.

Senator MCGOVERN. Do you think it is because the wholesalers have exercised greater self-restraint on price?

Mr. TINSMAN. Well I am sure that the domestic dealer per se covering say one-third of a county was not under anywhere near the same pressures as was the person who was shipping to him. I am sure that is true.

Senator MCGOVERN. What is your own best judgment as to what will happen in this coming year in terms of those price relationships of wholesale and retail prices?

Mr. TINSMAN. Of course, if prices were allowed to float to a more unified world price, the dealer is obviously going to be paying a far higher price. It would allow the dealer and the farmers to compete for the product that he can no longer buy. I would imagine that you would have a higher supply and that probably the margins would not be as great. There is no question that manufacturers and dealers enjoyed a strong P/L last year.

Senator MCGOVERN. In view of the expectation that fertilizer supplies next year may be as short as they have been during the past year and perhaps shorter, what is your best judgment as to how local dealers are going to handle the allocations that they have? Do you see a pattern developing as to how they will deal with their farmer customers?

Mr. TINSMAN. There are some dealers that when they have a truckload of nitrogen solution, it was on a first-come, first-serve basis. But I think the industry in general has been far more responsible than that. They have received allocations from maior suppliers. They have known in advance what their 12-month allocation was going to be through June 30. It was up to them to allocate their product uniformly among the farmers. In the case of our own company, we knew probably in September of the preceding year how much nitro-

gen and phosphate we were going to receive and it was allocated on a percentage basis of the previous year's purchase.

Mr. GILLILAND. Most of our dealers had an allocation program. As a matter of fact, we had about 1,000 fertilizer dealers meeting in St. Louis today and tomorrow. This is exactly our topic for discussion, in other words, how are our dealer organizations going to in turn allocate fertilizer to their farmer customers?

Senator MCGOVERN. Well I know the members of the committee are very hopeful that the most practical possible allocation system can be worked out. There has been some expression from members of the committee that more efforts should be made, but I am hopeful that, as we get experience with it, the dealers will work out an arrangement that does insure maximum equity in the way these available supplies are allocated.

Mr. TINSMAN. I might point out that we have received many calls from farmers working through our dealers that there may be some inequitable treatment, but I think almost without exception it did go back to having a tendency to work more with the financially responsible farmer than the one they were financing in the past.

Senator MCGOVERN. Do you know what percentage of the dealers are so-called independents and what percentage are acting as representatives of U.S. manufacturer outlets?

Mr. GILLILAND. In our particular association, which is all we can probably speak for, the independents represent 84 percent of our association. Now, there is a difference between an independent, as you say, and a manager of a fertilizer retail organization, which is a salaried individual. There are some 10,000 to 11,000 fertilizer and I would say of this probably 30 percent of them are independents possibly.

Now that is just an educated guess because, of course, it fluctuates. Your big major producers belong to both the Fertilizer Institute and the NFSA as long as we have a liquid program. Allied especially represented a large number of independents, whereas Agrico would represent some salaried retailers and some independent retailers, whereas American Oil would represent a large number of totally salaried managers.

Senator MCGOVERN. Is there any danger that some of the farmers who are hard hit this year, either by drought or by floods, or whatever the case might be, such as losses on cattle or other things, that the weakened credit position that they are in well mean that the local dealers may be reluctant to be as generous with them as they are to the farmers that are in a more stronger and prosperous position? I think if that were the case we might have to consider some kind of special credit arrangement for those weaker producers.

Mr. TINSMAN. Well, I think the independent dealer has been one that has both passed on extension and concentration of credit that was given to him.

Four and five years ago, when inventories were financed on a 180-day basis, this same credit had a tendency to be passed right on to the farm. In today's market, if products are not paid within 30 days, shipments

are terminated. So in no way is a dealer really in a position to handle credit extension.

Senator McGovern. Most of it is on a cash and carry basis?

Mr. Tinsman. Right now, I would say almost all is on a 30-day basis. I don't think we are any different than anybody else. There was a strong effort educationally during the last 12 months to get all farmers on a more cooperative basis with their banks.

Mr. Gilliland. I think this also reflects again on the dealer who is in a rural community dealing with a small, local State bank or with a bank with minimal resources of $17 million, which almost under law he can only give that dealer line of $170,000, which at $300 a ton—and this is what the dealer is paying—you are not going to buy too much fertilizer with that. So we have a financial problem both on the farm side and the retailer side.

Senator McGovern. Thank you again for your testimony and also for your patience in waiting to be heard this late in the day.

I have submitted a number of materials here that I would like to have made part of the record. This hearing record will be kept open for 10 days so that we can take additional materials from other witnesses who may not have a chance to be heard.

[The documents referred to follow:]

SELECTED PETROCHEMICALS SUPPLY SITUATION AS OF MAY 31, 1974

[Chemicals and Rubber Program, Office of Business Research and Analysis, U.S. Department of Commerce—June 27, 1974]

Synthetic rubber and synthetic fiber exports have remained essentially constant since the fourth quarter of 1973.

Exports of most petrochemical intermediates have been essentially constant since the fourth quarter. Cyclohexane shipments for April and May have appreciably exceeded fourth quarter rates. For ethylene dichloride and vinyl chloride, May shipments have declined from recent higher levels to the levels of the fourth quarter 1973.

PRODUCTION (THROUGH APRIL)

Production of plastics materials remains generally stable with some decrease in low density polyethylene and a slight increase in polyvinylchloride.

Synthetic fibers also remain generally unchanged. Data for synthetic rubber are not available for April or May.

Production of intermediates is down slightly for the first four months of 1974 as compared with the fourth quarter of 1973. During April, production was up slightly for benzene, cumene, cyclohexane, and propylene and down for styrene monomer. Toluene and xylenes were up slightly. Other intermediates were mainly unchanged.

IMPORTS (THROUGH APRIL)

Imports for all selected products remain negligible in terms of U.S. production. There is no discernible trend in recent levels of imports.

NET SUPPLY TO U.S. MARKET (THROUGH APRIL)

For most products for which meaningful data are available, net supply for the U.S. market was generally constant compared to recent months. Styrene monomer, cyclohexane, ethylene dichloride and vinylchloride monomer were down somewhat however.

PURPOSE

To continue the monitoring of the U.S. supply situation on selected important petrochemicals, data on U.S. production, exports, and imports have been examined to detect any potentially serious trends which could affect U.S. industry. From these data the net supply available to the U.S. market (i.e., production plus imports less exports), and the ratio of exports to U.S. production have been developed.

Products included are selected items of major importance in the petrochemical field, and include the large volume plastic materials, synthetic rubbers, synthetic fibers, and petrochemical intermediates. These products are considered representative of the over-all petrochemical group.

CURRENCY OF DATA

This summary is based on the most recent data available as of June 27, 1974. This includes data for U.S. production and imports through April and covers data on exports through May.

NOTE: EXPORT VARIATIONS

It should be recognized that monthly variations in exports and imports of petrochemical intermediates may be reasonably great because such commodity products are shipped in occasional large volume quantities. A single product shipment can cause a sizable variation in a given month's level of exports, and by itself should not be taken as an indication of a trend.

CONCLUSIONS

Exports (Through May)

While exports of many products are significantly above year ago levels, there have been few month-to-month increases since the beginning of 1974.

Plastics materials—except polyvinylchloride—are very much the same as the fourth quarter of 1973. Exports of polyvinylchloride have remained steady since January but are about double the rate of the fourth quarter 1973.

TABLE A.—SUPPLY AND DISTRIBUTION OF SELECTED PETROCHEMICALS

[Quantities: Million pounds, except as noted]

Commodity	12 months—January to December			1973	Recent monthly trends					
					1974					
	1972	1973	73/72 percent	October to December average	January	February	March	April	May	February to April Average
Plastic materials:										
Polyethylene, high density	2,341	2,612	+11	227	234	232	223	235		230
Polyethylene, low density	5,288	5,839	+10	527	485	461	580	488		486
Polypropylene	1,732	2,152	+24	189	177	172	194	188		185
Polystyrene	3,560	[1] 3,968	+11	[1] 329	[1] 335	[1] 327	[1] 344	[1] 336		[1] 336
ABS and SAN	910	[1] 990	+9	[1] 74	[1] 73	[1] 82	[1] 90	[1] 87		[1] 86
Polyvinylchloride	4,289	4,423	+3	373	378	372	402	400		391
Synthetic rubber:										
SBR	3,307	3,388	+2	283	305	272	([2])	([2])		([2])
Butyl	290	353	+22	33	37	27	([2])	([2])		([2])
Neoprene (other)	498	596	+20	51	48	47	([2])	([2])		([2])
N-type	164	186	+13	15	16	14	([2])	([2])		([2])
Synthetic fibers:										
Nylon	1,975	2,175	+10	183	183	168	181	177		175
Polyester	2,339	2,901	+24	246	243	232	265	261		253
Petrochemical Intermediates:										
Benzene (million gallons)	1,220	1,453	+19	126	125	118	123	132		124
Ethyl benzene	([2])	([2])	([2])	([2])	([2])	([2])	([2])	([2])		([2])
Styrene monomer	5,873	6,014	+2	529	547	468	551	475		498
Cumene	([2])	2,665		241	237	195	209	253		219
Cyclohexane	2,285	2,354	+3	184	182	158	199	208		188
Toluene (million gallons)	823	936	+12	83	84	84	83	89		85
Xylenes-Mixed (million gallons)	806	818	+1	75	65	68	68	79		72
Orthoxylene	784	1,071	+37	94	104	79	94	108		94
Paraxylene	2,098	2,315	+10	210	228	192	214	214		207
Ethylene	20,531	22,406	+9	1,906	1,795	1,722	1,920	1,911		1,851
Propylene	7,956	8,764	+10	742	728	650	748	778		725
Butadiene	3,806	3,663	−4	332	303	290	323	318		310
Ethylene dichloride	([2])	7,903		658	667	626	720	647		664
Vinyl chloride	5,175	5,348	+2	459	495	467	429	451		449

[1] Estimated.

[2] Not available.

TABLE B.—SUPPLY AND DISTRIBUTION OF SELECTED PETROCHEMICALS

[Quantities: Million pounds, except as noted]

Commodity	12 months—January to December			1973	Recent monthly trends					
					1974					
	1972	1973	73/72 percent	October to December average	January	February	March	April	May	February to April Average
Plastic material:										
Polyethylene, high density	292	292	----------	26	24	24	35	24	30	28
Polyethylene, low density	395	500	+27	46	48	51	59	47	40	52
Polypropylene	165	318	+93	31	30	36	35	27	33	33
Polystyrene	156	212	+36	26	22	20	21	20	22	20
ABS and SAN	38	38	----------	3	1	4	6	6	4	5
Polyvinylchloride	158	162	+3	16	26	27	33	31	29	30
Synthetic rubber:										
SBR	231	252	+9	21	17	17	27	19	21	21
Butyl	85	89	+5	7	8	8	10	13	8	10
Neoprene (other)	172	189	+10	16	16	12	18	17	20	16
N-type	21	35	+67	3	5	5	4	6	5	5
Synthetic fibers:										
Nylon	84	127	+51	13	13	13	13	15	14	14
Polyester	55	123	+124	11	13	10	13	10	14	11
Petrochemical intermediates:										
Benzene (million gallons)	29	29	----------	2	3	4	0.8	4	.2	3
Ethyl benzene	207	185	−11	16	13	19	11	17	8	16
Styrene monomer	661	575	−13	58	70	54	69	70	+ 58	64
Cumene	(1)	(2)	----------	(1)	9	----------		9	0.6	3
Cyclohexane	519	517	−0.4	34	17	87	27	74	55	63
Toluene (million gallons)	26	96	+269	10	11	9	5	9	4	8
Xylenes—(other)	128	346	+170	39	64	5	37	63	33	35
Orthoxylenes	198	364	+84	39	16	18	11	20	15	16
Paraxylenes	207	159	−23	7	6	1	6	(3)	(3)	2
Ethylene	(1)	(1)	----------	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Propylene	(1)	(1)	----------	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Butadiene	28	64	+129	7	4	5	6	6	4	6
Ethylene dichloride	379	368	−3	32	37	50	34	58	34	47
Vinyl chloride	620	420	−32	33	36	24	45	57	32	42

[1] Not separately shown.
[2] Not available.
[3] Negligible.

TABLE C.—IMPORT TRENDS SUPPLY AND DISTRIBUTION OF SELECTED PETROCHEMICALS

[Quantities: Million pounds, except as noted]

Commodity	12 months—January to December			1973	Recent monthly trends					
					1974					
	1972	1973	73/72 percent	October to December average	January	February	March	April	May	February to April Average
Plastic material:										
Polyethylene, high density	7	3	−50	0.3	0.3	(1)	0.3	(1)		0.1
Polyethylene, low density	2	3	+50	1	(1)	0.3	0.2	0.4		0.3
Polypropylene	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)		(2)
Polystyrene	2	11	+420	1	1	2	2	1		2
ABS and SAN	32	32		1	0.2	0.2	0.1	0.4		0.2
Polyvinylchloride	4	65	+1,525	5	4	6	3	5		5
Synthetic rubber:										
SBR	81	116	+43	11	5	4	6	6		5
Butyl	38	37	−3	4	3	2	2	2		2
Neoprene (other)	69	51	−26	5	1	2	4	4		3
N-type	7	15	+114	2	1	2	1	2		2
Synthetic fibers:										
Nylon	333	252	−24	12	13	6	7	10		8
Polyester										
Petrochemical intermediates:										
Benzene (million gallons)	95	64	−33	4	8	6	2	9		6
Ethyl benzene	(3)	(2)	(2)	(3)	(3)	(3)	(3)	(3)		(3)
Styrene monomer	25	31	+24	1	1	1	0.5	0.5		0.7
Cumene	444	378	−15	29	4	31	23	38		31
Cyclohexane	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)		(3)
Toluene (million gallons)	149	102	−32	9	4	4	4	5		4
Xylenes—Mixed (million gallons)										
Orthxylenes (million gallons)	84	95	+13	6	6	4	3	9		5
Paraxylenes (million gallons)										
Ethylene	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)		(3)
Propylene	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)		(3)
Butadiene[4]	35	35		3	3	3	4	5		4
Ethylene dichloride	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)		(3)
Vinyl chloride	(1)	2		1	0.3		(1)	0.7		0.2

[1] Not available.
[2] Not separately shown.
[3] Negligible.
[4] Revised data.

TABLE D.—NET SUPPLY (P + I — E = NS)

[Quantities: Million pounds, except as noted]

Commodity	12 months—January to December			1973	Recent monthly trends					
					1974					
	1972	1973	73/72 percent	October to December average	January	February	March	April	May	February to April Average
Plastic materials:										
Polyethylene, high density	2,056	2,323	+13	201	210	208	188	211		202
Polyethylene, low density	4,895	5,342	+9	474	437	410	449	411		434
Polypropylene[2]	1,567	1,834	+17	158	147	136	159	161		152
Polystyrene	3,406	3,783	—11	304	314	309	325	317		318
ABS and SAN	904	992	+9	73	72	78	81	81		81
Polyvinylchloride	4,135	4,326	+5	362	346	351	372	374		366
Synthetic rubber:										
SBR	3,157	3,252	+3	273	293	259	(3)	(3)		(3)
Butyl	243	301	+24	30	32	21	(3)	(3)		(3)
Neoprene (other)	395	458	+16	40	13	37	(3)	(3)		(3)
N-type	150	166	+11	14	11	11	(3)	(3)		(3)
Synthetic fibers:										
Nylon	4,508	5,078	+13	413	413	383	427	423		411
Polyester										
Petrochemical intermediates:										
Benzene (million gallons)	1,286	1,488	+16	128	130	120	124	137		127
Ethyl benzene	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)		(3)
Styrene monomer	5,237	5,470	+4	472	478	415	482	405		434
Cumene	(3)	(3)	(3)	(2)	232	226	232	282		247
Cyclohexane[2]	1,766	1,837	+4	150	165	71	172	134		125
Toluene (million gallons)	946	942	—0.4	83	77	79	82	85		81
Xylenes—Mixed										
Orthoxylene	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)		(3)
Paraxylene										
Ethylene	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)		(3)
Propylene	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)		(3)
Butadiene[4]	3,813	3,762	—1	328	302	288	321	317		308
Ethylene dichloride[2]	(3)	7,535	(3)	626	630	576	686	589		617
Vinyl chloride	4,555	4,930	+8	426	459	443	384	394		407

[1] Net supply equals production plus imports less exports.
[2] Net supply taken as production less exports; data on imports not available.
[3] Not available.
[4] Revised data.

TABLE E.—RATIO OF EXPORTS TO U.S. PRODUCTION

[Exports as percent of production]

Commodity	12 months—January to December		3 month period	
	1972	1973	1973 October to December	1974 January to March
Plastic material:				
Polyethylene, high density	12.5	11.2	11.5	12.0
Polyethylene, low density	7.5	8.6	8.9	10.9
Polypropylene	9.5	14.8	16.5	18.6
Polystyrene	4.4	5.3	7.9	6.0
ABS and SAN	4.2	3.8	3.6	4.8
Polyvinylchloride	3.6	3.7	4.4	6.5
Synthetic rubber:				
SRB	7.0	7.4	7.3	(1)
Butyl	29.3	25.2	20.0	(1)
Neoprene (other)	34.5	31.7	31.2	(1)
N-type	12.8	18.8	17.4	(1)
Synthetic fibers:				
Nylon	4.3	5.8	7.3	(1)
Polyester	2.4	4.2	4.5	(1)
Petrochemical intermediates:				
Benzene	2.4	2.0	1.6	2.2
Ethyl benzene	(1)	(1)	(1)	(1)
Styrene monomer	11.3	9.6	11.0	12.3
Cumene	(1)	(1)	(1)	1.4
Cyclohexane	22.7	22.0	18.4	24.3
Toluene	3.2	10.3	11.6	10.0
Xylenes:				
Ortho-xylene	25.3	34.0	41.3	16.2
Para-xylene	9.9	6.9	3.3	2.1
Ethylene	(1)	(1)	(1)	(1)
Propylene	(1)	(1)	(1)	(1)
Butadiene	0.7	1.7	2.1	1.6
Ethylene dichloride	(1)	4.7	3.2	6.0
Vinyl chloride	12.0	7.9	7.2	7.5

[1] Not availabe.

[Commodity News Service]

Lack of Moisture Plagues Illinois Crops

Urbana—July 19—"And the heat goes on." Illinois crop land is hard and dry again this week. The late planting season has already reduced this year's yield potential. And both corn and soybeans badly need moisture to prevent further cuts.

Here's the way University of Illinois area agronomists and county cooperative extension service advisers report crop and weather conditions on July 19.

Southern Illinois.—"Extremely dry" are the words used by Ralph Romig, White County extension adviser, to describe conditions in his area. Corn in sand is severely damaged by twisting aid firing. Rain is needed this week to save it.

"Late soybeans aren't emerging and late herbicides are not working due to the lack of rainfall," said Romig. The double-planted, no-till beans in wheat ground seem to be taking the dry conditions better than those in conventional tillage."

Wheat yields are lower than expected, reported Dave Fisher, Madison County extension adviser. Yields averaged 33 bushels an acre, down from last year.

Eastern Illinois.—"We're suffering from a moisture shortage," reports L. V. Boone, U of I area agronomist at Urbana-Champaign. "Corn is already considerably damaged because of drought."

Corn is tasselling short, said Boone. When the corn was planted, rains held back its normal growth.

"Soybeans don't look too bad until you remind yourself that it's July instead of June," said Boone. "Generally stands are better than anticipated and, if they get some rain, there still is the potential for a pretty good crop, although yields will be down from last year."

Wheat quality and yields in the area were better than expected.

Western Illinois.—"It remains hot and dry in Western Illinois," said Ron Edert, Adams County extension adviser. "But despite the unfavorable conditions, some corn is being planted for forage."

Wheat is harvested and the 38–48 bushel yields were better than expected. The double-cropped areas may be in trouble, however, because the bean seeds have had no rain since they were planted.

Leo Sharp, Fulton County extension adviser said corn is in several stages of growth—ranging from just emerging to tasselling. The slow growing season has caused some corn to tassel while plants are still short.

"Corn yields are going to be considerably less than usual," said Sharp, "I think they'll be comparable to the year we had blight."

Northern Illinois.—"We need rain," said D. E. Mulvaney, U of I area agronomist at Dekalb. "Corn and beans could both profit from additional moisture."

Early corn is beginning to tassel and a good shower will aid it considerably," said Mulvaney. Some early beans are beginning to flower and, at that stage of growth, they can use a good rain too. Wheat harvest is in full swing, with yields near the 40 bushel mark. Oat harvest should begin at the end of this week or the beginning of next week.

[Grain Information News Wire Service]

NATIONAL CORN GROWERS ASSOCIATION ESTIMATES 5.52 CORN CROP

Boone, Ia.—National Corn Growers Association today released its new estimate of the 1974 national corn crop to be harvested as grain at 5.52 billion bushels based on conditions as of July 16. This is a drop of 430 million bushels since the Association's last estimate in early June, and compares to USDA's projection of July 12 of a crop somewhere between 5.95 and 6.35 billion bushels.

Walter Goeppinger, chairman of the board and long time crop estimator for the Association, said that temperatures near the 100 degree mark since July 1, inadequate rainfall over the major portion of the corn belt since late June, and dry hot winds have drastically reduced crop prospects. Earlier, most of the three major producing states of Iowa, Illinois and Indiana had suffered from excessive rainfall that flooded and drowned out corn over wide areas. Now stunted plants in what is normally the richest ground are tasselling at shorter than normal height and showing the effects of shallow roots resulting from too much water a month ago.

In the western areas of the corn belt and Ohio where rains were never excessive and the outlook up to July 7 was good, drought has severely injured prospects. In the good black level-land counties of north central Iowa and adjoining southern Minnesota the outlook is excellent, but this is one of the few major areas in the U.S. where a bumper crop is in the making, Goeppinger said. The national average yield was computed to be 81.6 bushels per acre vs. 91.4 in '73.

Iowa, Minnesota, Nebraska, Illinois, Indiana, and Ohio which produce 70 percent of the crop all showed big drops in the Association's estimated production per acre from a year ago. Iowa 96 vs. 108, Minnesota 85 vs. 93, Nebraska 80 vs. 93, Illinois 85 vs. 103, Indiana 84 vs. 102 and Ohio 77 vs. 79. A good general rain covering the belt from west to east could pull the crop away from the threshhold of disaster, but the 30 day forecast does not favor general rains and the outlook is grim for many producers who cannot irrigate their crop, Goeppinger concluded.

[Grain Information News Wire Service]

WORLD GRAIN ESTIMATES SHOW LOWER CROPS, SHRINKING IMPORTS AND STOCKS

Washington—July 19—Making its third change in 1974–75 world grain estimates in slightly over a month, the Agriculture Department said here late yesterday that while the world's grain crop will be a record this year, import

demand is shrinking due to expected higher grain prices. Production, trade and stock figures listed in USDA's newest foreign agricultural grain circular back up USDA's move last Friday to lower 1974–75 U.S. export expectations.

Estimate devisions show bad news for countries which had hoped that 1974 was a year for stockbuilding.

USDA's estimate that world wheat production will now be only 369 million tons means imports could be only 69.1 million tons and that June 30, 1975 stocks could be only 31.3 million tons. USDA, June 26, had projected that stocks would rise this year to 33.1 million tons from a 1973–74 26.3 million ton level.

The Department now thinks world feedgrain production could equal only 614.8 million tons, which reflects a sizeable drop from a 623.6 million ton estimate June 26. Feedgrain imports are now estimated to total 70.7 million tons, leaving stock possibilities June 30 at a 95 million ton level, lower than the 103 million ton level predicted both June 14 and 26.

USDA now lists the total 1974–75 world grain crop as expected to hit 983.8 million tons. June 14 it estimated the crop would equal 1.0005 billion tons.

Green Bug Infestation Hits High Plains

Lubbock, Tex.—July 19—Grain sorghum crops in the Texas high plains are being hit by green bugs in epidemic proportion, according to Jack King, research director of the Texas Grain Sorghum Producers Board, of Lubbock.

King compared this infestation of green bugs to the epidemic of 1968, but added that the main difference is that the control is very poor at this time. The use of existing chemical compounds is resulting in only 50 to 70 percent control.

"We don't know why we are having control difficulties," King said, "but it could be one of two things: the extremely dry period could have affected the results of chemical usage or there may be a resistance in green bugs to the present registered compounds."

King added that in most cases, the fault is not with the chemical itself or the aerial applicator.

The area hardest hit at this time is north of Plainview, east of the Caprock and west through the grain sorghum producing areas of New Mexico. There appears to be some problem north of the Canadian river, but there is little reported activity in the north plains.

Elder Thorp, executive director of the Grain Sorghum Producers Board of Lubbock, said insect damage in some fields may reduce potential yield by as much as 50 percent.

[United Press International]

Drought in Long Range Forecast

Kansas City—July 15—A national weather service official says the nation, particularly the western half, can expect severe drought in the next few years comparable to dry spells in the mid 1950's.

Allen Pearson, director of the national severe storms forecast center, said nature's 20-year cycle of plentiful moisture has apparently ended, and weather patterns indicate dry, hot, periods for at least the next two years.

Pearson said the key indication is a regional drought this summer in Texas, New Mexico and Arizona.

Pearson said, "Once weather patterns get set up, they tend to be repetitive. If you have a large area of parched ground, it allows more heat to be trapped and it seems to make its own barrier for a wet weather patterns."

Pearson said rainfalls may be 10 to 20 percent less than in recent years. But he added that temperatures won't be quite so hot as in the dust bowl days of the 1930's.

Pearson said there are indications that "pollution is causing temperatures to drop somewhat. Flood control projects also make a difference, and in those

days there weren't nearly the number of farm ponds and lakes we now have. Those along with expanded irrigation hold temperatures down slightly."

But farmers can expect rough times the next few seasons, he said, and it will be "kind of a worrisome period for midwest agriculturists."

TEXAS SORGHUM AND COTTON CROPS

Austin—July 15—Special—An increasingly serious drought in west Texas has cut deeply into the State's cotton and grain-sorghum projections for 1974, according to the Texas Department of Agriculture.

The first Texas sorghum statistics released showed a USDA projection of 7.6M acres this year, a half-million acres below the 2.1M harvested in 1973.

New cotton-planting figures estimate 5.6M acres of cotton are being planted in Texas this year, a 4 percent increase over 1973, but a substantially smaller planting increase than the 15 percent hike expected nationwide.

John C. White, Texas' State Agricultural Commissioner, said the drop in sorghum estimates "indicates just how badly the drought is affecting sorguhm production in the state.

In the southern and coastal parts of Texas, sorghum harvest is complete, and is just starting in the State's central blacklands. Dry weather has not been a major factor in these areas of Texas, and State Agriculture officials expect "a good quality crop", despite a drop-off in yields.

Mr. White reported "the price outlook for feed grains remains good. Prices are high, and even with the easing of prices as the new crop appears, they are likely to remain high relative to the price being paid to the livestock producer. This is not good news to the livestock producer, who is already caught in a squeeze between high grain prices and low returns on his cattle."

Texas produced 417M bushels of grain sorghum in 1973, of which 223M were harvested on the high plains.

White said shortages of man-made fibers occasioned by the petroleum shortage increased the demand for cotton "considerably" over the last year. Although domestic consumption of cotton (7.5M bales last year) is still far below the mid-60's peak of 9.5M bales, it is expected to take an upturn this year to 7.7M bales.

[United Press International]

CATTLEMEN AND CONSUMERS FACE DROUGHT CONDITIONS

Denver—July 15—Consumers will be faced by higher supermarket prices unless heavy rains relieve the conditions on parched rangeland by the middle of next month. According to western stockmen.

"I can't think of a time when the cattle industry has been more depressed by the combination of the weather and the low prices," said Sherwood Culberson, a rancher for 43 years in New Mexico's Hidalgo County.

Culberson said prices have dropped 40 percent per animal since last year.

Rocky Mountain Agriculture officials predict that without heavy rains, stockmen will be forced to sell cattle and sheep at low weights sooner than they planned and at lower prices.

William H. Webster, president of the Colorado Cattle Feeders Assoc. said if the cattle are marketed early in their present underweight condition, September, October and November will see a drop in the usual volume of livestock.

"With the supply being short, we can look for higher beef prices in the fall, somewhat," Webster said. "The numbers (of available cattle) might be down considerably."

The recent drought comes on top of poor market prices which led Congressmen and stockmen in the west to ask President Nixon to place a quota on imported beef. The government recently purchased beef to help stockmen out.

Heavy spring rains in North and South Dakota kept those two states from experiencing the problems Colorado, New Mexico, Texas, and Wyoming are having, but the Dakotas expect trouble soon too if rain does not come.

Eastern Wyoming ranges and western Colorado are in particularly bad shape while Agriculture officials in Grant County, N.M., are seeking to have the County declared a disaster area in hopes of getting funds for stockmen.

Meanwhile, only scattered thundershowers have fallen in Nebraska, Kansas and the Oklahoma panhandle.

SHARP DROP FOR TEXAS WHEAT OUTPUT

Austin—July 15—Special—Texas wheat production is expected to decline 39.2M bushels from the 1973 total, Agriculture commissioner John C. White has predicted.

The crop is now being estimated at 59.4M bushels, quite a drastic decrease from 1973's record 98.6M bushels, and a sizeable decrease from projections made earlier this year.

In January, 78.4M bushels were projected for the 1974 harvest. However, drought conditions from January to April on the high plains revised the projections downward to 69.3M bushels in May. In June, wheat prospects declined to 63.0M bushels.

Most of the decrease is due to failure of the dryland wheat crop on the high plains. Growth of dryland wheat has been slow because of drought conditions throughout the area.

[Telegram]

LEBANON CHEMICAL CORP.,
Lebanon, Pa., July 23, 1974.

Senator GEORGE S. MCGOVERN,
U.S. Senate,
Washington, D.C.

Regarding fertilizer hearing I suggest applying the petroleum allocation system to fertilizer, Major Producers of Nitrogen and Phosphate one after another are withdrawing from the Northeast Market. Our one remaining supplier of normal superphosphate in Baltimore has refused to renew our 30,000 ton contract. A Florida Producer declines to renew a 5,000 ton contract. Yet they have plenty of material for their controlled outlets that compete with us. A year ago a urea producer declined to renew a 4,000 ton contract. He needed it for his own bulk blend plans. I understand the petroleum allocation law requires major producers to supply Independent Oil companies and I suggest this plan be applied to fertilizer too.

V. BISHOP,
President.

Senator MCGOVERN. The committee will recess until 2 o'clock.

[Whereupon, at 12:45 p.m., the committee recessed until 2 p.m. in the afternoon.]

AFTERNOON SESSION

Senator MCGOVERN. Our first witness is Mr. Charles Cowman, president, South Dakota Fertilizer and Agricultural Chemical Association, Yankton, S. Dak.

Before you give your testimony, Mr. Cowman, since our session this morning, we have had a reply from the Department of Defense on my earlier inquiry as to the possibility of utilizing any productive facilities that are available to the Department of Defense to be converted over to fertilizer production. I would just like to read into the record the pertinent paragraph of this letter from the Assistant Secretary of Defense, Authur I. Mendolia, and he says:

I believe that the seriousness of the fertilizer shortage situation dictates that the potential capability and capacity of Department of Defense-owned

facilities, particularly those now in an active or layaway status, should be examined in more detail. In this connection, I will ask the Department of the Army to work with representatives of the Department of Agriculture or other cognizant Federal agencies, as required with a view toward examining the feasibility for conversion of inactive Government-owned facilities to nitrogen fertilizer manufacturing plants.

Senator McGovern. I will ask the staff to transmit copies of this letter to members of the interagency task force that testified earlier this morning and I'm hopeful that some constructive result will be achieved as a consequence of this study.

I would also ask that the Secretary of Defense's letter be made a part of the record.

[The letter from the Assistant Secretary of Defense dated July 23, 1974 follows:]

ASSISTANT SECRETARY OF DEFENSE,
Washington, D.C., July 23, 1974.

Hon. GEORGE S. MCGOVERN,
Chairman, Subcommittee on Agricultural Credit and Rural Electrification, U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: Thank you for the opportunity to provide for the record information on the use of fertilizer chemicals by the Department of Defense.

DoD procurement of products convertible to fertilizers is limited to those quantities essential to the maintenance of the Defense posture.

Anhydrous Ammonia is the principal feed stock used in the production of fertilizer and munitions. The annual national production of this material is approximately 17 million tons. Of this quantity, DoD's annual procurement represents three-tenths of one percent.

The process used in converting Anhydrous Ammonia to munitions is generally complete; that is, there are no excess residuals. The one exception is the Holston Army Ammunition Plant process. This facility produces approximately 3,000 tons of residual sodium nitrate monthly. Since the material is excess to the facility's requirement, it is sold by the General Services Administration to Government agencies for use as fertilizer.

Ammonium Nitrate is not now used extensively in the production of munitions or propellants. DoD currently has 100 tons of this material in inventory for use in experimental work. The total annual U.S. production of Sulfuric Acid is approximately 1,881,900 short tons. Of this, DoD procures an estimated 3 tons annually to support their acid regeneration processes.

The annual procurement of phosphates is approximately 2,000 short tons. This quantity is of little significance when compared with the estimated annual U.S. production output of 540,000 short tons.

The quantity of potash procured by the DoD annually is also small when compared to the total annual output estimated at 4,684,000 tons of which 1.6 million tons was exported.

The DoD facilities do not normally maintain inventories in excess of a 30-day production requirement. Since Anhydrous Ammonia requires elaborate storage facilities, it is more economical to use the material directly from the tank cars used to deliver the material.

Therefore, other than the output of the Holston facility, there is no surplus supply of these chemicals within the DoD.

The Army has several facilities that have a Nitric and Sulfuric Acid capability. However, there are several factors that have precluded favorable consideration for their use in the fertilizer production area. Among these considerations is the fact that the plants do not have the capability to convert the acids to fertilizer material. Also, with the exception of the Newport Army Ammunition Plant, none of the facilities, currently in a layaway status, have been modernized to meet the pollution control standards established by the Environmental Protection Agency. Experience with leasing has shown a loss of interest by industry due to the high-dollar figure required to modernize these plants. Finally, there is of course the lack of availability of Anhydrous Ammonia essential to the operation of the facilities.

I think it is important to point out to the Committee that a cut-back or cancellation of the materials needed to support Defense production could adversely affect employment of approximately 30,000 civilians employed at Government-operated plants. In addition, employees engaged in the production of metal parts in support of these plants on approximately 700 Government contracts would also be adversely affected.

Notwithstanding these negative aspects, I believe that the seriousness of the fertilizer shortage situation dictates that the potential capability and capacity of DoD-owned facilities, particularly those now in an inactive or layaway status, should be examined in more detail. In this connection, I will ask the Department of the Army to work with representatives of the Department of Agriculture or other cognizant federal agencies as required with a view towards examining the feasibility for conversion of inactive Government-owned facilities to nitrogen fertilizer manufacturing plants.) We will be pleased to provide you the results of this study when completed.

I hope that the above information will be helpful to you.

Sincerely,

ARTHUR I. MENDOLIA,
Assistant Secretary of Defense
(Installations & Logistics).

Senator MCGOVERN. Mr. Cowman, you may proceed as you wish.

STATEMENT OF CHARLES COWMAN, PRESIDENT, SOUTH DAKOTA FERTILIZER AND AGRICULTURAL CHEMICAL ASSOCIATION, YANKTON, S. DAK.

Mr. COWMAN. Senator, I am presuming the testimony that Earl Adams and Bill Schroeder presented in Omaha is already a part of the record?

Senator MCGOVERN. Yes.

Mr. COWMAN. So I would like to bring you up to date on the South Dakota situation since then and briefly summarize what we talked about down there. At the time of the Omaha hearing, Senator, we were stressing then and are still stressing this problem of distribution. Because most fertilizer is manufactured in the Southern States, this leaves South Dakota on the far end of the pipeline. Therefore, when a company decides to decrease its market area, South Dakota is the one who gets cut off first. In the past 2 years, we have had dozen major suppliers pull out of our State. Those of us who were tied up to a supplier that continues to market in South Dakota can continue operating on allocation—but the independent dealer that was depending on a company that pulled out of South Dakota has no place to go for supply.

Senator MCGOVERN. Do you have available the names of the suppliers that have pulled out?

Mr. COWMAN. That have pulled out completely or partially pulled out?

Senator MCGOVERN. If you could make those available to the committee, we would appreciate it.*

Mr. COWMAN. Fine.

Also in conjunction with this, as far as pulling out, are manufacturers who are operating retail-wholesale outlets. And this is where we have to get down to real gut issues. We feel some people may end up

*The information will be retained in Committee files.

being antagonized and for this I apologize, but if you gentlemen are going to solve anything for us, we are going to have to ask some point blank questions and get into the guts of this situation. Some of the questions that have been asked us are like: Why a manufacturer who is retailing say 20 percent of his production and wholesaling 80 percent suddenly has completely shut off wholesaling to independent dealers around their own retail outlets and funneled this product through their own outlets on the retail level only?

Senator McGovern. You mean the manufacturer is selling through their own retail outlets?

Mr. Cowan. Yes.

Senator McGovern. And denying previously available supplies to independent dealers?

Mr. Cowman. Right.

Senator McGovern. Is that a widespread development in the State?

Mr. Cowman. It is affecting quite a few dealers, especially in the southeast part of the State. There is one company, of course, that was the major factor in this. But it is widespread in the southeast, yes.

Another question. Industry tells us production was up over 10 percent last year and yet dealer allocations speak of 50 to 90 percent of last year, except for company-owned outlets, for an average of 70 percent. You take 70 percent from 110 and this leaves 40 percent of our total national supply. And what we would like to know is where this extra prodution has gone to?

Question No. 3. Ask of these major suppliers who have pulled out, why is South Dakota being discriminated against as far as the marketing area and where has all of this extra product gone?

Another question which Senator Dole touched on this morning, is why do brokers seem to have so much product available at $50 to $100 a ton over domestic price?

We find it hard to believe that this was all imported product.

As for recommendations, from us to you, I will reiterate somewhat what I said in Omaha:

As far as export controls, no, we wouldn't like to see those. We feel the negative repercussions from the recoil of this would probably be much worse than the benefits received from the initial blast.

Price controls? No, this we feel would set industry back to where we were a year ago and would be detrimental to much needed expansion for the future.

Now a couple of things we do not think should be looked into. And one is the fuel situation which was also brought up this morning. We think the full fuel allocation to industry is essential. My understanding has been—and someone correct me if I am wrong—that fertilizing manufacturing is using only 2 percent of the natural gas supply right now. So in our estimation, if you increase the gas supply by 50 percent, you are only talking about 1 percent of our total natural gas supply.

But for the short-term aspect, this distribution needs to be looked at hard and fast, and pointblank. Here we are not only talking about the amount of distribution but the time of distribution. As I men-

tioned earlier, South Dakota is on the tail end of the pipeline, which means production is geared for the lowest States. And by the time Texas, Missouri, Iowa, Nebraska, and so on and many other States are done fertilizing, we in South Dakota are just getting started and by that time the pipelines are cleaned out and we get what comes off production. This past week, Dale Gullickson, who is with the State department of agriculture, took a followup survey to that survey we turned in at the Omaha hearing and I have attached to this testimony some comments on that. But there were two things that come out of this latest survey, which were interesting. Number one was that many dealers received part and some most of their allocation after the season was over. With liquid or gaseous nitrogen, you can play with this somewhat. If you don't get it on before planting, you have until corn is knee high to sidedress. But with dry nitrogen and especially phosphates and potash, we are looking at a black or red situation. There is no gray line. If we don't get it into the soil prior to planting, you just might as well forget about it this year because you are not going to get the response you should.

The second thing that came out of this survey is that brokers and truckers from down South—and I'm talking about the truckers from down South—started calling toward the end of the season offering fertilizer at prices up to $100 over domestic price at the time. One of the things we are wondering there is why wasn't this excess product shipped directly to South Dakota dealers earlier? How did this happen in the hands of brokers?

Senator McGovern. This is domestically produced fertilizer?

Mr. Cowman. We assumed so because it was in some cases out of Oklahoma.

The final point I would like to make concerning the South Dakota situation is: One, grassland this year was completely neglected. All available plant food in our area went for producing feed grain. We are the fourth largest beef-producing State and to produce beef we need grass.

Second, irrigation: We are presently in the fetal stage in South Dakota. But now with projects like the Ohae irrigation under construction, we are about to give birth to thousands of acres that up to now have been limited by rainfall.

Third point is, that a report put out 3 or 4 years ago showed the use of plant food by State on a per acre basis and South Dakota was on the bottom of the list. This means we are in the adolescent stage as far as fertilizer usage. We not only need the plant food to replenish our daily use, but the extra plant food it takes to keep us growing healthily. For instance, the latest figures I got from Roger Pearson showed that South Dakota in calendar year 1973 versus calendar year 1972 had increased retail sales of fertilizer by a 45 percent increase. The 1973 increase came from fertilizers still in the warehouses left over from 1972. But now this year, the warehouses are literally swept clean so where do we pick up the growth factor in 1974?

You also asked for something on the agricultural chemical situation. It wasn't nearly as critical as the fertilizer situation in South Dakota. Most dealers received a supply equal to their 1972 supply

without much problem, except for 2–4D. The increased sales were tougher to come by and some were received a little bit late and with prices from 8 to 10 percent higher.

As for next year, we expect supplies to be tighter because of increased demands. Prices we know are going to be higher. Some companies have already raised prices 10 to 20 percent. But as for the general situation, I sympathize with the chemical companies somewhat. They have received many black eyes recently, which they didn't deserve, because of EPA and other environmental groups. I think chemical companies should be commended for bringing the true facts to light. However, I would recommend for the coming year that, concerning this price increase and the excess profits, that these chemical companies proceed with extreme caution or they may receive a black eye they rightly deserve.

That is the extent of my testimony. If you have any questions, I would be glad to answer them.

Senator McGovern. Thank you. This morning there was a difference of opinion on what the shortfall in fertilizer supply is. I think the members of the Interagency Committee put it as low as 5 percent and I think Mr. Wheeler said he would make a large wager that it was fully twice that percentage and probably higher. What is your estimate about the situation in our State as far as the shortfall in the current year?

Mr. Cowman. As far as allocation, what most dealers received over the 1972 year, well, most of them run from 50 to 90 percent for an average—well, it is hard to say an average because you are talking about large dealers and small dealers—but they would average out about 70 percent. We have some dealers down as low as 30 percent or less.

Senator McGovern. You are using the figures they were allocated and not the shortfall? You say they got 70 to 90 percent?

Mr Cowman. Fifty to 90 percent of the needs of the previous year.

Senator McGovern. Yes.

Mr. Cowman. Now, as far as being short, we are talking more in the 30 percent range; in the 30 to 35 percent range.

Senator McGovern. As I recall, at the time of the Omaha hearing, the Secretary of Agriculture from our State testified to a shortfall of around 15 or 18 percent or something like that.

Mr. Cowman. If this would have went by what we used in 1972, right. But like I say, in South Dakota, which is a growth State, every year we have increased demand because of increased rates for acres and increased production.

Senator McGovern. Have you learned any lessons about the allocation problem in the last few months that you can share with us as to how we could on a voluntary basis get more equity in the way these short supplies are allocated?

Mr. Cowman. I wish I had the answer to that. If I did, everybody would think I was a smart fellow. I don't have an answer as to how you can correct this.

I do think that something has to be done in allocation.

Senator McGovern. Do you have any thoughts particularly about how to handle it on a local level with the dealers dealing with their own farm customers?

Mr. Cowman. On the local level, most dealers handled this fairly well, I thought. Most of them knew about what allocations they were going to get and they allocated this out to the farmers on that basis.

Senator McGovern. This has worked out pretty well in terms of available supplies?

Mr. Cowman. Well, nobody is satisfied but it was better than nothing. So most of them got 50 percent or 70 percent or 90 percent of the previous year. We did have some dealers that said first come; first served and lots of luck. not too many handled it that way. Most of them were on an equitable allocation program for the farmer.

Senator McGovern. Well, thank you very much, Mr. Cowman. We will keep this on record open for any additional information you want to file with us but I do appreciate your testimony today as well as your earlier appearance before the committee in Omaha. I may have some further question that we would want to submit to you in writing. Do you have anything additional?

Mr. Cowman. One thing I did want to point out. You mentioned this morning something about there was a big difference between the price increase on the wholesale level and the price increase in the retail level——

Senator McGovern. That was outlined in a memorandum from the Cost of Living Coucil.

Mr. Cowman. I just wanted to point out some factors there. This is true. You are going to see a bigger increase in the retail level than the wholesale level. Number one is because the retail dealers overhead cost had increased substantially. For instance, this spring I bought two new spreaders, which cost me double what they did 6 years ago. Another thing somebody else mentioned was about fertilizer companies. Five years ago they were begging for business and they were offering all kinds of ways and programs to help get started and help get going. One of them was they would ship the product out to you and you paid like in January or June, every 6 months. What inventory you hadn't sold, you didn't have to pay until next time. But now, for instance, last fall I ordered some and they shipped the invoice out at the same time they shipped the car of fertilizer out. On the invoice it said "net 10 days" and on the 11th day the supplier called me and said "Where is my check" and I said "Where is my fertilizer".

He said, "It is coming" and I said, "So is your check."

So this is the problem we have. We have to pay for it before we even get the product. And this is with interest at 10 or 12 percent. So this is another factor.

One more point. Talking about this price situation to the farmers, well, we understand it is very critical. Something just came across my desk the day before I came out and I made a few notes on it but didn't have time to study it. But Iowa has done a study of the response of nitrogen on dry land corn. They broke this down to 10-pound increments. Up to 40 lbs. of n, for every 10 lbs. of nitrogen they put on, they had a 6-bushel increase. Now this is where you

get into the economics of this thing. If we are talking about prices of $200 for ammonium nitrate, you are talking about 30 cents per unit, you put on 10 lbs. and then you are talking about $3 per acre. This would give you 6 bushels of corn at $2.50 a bushel of corn, which, when I left a couple of days ago was $3.25, but at $2.50 you are talking about $15 return for investment. So as far as investment—and we realize the cost is high and critical—but as far as investment, it is still a 5 to 1 return on investment. It is still a pretty good investment in my book.

Senator McGovern. Just assuming it starts to rain.

Mr. Cowman. Right.

Thank you very much.

[The prepared statement of Mr. Cowman follows:]

STATEMENT OF CHARLES COWMAN, PRESIDENT, SOUTH DAKOTA FERTILIZER AND AGRICULTURAL CHEMICAL ASSOCIATION, YANKTON, S. DAK.

Mr. Cowman. I'd like to thank you for honoring South Dakota in extending this invitation to appear here today. I'm Chuck Cowman, President of South Dakota Fertilizer and Agriculture Chemical Association, and an independent retail fertilizer and agriculture chemical dealers in Yankton, South Dakota.

I presume the testimony that I, along with Earl Adam (our soils specialist) and Bill Schroeder (our Secretary of Agriculture) gave at the Omaha hearing in March will be included in the overall record. Therefore I would like today to briefly summarize our testimony there and bring you up to date on the South Dakota situation since then.

We stressed then and are still stressing, Senators, the problem of distribution.

Because most fertilizer is manufactured in the Southern States, South Dakota is on the far end of the pipeline. Therefore when a company decides to decrease its marketing area—guess who gets chopped off first. In the past 2 year's we've had a ½ dozen major suppliers pull out of our state. Those of us that were tied up to a supplier that continues to market in South Dakota can continue operating on allocation—But the independent dealer that was depending on a Company that pulled out of South Dakota is DONE!

In conjunction with suppliers pulling out is manufacturers who are operating retail/wholesale outlets! And here is where we have to get down to gut issues—some people may end up being antagonized—and for this I apologize, but if you gentlemen are going to solve anything for us you're going to have to ask some point-blank questions and get into the guts of this situation. Such as why a manufacturer who was retailing, say, 20% of his production and wholesaling 80% suddenly has completely shut off wholesaling to independent dealers around their own retail outlets—and funneled this product through their own outlets on the retail level only?

Question 2. Industry tells us production was up 10% over last year—yet most dealer allocations speak of 50–90% of last year (except for company owned outlets) for an average of 70%. I've never taken this new math but when I went to school, 70 from 110 leaves 40% of our total supply somewhere—where is that extra product?

Question 3. Ask of these major suppliers who have pulled out—why is South Dakota being discriminated against? And where is this extra product going?

Question 4. Why did brokers seem to have so much product available at $50 to $100/ton over domestic price? I find it hard to believe this was ALL imported product.

As for recommendations from us to you, I reiterate what I said in Omaha:

Export controls—No—The negative repercussions from the recoil would probably be far worse than the benefits from the initial Blast.

Price controls—No—This we feel would only set industry back to where we were a year ago—and would be detrimental to much needed expansion for the future.

We do think full fuel needs to the industry is essential. My understanding is that manufacturing is using only 2% of the natural supply now: increase the supply 50% and you're only talking another 1% of the total natural gas supply

But for short term this distribution needs to be looked at hard, fast and point blank. Not only the amount of distribution, but the time of distribution. As I mentioned earlier, South Dakota is on the tail end of the pipeline. Production is geared for the lower states. By the time Texas, Missouri, Iowa, Nebraska, and many other states are done fertilizing—South Dakota is just getting started—the pipelines are cleaned out and we get what comes off production. Dale Gullickson (with State Department of Agriculture) took a follow up oral survey this past week to the March survey presented in Omaha by our Sercetary of Agriculture, William Schroeder. Attached to the testimony I handed in is a copy of the oral survey. Most dealers received the allocation they had previously indicated. However two things came out of this latest survey which are disturbing:

1. Many dealers received part (and some most) of their allocation after the season was over! With Liquid or Gaseous Nitrogen you can play with this somewhat. If you don't get it on before planting you have until corn is knee high to side dress—But with dry Nitrogen and especially Phosphates and Potash, it's a black or red situation—there is no gray line; if they aren't worked into the soil prior to planing you just as well forget them for this year—you aren't going to receive the response from their application.

2. Brokers and truckers from down South started calling towards the end of the season offering fertilizer at prices up to $100 over domestic price. Why wasn't this excess product shipped directly to South Dakota dealers earlier?

The final points I'd like to make concerning fertilizer in South Dakota is this. 1—Grassland this year was completely neglected. All available plant food in our area went for producing feed grain. We are the fourth largest Beef producing state—to produce beef we need grass.

2. Irrigation: We are presently in the fetal stage in South Dakota. But now with projects like the Oahe Irrigation how under construction we are about to give girth to thousands of acres that up to now have been limited by rainfall.

3. A report put out 3 or 4 years ago showed the use of plant food by State on a per acre baisis. South Dakota was on the bottom of the list; which means we are in the adolescent stage—we not only need the plant food to replenish our daily use but the extra plant food it takes to keep us growing healthy. For instance the latest figures I got from Rodger Pearson (South Dakota Department of Agriculture) showed that South Dakota in calendar year 1973 versus calendar year 1972 had increased retail sales of 45%. This '73 increase came from fertilizer still in the warehouses from '72—Now the warehouses are literally swept clean—where do we pick up the growth factor in '74?

As for the Agriculture Chemical situation—it wasn't as critical as fertilizer. In South Dakota dealers received a supply equal to their '72 supply without much problem, except for 2-4-D. The increased sales were tougher to come by and some were received a little late with prices 8–10% higher.

As for next year we expect supply to be tighter because of increased demand. Prices we know are going to be higher. Some companies have already raised prices 10–20%. As for the general situation, I sympathize with the chemical companies. They have received many "Black eyes" recently (which they did not deserve) because of EPA and other Environmental groups. Chemical companies should be commended for bringing the true facts to light. However I would recommend for the coming year that, concerning price increases and excess profit, these chemical companies proceed with extreme caution or they may receive a "Black eye" they rightfully deserve!

Senators, thank you for the invitation, your patience and courtesy.

ATTACHMENT 1—DEALER ORAL SURVEY

CO-OP

Sales the first six months of this year down about 1/3—3700 tons in 1973, 2400 in 1974. They have been allocating to customers—60% of previous 2 years.

Nitrogen the biggest problem, Phosphate small problem, plenty of potash. He has unofficial indication that he will be allocated for the next fiscal year the same as the past year except for Nitrogen which he will only receive 90% of this year. Feels one of the problems in the Nitrogen shortage is caused by the fuel shortage.

There is definitely going to be continued shortage problem next year. No particular recommendations on how to alleviate it.

Chemicals.—2-4-D was very short and high priced and indications are that conditions will be worse next year. Hasn't been and doesn't think there will be many problems regarding other herbicides and insecticides.

INDEPENDENT

Very, very pessimistic regarding the potential for getting fertilizer. Prices quoted are high; very big increase in demand has been developing this year and expects it to continue into future. Hardly any fertilizer on hand now and expects a big immediate demand for use in seeding winter wheat.

No Nitrates at all and Phosphate problem getting worse right along. Feels South Dakota is being discriminated against. Kind of at the end of the line. He tried an experiment to see if fertilizer could be bought at higher prices and offered one supplier $200 a ton for Ammonium Nitrate but didn't receive any. Hope the Fertilizer Institute would be represented at the hearing.

Understands fertilizer production in U.S. is up about 10%. Thinks we are going to be very short from now on through the next year. Doesn't have any solutions because he doesn't know what is causing the problem. Hates to see controls.

Chemicals.—They are all extremely hard to get. Hasn't had any more trouble with 2-4-D than any of the others.

CO-OP

Antičipates shortage to continue into next year. Feels that they were 35% short of need this year. Most of that 35% was made up by increase in demand but his supply was a little smaller than the previous year. Dollar sales were about equal. One of his problems is that he spread a lot of fertilizer nearly last fall before he knew there was going to be an allocation for fertilizer and used up his allocation at that time so had very little to use this spring. Had to cut his customers back to 50% allocation.

Black market price this last spring was twice the regular allocation price. Indication is that someone might be hoarding fertilizer.

His tentative allocation for next year is 90% of this year on Nitrogen and 115% on Phosphorus. Expects a bigger increase in demand than this year.

Recommendations.—Don't want any more price freezes. Should be an investigation to see if manufacturers are producing at full capacity or if there is hoarding of the commodity.

Chemicals.—He was very short this year because he virtually received no allocation because he has used very little of it in the past. Expects demand to be greater in his area for these chemicals and feels it will be a bigger problem in the future. Has no 2-4-D at All. Did have plenty of Thimet.

INDEPENDENT

Fertilizer problem is very critical. Received smaller supply. Requested 450 tons and received only 100 tons. Did get one additional carload through the black market at about $30 a ton higher cost. He got no Nitrate at all. He didn't serve but ⅓ of his customers. He did not go on allocation because he was assured by his company that he would be provided adequate fertilizer but did not get it so about ⅔ of his customers were without fertilizer. Thinks his problem was worse than others because of the fault of the company he buys from. Situation is so bad that fertilizer salesmen don't call on fertilizer dealers any more. The demand is nearly double from a year ago partly because of more acres farmed and partly because of more fertilizer per acre used because they are only beginning to use fertilizer the last five years. Has no promise of any fertilizer next year at this time.

Recommendations.—Wants to know where the fertilizer is going. Why we are so short all of a sudden and should be careful about our exports.

Does not handle any chemicals.

CO-OP

Last year allocation was 100% of this years but this was also 30% below needs. Most of the increase in need was increase in demand because of increased

acres farmed, added customers and increased amount of fertilizer used per acre. Has no salesmen calling on them at all. Only way to come close to meeting their needs, they deal with brokers who charge twice the regular price. Anticipates Anhydrous ammonia tightest supply for next year. Some trouble with phosphate and Potash has become scarce. Thinks exports are our biggest problem. Thinks they need to be limited to protect the agricultural industry. Prices have doubled from a year ago.

Chemicals.—Have not been on allocation this last year but they are limited. Sold as much as the year previous but there was a bigger increase in demand because of increased grain prices. They are taking on absolutely no new customers. Anticipates to be a short supply next year and already having trouble.

INDEPENDENT

Started on 75% allocation—but received over 100%—Got all he needed. Might have been because a customer of long standing. Buys all Liquid-Nutro Flo—COST GONE UP ABOUT 300% HOWEVER IN LAST YEAR. Hasn't been notified about next year.

Chemicals.—Got along pretty good. Sold a little more than last year. Didn't have quite enough but after jockeying around with other suppliers took care of most of customers. Doesn't see any big problems for next year, but expects prices to increase significantly.

Senator McGovern. Thank you. We appreciate your testimony.

Now we have two panels that complete our testimony today. We are ready for the first of those panels, composed of Mr. Brier and Mr. Fulton and Mr. Halverson and Mr. Gordon.

Okay, gentlemen, if you would proceed according to your own plan?

STATEMENT OF WILLIAM BRIER, DIRECTOR, ENERGY RESOURCES, NATIONAL COUNCIL OF FARMER COOPERATIVES

Mr. Brier. Sir, for the committee's benefit I will introduce the panel. At the end of the table is Mr. J. D. Gordon, manager, Plant Food Division, Goldkist, Atlanta, Ga. Next to him is Mr. Phil Stocker, vice president of agronomy, Land O' Lakes. Next to him is Mr. Duane Halverson, special assistant for petroleum to the senior vice-president, Land O' Lakes. The gentleman sitting next to him is Dave Fulton, special assistant to the executive vice president, Sales and Merchandising, Farmland Industries, Kansas City, Mo.

I will present a statement for the record and a short oral summary. Each of the other gentlemen would like to also file a statement and make short oral comments if that would be acceptable to the committee.

Farmer cooperatives supply approximately 30 percent of all on-farm fuel consumed in this Nation. At the same time, they operate eight refineries which supply about 50–70 percent of their product needs and own 10–15 percent of the crude oil they need to operate these refineries at capacity. The remaining crude oil and finished product is purchased from independent producers, other oil companies, and brokers.

Farmer cooperatives are also basic in the fertilizer industry, operating at all levels including mining, manufacturing, distribution, and marketing. Cooperatives manufacture and market 30–40 percent of all fertilizer produced and sold domestically.

The agricultural chemical field is another area in which farmer cooperatives play a key role. Except as byproducts of other processes,

cooperatives are not involved in the production of basic raw materials used in agricultural chemical. The cooperative role is limited, for the most part, to research and development, formulation and packaging, distribution, and marketing of agricultural chemicals.

With the above thumbnail sketch of selected farmer cooperative activities in mind, the National Council would like to subdivide those three basic subjects into five broad categories.

First, I would like to discuss propane. The importance of propane to the farmer can hardly be overemphasized. His needs include both home heating and production of the Nation's food and fiber. In addition, propane is necessary in the production of crops utilizing irrigation.

Recent suggestions have been made that propane is in excess supply and therefore its allocation programs should be terminated. In the National Council's judgment, this attitude ignores one simple fact—propane demand was down significantly (particularly in agricultural and rural heating) in 1973 primarily because of the weather. In addition, utilities and manufacturing plants utilizing natural gas were not required to substitute large quantities of propane as originally forecasted because of the unusually warm weather.

In 1972, the demand and supply curve crossed at about 13 to 14 billion gallons of propane. In 1973, demand dropped off by roughly 300–400 million gallons while imports and production increased by 400–425 million gallons. However, disturbing signs appear on the horizon. First, the Bureau of Mines report for March 1974 shows that stocks of propane are down by 250 million gallons from January–December 1973 figures. Second, prices are on the rise.

CRUDE OIL

If one criticism could be made of cooperatives' refinery operations, it is that they are too dependent on outside producers for crude oil. Cooperatives own only about 10–15 percent of their total crude oil requirements.

The continuation of the current crude oil allocation program is absolutely essential to the continued viability of cooperative refinery operations. Of the current 83,393,242 barrels of crude oil subject to allocation, 8,495,622 barrels are scheduled for allocation to cooperative refiners. This is 10.2 percent of the crude oil being allocated. For the cooperatives involved, this works out to 94,396 barrels per day or 35 percent of their total refining capacity.

The National Council also strongly supports a one-tier pricing system to eliminate the two-tier pricing inequity oil under such a system should be priced high enough so as not to discourage stripper production in States where refineries utilizing this product are located.

CHEMICALS

Spot shortages of specific herbicides and pesticides will continue. it now appears that these shortages probably will not affect the availability of mixed chemicals such as those used for animal health.

The shortages of herbicides and pesticides may prevent the farmer

from obtaining a specific chemical formulation. However, assuming that the farmer can make substitutions when necessary, he should be able to obtain herbicide-pesticide protection.

The National Council believe that during these periods of shortage, the Federal Government should give serious attention to the priority uses of basic raw materials in our society. Those uses, such as agricultural chemicals, should be encouraged as a way to help meet national food production goals.

FERTILIZERS

Fertilizers supply-demand figures serve to point out the cyclical nature of the industry coupled with low profit margins during periods of over-supply which discourage entry of new producers. by the same token, over the past 4 years the market has forced at least eight major fertilizer marketing companies to partially or completely withdraw from the market. The high capital requirements and low returns on investments are not looked upon with favor by the bulk of the manufacturers because they are investor-oriented companies as opposed to cooperatives. Obviously, inadequate transportation has contributed to the current shortage.

As a result of the price freeze, increased imports have also affected farm supplies of nitrogen and phosphate. Phosphate exports are still a problem. Net P_2O_5 exports for July-May are still running 13.1 percent ahead of July-May 1972–73 figures.

However, these problems are completely overshadowed by the continued shortages of natural gas that make it practically impossible to significantly expand domestic anhydrous ammonia production—the major source of nitrogen. In fact, CF Industries, Inc. and Farmland Industries, Inc., have both announced the construction of significant additions to their anhydrous ammonia production capabilities to be built in Canada. Even today, cooperatives are continuing their search for additional foreign sources of natural gas.

The National Council would also like to comment briefly on the fact that 22 percent of ammonia producers have contracts with gas suppliers that have an interruptible clause. The National Council believes that because of the importance of nitrogen in crop production, all ammonia producers should be placed in a high priority category.

Now I would like to turn briefly to the discussion of refined fuels.

The key to understanding the refined fuels outlook for individual farmer cooperatives in distribution, not total domestic supply-demand balances. While total supply-demand figures appear more in balance, cooperatives are still experiencing difficulty in purchasing needed fuels at prices that allow them to be competitive in the market place. To some extent the price advantage favoring major oil companies versus independent oil companies begins with Government crude oil pricing policies, both domestic and foreign. The foreign differential is based on the difference between the tax-paid cost of oil ($7.10) average with royalty oil purchases and the independents' foreign oil cost, which is currently about 93 percent of the posted price ($13.83.) The domestic oil differential is basically the per-

centage differences between the amounts of old oil and stripper oil refined by each as discribed fully in my written statement.

Because of these obvious inequities due to current Government policies, both domestic and foreign, FEA should give serious consideration to utilizing the mandatory allocation programs of finished products to help equalize price differentials of refined fuels between major and independent oil companies.

In summary, the national council believes that other shortages in farm supplies should also be examined briefly. These shortages, when considered with those already mentioned, contribute to a general farm supply situation that is not conducive to meeting this Nation's food and fiber production goals.

Among the short-supply commodities are wire products and galvanized steel which also report sharply rising prices. Much of this problem centers around the export of scrap iron to higher-priced foreign markets.

Twine and rope are also in short supply because previously low prices for sisal, an important raw material imported from Brazil and Mexico, cause many producers to stop production. Now that prices have risen, raw material production has resumed, but shortages will continue to persist for another year or so.

One shortage which has been in effect for some time is that of tractor tires and predictions are that it will continue into next year.

Another shortage is that of feed grade dicalcium phosphate. This exists not only because of the shortage of basic phosphate material discussed earlier but also because of a shortage of defluorination facilities.

In closing, I think one subject prevails over the entire discussion of the farm supply situation and that is price. While admittedly in many cases the farmer is receiving high prices for the commodities he produces, he is also paying high prices for supplies he needs.

If farm prices fall significantly, the farmer will be caught in a serious cost-price squeeze similar to that already encountered in the cattle industry. Many farm supply goods are overpriced and can be expected to fall as supplies improve, but the farmer's basic cost of doing business will still remain high—much than that of a few short years ago.

Senator McGovern. Thank you very much, Mr. Brier. A roll call has been in progress for the last 7 minutes. No one here to relieve me, so I'm going to have to take about a 10 minute recess and answer that roll call.

[A brief recess.]

Senator McGovern. Thank you, gentlemen, that turned out to be two roll calls back-to-back instead of one. It took a little longer than I anticipated.

Mr. Brier, do the other members of the panel have statements?

Mr. Brier. Yes, they would like to make brief statements and then file additional written views.

Senator McGovern. Fine.

We will see that the entire statement is printed in the record.

Mr. Brier. Next is Mr. Fulton from Farmland Industries.

STATEMENT OF DAVID A. FULTON, STAFF ASSISTANT TO THE VICE PRESIDENT, SALES AND MERCHANDISING, FARMLAND INDUSTRIES, KANSAS CITY, MO.

Mr. FULTON. I am David A. Fulton, representing Farmland Industries in today's proceedings before this committee. Farmland is an intergrated farm-supply cooperative, wholly-owned by 2,100 member cooperatives. These local member associations supply the petroleum products, fertilizer, agricultural chemicals, and many other products needed by approximately 500,000 farmers and ranchers in the Midwestern United States. Indeed, as I speak to you now, more than 600 managers of member cooperatives from 13 Midwestern States are meeting in Kansas City, Mo., to discuss product supply problems that have faced agricultural producers during the past crop year, and to discuss the outlook for essential product supplies in the future.

In the next few minutes I will review with you the highlights of farmland's written statement which details the petroleum, fertilizer, and ag chemical supply situation facing the agricultural producer.

First in petroleum: Farmland is the leading cooperative in the United States in terms of petroleum supply to agricultural with an annual refined fuel volume exceeding 1¼ billion gallons. Farmland produces only 15 to 20 percent of the crude oil required for its own three refineries which have a total capacity of 67,000 barrels per calendar day.

Farmland endorses the crude oil allocation regulations currently in effect and strongly recommends that these regulations continue beyond the February 28, 1975 expiration date. Without Federal allocation of crude oil, Farmland Industries will be unable to meet the demand for refined petroleum fuels for agriculture beyond February 1975.

The FEA crude oil allocation regulations, in theory, provide to Farmland and other independent inland refiners the crude oil necessary for refining and subsequent distribution of refined fuels to agricultural users. However, the delays which have resulted from a lack of action by the FEA to enforce the crude oil allocation program could result in Farmland refineries not obtaining full use of the 1,711,000 barrels of crude oil authorized for purchase this quarter. Active enforcement of the crude oil allocation regulations must be undertaken by the Federal Energy Administration to insure a workable program.

The FEA reassignments of large nonagricultural wholesale purchasers of record which allowed Farmland to meet its member cooperatives' needs for agricultural production use in April, May, and June of 1974 was discontinued July 1, 1974.

The effect of this, and the instruction by the FEA to draw down gasoline allocation of 100 percent for agricultural production requirements but only 27 percent for other requirements, including essential community services.

On Wednesday, July 17, Farmland increased the nonag allocation to 75 percent in reliance on statements by Robert Walker, FEA in Kansas City and other who had directed efforts to obtain assignments of crude oil.

This increased allocation was accomplished only by a 10½ million gallon draw down of inventory in anticipation of receiving the crude oil to rebuild gasoline inventories required in August.

Now, let's look at fertilizer: In 1973, it became apparent that the American farmer was facing a serious shortage of fertilizer producers looked to exports for greater profits. One exception to this practice in the fertilizer industry was Farmland Industries. Every ton of Farmland's production went through member agricultural cooperatives to Midwestern farmers to meet the needs of Farmland's farmer-owners.

Farmland feels that any short-term effects of export controls on fertilizer availability are far outweighed by the long-term advantages in maintaining a competitive position for all farm products in world markets.

During the current year, it is estimated that the farmers and ranchers which Farmland served needed approximately 20 percent more nitrogen and phosphate fertilizer than Farmland was able to supply.

Production from a new nitrogen plant built by Farmland at Enid, Okla. will help ease, but will not totally alleviate, the fertilizer shortfall situation. Even though Farmland is undertaking a major anhydrous ammonia project in Canada, with a product pipeline to more the finished product to the Midwestern United States, we are continuing to search for additional natural gas supplies in this country. Since Farmland is presently allocating fertilizer products on a basis equitable to all historical purchasers, we would not favor any form of mandatory allocation program.

Moving on to agricultural chemicals: Sales of agricultural chemical pesticides to local cooperatives by Farmland have increased approximately 250 percent in the last 5 years. In the past, an inventory of 25 percent above anticipated needs was maintained to guard against abnormal demand for product. However, during the present crop year, even this heretofore considered "safe" supply of backup product was not sufficient to meet demand.

During this crop year, shortages of intermediate raw chemicals significantly affected the supply of ag chemical pesticides. The raw material supply situation, if allowed to continue, will result in some form of allocation.

Government supervision of intermediate raw chemicals is encouraged by Farmland so that these raw chemicals can be converted to those chemicals essential to farmers and ranchers. The diversion of these intermediate raw chemicals to another, perhaps more profitable area, should not be made at the expense of the American farmer or rancher.

In summary, first; the petroleum situation appears favorable if we can obtain crude oil under a continuing government program. Second, even though it will be several years before Farmland reaches a balance in the supply and demand of fertilizer products, we cannot visualize Federal involvement in allocations or export controls.

Third, with greatly increased use of ag chemical herbicides and pesticides projected, it will become increasingly important for the Federal Government to take an active role in assuring that raw chemicals are available for agricultural production.

Senator McGovern. Thank you very much.

Mr. Brier. I believe Mr. Halverson has a short statement to present on behalf of Land O'Lakes.

STATEMENT OF DUANE HALVERSON, SPECIAL ASSISTANT FOR PETROLEUM TO THE SENIOR VICE PRESIDENT, LAND O'LAKES, FORT DODGE, IOWA

Mr. Halverson. Thank you. As Mr. Brier indicated, my name is Duane Halverson. I am special assistant for petroleum to the senior vice president of Land O'Lakes. Accompanying me today is Mr. Phil Stocker, vice president of our agronomy division.

Land O'Lakes is pleased to be here today to share with you our thoughts regarding the supply situation facing agriculture.

As you are aware, Land O'Lakes is a regional cooperative that serves 175 thousand farm families in Iowa, Minnesota, Nebraska, Wisconsin, North Dakota, and South Dakota. The cooperative has two major divisions: Agricultural services and food marketing.

Agricultural services provides the farmers through local cooperatives, feed for livestock; fertilizer, seed and chemicals for crops: fuels, lubricants and propane for power and heating services. Other products provided include twine, livestock equipment and related items.

Land O'Lakes also owns soybean processing and alfalfa processing plants.

Food marketing purchases the output of the farmer, processes these products, and merchandises the finished items to the consumer through normal marketing channels. Milk, ice cream, turkeys, and butter are examples of the foods provided.

Total sales of Land O'Lakes will exceed $1 billion in 1974.

Our comments today will review our current supply situation and point out concerns that we have in the petroleum and agronomy areas.

Our initial comments will cover petroleum. At the present time, Land O'Lakes is allocating gasoline and diesel fuel at an allocation fraction of one. That is, Land O'Lakes is providing fuel equal to the demand of the local cooperatives.

It has been the policy of Land O'Lakes to provide the volume of fuel requested even if this requires the company to purchase high-priced product on outside markets.

Given today's demand, Land O'Lakes must purchase 30 percent of the gasoline and 45 percent of the No. 2 diesel fuel from outside markets. The remainder of the product is made available from a refinery in which Land O'Lakes is a part owner.

Because we have been forced to purchase products on outside markets, our wholesale price has sometimes been 5 cents per gallon higher than the regional cooperatives and 7 to 9 cents per gallon higher than major oil companies. At the present time our price is competitive. However, in order to stay competitive we are currently selling some gasoline at 31.7 cents per gallon which costs us 39 cents per gallon.

Land O'Lakes purchased enough gasoline last week to assure ample supply through the summer months for our jointly owned refinery to operate at capacity. Currently however, we do not have enough gasoline to harvest the crops this fall.

Our supply of diesel fuel is similar to that of gasoline. We are currently allocating propane equal to the needs of the local cooperatives.

At this time, we have one-third of our projected annual propane needs tied down. Suppliers indicate we should receive 60 percent of our needs during the year.

Historically at this time, we would normally have signed contracts to guarantee 100 percent of our needs. There are three petroleum concerns we would like to bring to your attention: No. 1, the mandatory allocation program has been relatively successful in redirecting fuel as intended by the regulations. The allocation program should not be permitted to expire on February 28, 1975.

Although stocks of gasoline and distillates are greater than a year ago, there is no assurance products would be moved from major oil companies to independents without the allocation program. Permitting the allocation program to expire would result in cooperatives not having sufficient fuels for farmers. This is important since 28 percent of fuel sold to farmers is moved through cooperatives.

No. 2, many of Land O'Lakes corporate facilities use natural gas. Milk drying plants is an example. Our supplier has notified us that in 1978, it will no longer provide natural gas to us. This means we must look for alternative sources. Given the recent price relationships, switching to propane would increase our costs by $5 to $7 million. This is a threefold increase in costs. This means higher food costs to the consumer. Land O'Lakes strongly recommends that priorities be established for natural gas. Certainly the needs for food production must rank as a number one priority.

No. 3, agriculture must be given a priority for gasoline, distillates, and propane. The current regulations are misleading and in fact do not assure this.

We would now like to direct your attention to the agronomy area. Fertilizer materials are in short supply and will continue to be so until at least 1978. It appears next year we will supply our local cooperatives 63 percent of their nitrogen requirements and 83 percent of their phosphate and 71 percent of their potash needs. The following are suggestions we feel would alleviate the current situation.

One, it is essential that new priorities be established to provide adequate energy sources for the expansion of new manufacturing facilities, particularly natural gas as a feed stock for nitrogen.

Two, an adequate transportation system must be developed which includes the greater utilization of rail cars to assure the movement of grains to ports and fertilizer material to the farming area.

Three, there should be no embargo on fertilizer materials such as suggested by H.R. 13080. An embargo will not solve our fertilizer shortage but could worsen our supply picture by retaliation of foreign governments. Sixty-five percent of our potash is imported from Canada as well as 900,000 tons of nitrogen that is used by most of the northern tiers of States.

Four, the construction of new plants and mines should be given priority especially in the environmental area.

The supply situation of farm chemicals has been tight during the past year. It appears supplies should be more plentiful next year although supply will continue to fall short of demand. The shortage has been caused by increased demand due to additional acres planted. It was not possible for the industry to react quickly enough to meet the increase in demand.

Mr. Chairman, in addition to our brief oral comments, we suggest you study our more detailed reports regarding the supply situation and our recommendations.

Thank you very much.

Senator McGovern. Thank you Mr. Halverson. We appreciate your statement. Are there other prepared statements?

STATEMENT OF J. D. GORDON, MANAGER, PLANT FOOD DIVISION, GOLDKIST, ATLANTA, GA.

Mr. Gordon. I have a few remarks. I did not have one to submit.

During the 1973–74 fertilizer year Goldkist supplied the farmers of Florida, Alabama, and Georgia and also South Carolina slightly over one-half million tons of fertilizer. Although this was an 18 percent increase over the previous year, it wasn't enough to satisfy the demand.

In fact had we been able to produce what we had budgeted in the way of mixed fertilizer and this was cut due to a strike of our supplier, we would still not have had enough fertilizer to provide each of our farmers the tonnage he wanted.

I think part of this goes back to the fact that when we went into the spring season this year, our inventories were on the floor. Farmers had used so much during the fall that we didn't have the plants full as we normally do in the spring of the year.

This Mr. Wheeler alluded to this morning and is something we can look for throughout the short situation on fertilizer.

The shortages in allocations are always unpleasant and particularly so to members of the fertilizer industry who are accustomed to fighting tooth and nail for each ton of business. Goldkist, seeing our developing short supply situation, instituted an allocation program on some fertilizer materials last October and on the rest in December. This gave our retail managers the tools needed to help our farmers plan their spring crop acreage around available fertilizer supplies. While the program was not 100 percent effective, it did reduce the number of acres planted without proper fertilization.

A Government sponsored allocation program, I do not believe would be nearly as effective as an allocation program made up by the suppliers who know their territory, know the history of their customers, and would be in a much better position to devise one that would work.

The best we can find out, there was very little acreage in Georgia that did not receive fertilizer this spring. This is not to say that the farmers got as much fertilizer as they wanted, but most of them got some fertilizer and should, providing the weather is good, get fairly good yields with the fertilizer they got.

In looking towards the coming year, we can see very little change. Our fertilizer tonnage will be about the same as the past year. If crop prices continue going up as they are, certainly the crop acreage will be planted. And with inventories what they are I think we will be in for an even worse situation next year than we were this year. Thank you.

Senator McGovern. Thank you very much. I want first of all to compliment the cooperatives on the important role that you play in supplying valuable farm inputs at reasonable costs.

Mr. Brier, I am wondering this. From your statement, can we assume that the Council of Cooperatives is opposed to deregulation of propane and other fuels that are now under the Federal mandatory fuel allocation program?

Mr. Brier. We are opposed to deregulation at the present time. I think in my remarks I meant to relate more to Mr. Sawhill's comments of the past few weeks that indicate that he is going to start deregulating on an individual program basis. We have started already with residual and there is evidence that Sawhill may recommend deregulation of propane in September.

Senator McGovern. Well does the Council have any recommendations with respect to changes in the current propane regulations especially as to the manner in which price levels are established?

Mr. Brier. Well, I think some of the pricing problems that have developed in propane are primarily because we have oil companies in the propane business, and natural gas companies in the propane business. This creates two-tier prices because of current government pricing programs which confuse the market.

The major reason is that companies are only allowed to pass through cost increases but most cost increases occur in crude oil so a portion of these costs are added on propane. This creates a two-tier pricing system that currently causes as much as a 10 cents per gallon price differential.

Senator McGovern. Has the Council taken any position with respect to the proposed allocation of propane for production of synthetic natural gas?

Mr. Brier. We would oppose——

Senator McGovern. I understand that is now pending before the Federal Energy Administration.

Mr. Brier. We would oppose any regulations that would seek to expand the use of propane to nonhistoric users. We think it stands to reason that since there has not been an increase in the production of propane over the last several years due to continued shortages of domestic natural gas, the use of this important farm fuel should be restricted. The only increases in supply are a result of additional imports. Imports are very expensive. So at this time we would strongly recommend retaining propane primarily for agriculture and other historical uses.

Senator McGovern. Now you refer to that matter in your testimony. You say: "In addition, utilities and manufacturing plants utilizing natural gas were not required to substitute large quantities of propane as originally forecasted because of the unusually warm weather."

There was a rather widespread impression that manufacturing and utility firms had stockpiled propane against the possibility of natural gas shortages. Is that in fact the case?

Mr. BRIER. Very definitely. Land O'Lakes could give you some examples. They are facing some natural gas shutoffs. Farmland has already experienced some.

Senator MCGOVERN. Because of that practice?

Mr. BRIER. No, when natural gas service is interrupted, then propane is often used as an alternate source of fuel.

Senator MCGOVERN. But there has been a movement on the part of manufacturing firms and utilities to lay in reserves of propane that they would not ordinarily have done?

Mr. BRIER. Very definitely.

Senator MCGOVERN. And is that anticipated again this fall?

Mr. BRIER. Yes, their standby stocks of propane should be almost full now. It is anticipated that this fall they will have to use some of that propane in contrast to last year where they had it on hand and didn't for the most part use it.

Senator MCGOVERN. So if it is a normal winter, we may see some of those propane stocks consumed by manufacturing and utility firms?

Mr. BRIER. Yes, plus the fact that agricultures' should be up significantly from last winter. Late-maturing crops are an indication of additional propane needs. There was almost no crop drying last year. Irrigation, which is going on in the Midwest, is drawing down a lot of propane. A normal winter would increase over last year, propane requirements for poultry and swine production and run heating, particularly in the South.

Senator MCGOVERN. Other members of the panel may feel free to break in on this. I kind of built these questions around Mr. Brier's statement but anyone who wants to comment may feel free to do so.

In your statement, Mr. Brier, you say:

> Those figures serve to point out the cyclical nature of the industry coupled with low profit margins during periods of over-supply which discourage entry of new producers.

What you're getting at really is establishment of priorities, as I understand it. How do you think those priorities should or could be established?

Mr. BRIER. To be honest with you, Senator, I would have no specific suggestions in that regard. I think it is more of an acknowledgment on the part of people that we face a very serious shortage of chemical base stocks and natural gas and that there ought to be some attention given to the various uses of these chemical base stocks and natural gas and some direction provided as to how they ought to be used during shortages.

If at an appropriate time we come into a situation where we want to allocate—and certainly I am not suggesting a governmental allocation program at this time we should give some thought to how we want to utilize critically short raw materials such as basic chemical stock and natural gas.

Senator MCGOVERN. One more question. In your statement you say because of this obvious inequity due to current Government

policies, both domestic and foreign, FEA should give serious consideration to utilizing the mandatory allocation programs of finished product to help equalize price differentials of refined fuels between majors and independents.

You also say:

> FEA should also give some attention to the fact that the current priority for agricultural production could in some cases deprive some farmer-cooperatives non-priority customers of fuel.

Have you formally requested the FEA to do this and if so, what has been their response?

Mr. BRIER. I think Land O'Lakes would like to respond to their experiences in the Kansas City regional office in this regard.

Mr. HALVERSON. Yes, I will be happy to, Senator. The regulations, as you are aware, state that agriculture and the Defense Department are to receive 100 percent of current requirements.

Land O'Lakes has certified and has been approved what in fact are their current requirements. However, we are running into a very interesting and frustrating situation in that, according to our regional office in Kansas City, we must list classes of users. For instance, farmers and under that would come schools, then service stations. If we have these three classes of users, we must take care of farmers first.

All right, this would lead one to believe that he would cut off on the volume given to schools and service stations. We, however, have a unique situation in that all our gasoline goes to farmers so that there is no one who can sacrifice.

Since there is no one to sacrifice and we do not have enough, we are in essence forced to allocate to the farmer below his current requirements. We have repeatedly talked with the FEA in Kansas City saying: "Look there is no one who can give fuel up so will you please go to another company and issue them an interim directive to provide fuel for us so that we can in turn pass it on to the farmer?" The FEA originally did this early in 1974. During the past 60 to 90 days the policy has changed. The policy now is that they will not redirect products from a company unless it has an allocation faction greater than one. That is, it has surplus product. However, the only people that really have surplus product, particularly early in the month, are those who have extremely high priced fuel. The net effect is that in the month of July, for instance, the only product the FEA would make available to us was at the same price that we could maintain merely by picking up our telephone and calling our own brokers. So in essence the FEA was nothing but a high priced broker for 3 weeks.

After 3 weeks some major oil companies have declared "Look, we've got some excess for the rest of the month," so now the FEA will redirect the product.

Our concern is what would have happened had we run out of fuel the first 10 days of the month? The FEA's position is take it or leave it. Our position is, if that is your attitude you are doing several things wrong. Number one, you are doing nothing but brokering and second you are not giving the farmers their needs.

So this is the real dilemma we are in right now. We have re-

peatedly in writing asked why this change in policy and we have not received a response to the question.

Senator McGovern. I can see the problem.

Senator Dole. Mr. Sawhill will be here tomorrow. Do you have a copy of that in writing?

Mr. Halverson. Of the letter?

Senator Dole. Yes.

Mr. Halverson. I will check to see if I do. If I do, I will provide it to you.

Senator Dole. I can understand the difficulty you are having at the Kansas City office. I would hate to run out of gas anywhere in the area.

Mr. Halverson. The other problem—if I might expand on this?

Senator Dole. Go ahead.

Mr. Halverson. Is that everyone is allocating on their adjusted base volume. A supplying company can allocate at 99 percent of the adjusted base volume and which maybe 110 percent of 1972. All the fuel can go to a service station while Land O'Lakes may be allocating to a farmer at 80 percent and yet we can receive any of the fuel destined for the service stations. So this is a dilemma. I would be happy to provide that letter. If I do not have it with me, I will get it to this committee.*

Senator McGovern. Senator Dole, any more questions?

Senator Dole. No.

Senator McGovern. Well thank you very much, Gentleman. We appreciate your testimony.

[The prepared statements of Messrs. Brier, Fulton, and Halverson follow:]

Statement of William Brier, Director, Energy Resources, National Council of Farmer Cooperatives

My name is Bill Brier and I am Director of Energy Resources for the National Council of Farmer Cooperatives. I am accompanied by three associates: Dave Fulton, Staff Assistant—Executive Vice President, Farmland Industries, Inc., Kansas City, Missouri; Duane Halverson, General Merchandise Manager, Petroleum Division, Land O'Lakes, Inc., Minneapolis, Minnesota; and J. O. Gordon, Manager, Plant Food Division, Gold Kist Inc., Atlanta, Georgia. These gentlemen will also present individual reports detailing supply projections and problems affecting their individual regional farmer cooperatives.

At the request of the Agriculture Committee staff, our comments will primarily cover the supply situation as it relates to fuel, fertilizer, and agricultural chemicals over the next year or so.

Farmer cooperatives supply approximately 30% of all on-farm fuel consumed in this nation. At the same time, they operate eight refineries which supply about 50-70% of the product needs and own 10-15% of the crude oil needed to operate these refineries at capacity. The remaining crude oil and finished product is purchased from independent producers, other oil companies, and brokers.

Farmer cooperatives are also basic in the fertilizer industry, operating at all levels including mining, manufacturing, distribution, and marketing. Cooperatives manufacture and market 30-40% of all fertilizer produced and sold domestically.

The agricultural chemical field is another area in which farmer cooperatives play a key role. Except as by-products of other processes, cooperatives are not involved in the production of basic raw materials used in agricultural chemicals. The cooperative role is limited, for the most part, to research and development, formulation and packaging, distribution and marketing of agricultural chemicals.

*See p. 163.

With the above thumbnail sketch of selected farmer cooperative activities, the National Council would like to subdivide those three basic subjects into five broad categories.

PROPANE

The importance of propane to the farmer can hardly be over-emphasized. His needs include both home heating and production of the nation's food and fiber. In addition, propane is necessary in the production of crops through irrigation.

Recent suggestions have been made that propane is in excess supply and therefore its allocation programs should be terminated. In the National Council's judgment, this attitude ignores one simple fact—propane demand was down significantly (particularly in agricultural and rural heating) in 1973 because of the weather. In addition, utilities and manufacturing plants utilizing natural gas were not required to substitute large quantities of propane as originally forecasted because of the unusually warm weather.

In 1972, the demand and supply curve crossed at about 13 to 14 billion gallons of propane. In 1973, demand dropped off by roughly 350–400 million gallons while imports and production increased by 400–425 million gallons. However, disturbing signs appear on the horizon. First, the Bureau of Mines report for March 1974 shows that stocks of propane are down by 250 million gallons from January-December 1973 figures. Second, prices are on the rise.

There are several factors which are apparently affecting pricing and availability of propane:

1. Due to government regulations, a two-tier pricing system has developed, making propane from oil companies which have crude oil operations more expensive than that from natural gas companies;

2. Some gas companies have already warned major customers that they can expect their natural gas to be cut off this winter, thus increasing the customers' need for standby fuels such as propane;

3. Agriculture's needs are expected to increase significantly—much more propane is being used for irrigation this year and the late maturity of particularly corn will increase the probable need for more propane for crop drying.

4. Domestic propane production is decreasing slightly even though demand will be up. This is because liquification of natural gas has shifted to maximize ethane, a product of no use to agriculture.

In addition to the foregoing, it should be mentioned that the priority for agriculture according to the regulations is of little value to many of our cooperatives because they fall into the producer-purchaser category rather than the wholesaler-reseller category. This means that they are in fact limited by their suppliers to their base period propane supplies or a percentage thereof, regardless of their agricultural customers.

CRUDE OIL

If one criticism could be made of cooperatives' refinery operations, it is that they are too dependent on outside producers for crude oil. Cooperatives own only about 10–15% of their total crude oil requirements.

The continuation of the current crude oil allocation program is absolutely essential to the continued viability of cooperative refinery operations. Of the current 83,393,242 barrels of crude oil subject to allocation, 8,495,622 barrels are scheduled for allocation to cooperative refiners. This is 10.2% of the crude oil being allocated. For the cooperatives involved, this works out 94,396 barrels per day or 35% of their total refining capacity.

At the same time, certain aspects of the government crude oil program are harmful to farmer cooperatives. These deal primarily with the government pricing programs as they relate to crude oil.

The government, by regulation, fixes the price of so-called domestic old oil at about $5.25 per barrel. This production accounts for about 70–80% of the total domestic supply. Newly discovered oil and stripper oil is exempt from price controls and currently sells for about $10.35 per barrel.

This policy discriminates against cooperatives and many other independent refiners because their inland refineries are often located near fields with an unusually high percentage of stripper well production. Thus, the farmer buying from a cooperative, which in some cases in his only source of supply, was often paying more for his product than his counterpart buying from a major oil company.

The National Council strongly supports a one-tier pricing system to eliminate this obvious inequity. Oil under this system should be priced high enough so as not to discourage stripper production in states where refineries utilizing this product are located.

CHEMICALS

Spot shortages of specific herbicides and pesticides will continue. It now appears that these shortages probably will not affect the availability of mixed chemicals such as those used for animal health.

The shortages of herbicides and pesticides may prevent the farmer from obtaining a specific chemical formulation. However, assuming that the farmer can make substitutions when necessary, he should be able to obtain basic herbicide-pesticide protection.

The real problem is not with agricultural chemicals per se but rather with shortages of basic raw materials such as phenol, benzene and other base stocks. Since major formulators of agricultural chemicals have trouble obtaining adequate supplies of base stocks, the formulation of agricultural chemicals is both erratic and below agricultural needs. The shortages of base stock can be attributed to both increasing demand within agriculture and industry and increased exports.

The National Council believes that during these periods of shortage, the federal government should give serious attention to the priority uses of basic raw materials in our society. Those uses, such as agricultural chemicals, should be encouraged as a way to help meet national food production goals. At the same time, less important uses should be discouraged.

FERTILIZER

It now appears that North American supply-demand balances for nitrogen will gain their equilibrium beginning in 1978. After that, a small nitrogen surplus will develop which will probably disappear by 1983.

United States phosphate supply-demand balances will cross in 1976–77 at which time a surplus will begin developing that will carry into 1979–80 when supply-demand balances will cross again.

North American potash surpluses may start appearing in 1975–76. These surpluses will continue into 1980 when it is expected that the surplus will probably disappear.

These figures serve to point out the cyclical nature of the industry coupled with low profit margins during periods of over-supply which discourage entry of new producers. By the same token, over the past four years the market has forced at least eight major fertilizer marketing companies to partially or completely withdraw from the market. The high capital requirements and low returns on investments are not looked upon with favor by the bulk of the manufacturers because they are investor-oriented companies.

Obviously, inadequate transportation has contributed to the current shortage. The unavailability of transportation has in some areas created artificial shortages of plant food when none actually existed. The availability of necessary railroad rolling stock in the right place at the right time has and will continue to be a particularly severe problem.

As a result of the price freeze, increased imports have also affected farm supplies of nitrogen and phosphate. Phosphate exports are still a problem. Net P_2O_5 exports for July-May 1973–74 are still running 13.1% ahead of July-May 1972–73 figures.

However, these problems are completely overshadowed by continued shortages of natural gas that make it practically impossible to significantly expand domestic anhydrous ammonia production—the major source of nitrogen. In fact, CF Industries, Inc., and Farmland Industries, Inc., have both announced the construction of significant additions to their anhydrous ammonia production capabilities to be built in Canada. Even today, cooperatives are continuing their search for additional foreign sources of natural gas.

Much of the problem of natural gas supplies can be traced to a 1954 Supreme Court decision that gave the Federal Power Commission the authority to regulate interstate gas rates. Since that time, wildcat drilling for natural gas, a good measure of industrial activity, has declined from a high of 16,000 wells in 1956 to 7–8,000 between 1971 and 1973. In addition, since 1968, domestic

natural gas is being consumed at a faster rate than reserves are being discovered.

The unrealistic rate structure of natural gas also has the undesirable effect of reducing supplies available to historical users (fertilizer industry) by encouraging its use for economy reasons by increasingly significant numbers of non-historical users. For example, the use of natural gas by an electric utility to produce electricity to be used for heating purposes uses three times as many B.T.U.'s as providing the same natural gas directly to the end user for heating purposes.

The National Council would also like to comment briefly on the fact that 22% of ammonia producers have contracts with gas suppliers that have an interruptible clause. This means that if higher priority users' needs are not met, gas suppliers can temporarily be halted. During the past three years, because of increasing shortages of natural gas, these interruptions have increased—thus decreasing production of anhydrous ammonia. The National Council believes that because of the importance of nitrogen in crop production, all ammonia producers should be placed in a higher priority category.

REFINED FUELS

The key to understanding the refined fuels outlook for individual farmer cooperatives is distribution, not total domestic supply-demand balances. While total supply-demand figures appear more in balance, cooperatives are still experiencing difficulty in purchasing needed fuels at prices that allow them to be competitive in the market place.

To some extent the price advantage favoring major oil companies versus independent oil companies begins with government crude oil pricing policies both domestic and foreign. The foreign differential is based on the difference between the tax paid cost of oil ($7.10) averaged with royalty oil purchases versus the independents' foreign oil cost which is currently about 93% of the posted price ($10.83). The domestic oil differential is basically the percentage differences between the amounts of old oil and stripper oil refined by each as described earlier.

This basic difference in crude oil costs not only increases major oil companies' profits, but also enables them to sell refined fuels at a lower cost. Because of this obvious inequity due to current government policies, both domestic and foreign, FEA should give serious consideration to utilizing the mandatory allocation programs of finished product to help equalize price differentials of refined fuels between majors and independents.

FEA should also give some attention to the fact that the current priority for "agricultural production" could in some cases deprive some farmer cooperatives' non-priority customers of fuel. This could occur under the current regulations during a shortage because farmer cooperatives supply an unusually high percentage of their total fuel to agricultural production. If a cooperative in a rural community is the major supplier and he is forced during a shortage to take agricultural production off the top, there may be no remaining fuel for non-priority users in the community. This of course would eventually effect the farmers' ability to continue operations.

SUMMARY

The National Council believes that other shortages in farm supplies should also be examined briefly. These shortages, when considered with those already mentioned, contributed to a general farm supply situation that is not conducive to meeting this nation's food and fiber production goals.

Among the short-supply commodities are wire products and galvanized steel which also report sharply rising prices. Much of this problem centers around the export of scrap iron to high-priced foreign markets.

Twine and rope are also in short supply because previously low prices for sisal, an important raw material imported from Brazil and Mexico, caused many producers to stop production. Now that prices have risen, raw material production has resumed, but shortages will continue to persist for another year or so.

One shortage which has been in effect for some time is that of tractor tires and predictions are that it will continue into next year. During the height of

the shortage many farm implement manufacturers were unable to obtain needed tires for new equipment. Thus many tractors were shipped on blocks minus the tires with the hope that they could be added later.

Another shortage is that of feed grade dicalcium phosphate. This exists not only because of the shortage of basic phosphate material discussed earlier but also because of a shortage of defluorination facilities.

In closing, one subject prevails over the entire discussion of the farm supply situation—price. While admittedly in many cases the farmer is receiving high prices for the commodities he produces, he is also paying high prices for supplies he needs.

If farm prices fall significantly, the farmer will be caught in a serious cost-price squeeze similar to that already encountered in the cattle industry. Many farm supply goods are overpriced and can be expected to fall as supplies improve, but the farmer's basic cost of doing business will still remain high—much higher than that of a few short years ago.

STATEMENT OF DAVID A. FULTON, STAFF ASSISTANT TO THE EXECUTIVE VICE PRESIDENT, SALES AND MERCHANDISING, FARMLAND INDUSTRIES, INC., KANSAS CITY, MO.

Senators, Ladies, and Gentlemen: Farmland Industries, Inc., headquartered in Kansas City, Missouri, is a cooperative association organized under the laws of the State of Kansas. Farmland is an integrated farm cooperative, wholly owned by approximately 2,100 local, member, agricultural associations which supply petroleum products, fertilizer, agricultural chemicals, feed, and other products to approximately 500,000 farmers and ranchers in the midwestern United States.

The primary trade territory of Farmland Industries encompasses thirteen states—Kansas, Nebraska, South Dakota, North Dakota, Iowa, Oklahoma, Missouri, Texas, Minnesota, Illinois, Arkansas, Colorado, and Wyoming—that provide a major portion of the total United States production of food and feed grain crops. Wheat production in this region constitutes seventy-nine percent of the total United States production; corn production is sixty-six percent of the total United States production; while production of soy beans and grain sorghums are sixty-two percent and ninety-two percent, respectively, of the total United States production.

Farmland has totally dedicated its resources, including products, services and employees, to the task of serving agriculture, by serving its approximately 2,100 member, agricultural associations.

Farmland appreciates the opportunity to offer testimony to this committee, as a representatives of the 500,000 midwestern farmers and ranchers which it serves, and to make known, and seek help in solving the problems facing the American agricultural community today.

PETROLEUM

Farmland is the leading cooperative in the United States in terms of petroleum supply to agriculture, with an annual refined fuel volume exceeding one and one-quarter billion gallons. Farmland was founded in 1929. Farmland's farmer-rancher owners became the first cooperative in the United States to build refining facilities when, in 1939, a refinery was constructed by Farmland at Phillipsburg, Kansas. In 1941, a small refinery was purchased at Scottsbluff, Nebraska, and in 1944 a refinery located at Coffeyville, Kansas was purchased. Ownership of the three refineries described above is presently held by CRA, Inc., a wholly owned subsidiary of Farmland. The total refining capacity of the three refineries listed above is 67,000 b.p.c.d. (barrels per calendar day). In addition to the three small refineries owned by CRA, Inc., Farmland owns a thirty-one percent interest in the National Cooperative Refinery Association (N.R.R.A.), which owns one refinery, located at McPherson, Kansas, with a total refining capacity of 52,000 b.p.c.d. Corresponding to its ownership interest in N.C.R.A., Farmland is entitled to purchase thirty-one percent of the product refined at N.C.R.A.

It is estimated that Farmland provides forty-three percent of the gasoline and diesel fuel volume for agricultural use in Kansas, forthy percent of the

gasoline and diesel fuel volume for agricultural use in Nebraska, and is the number one supplier of gasoline and diesel fuel to agricultural producers in Kansas, Nebraska, Iowa, Oklahoma and South Dakota.

Farmland has ownership interests in some domestic oil production. However, these interests provide only approximately fifteen to twenty percent of the crude oil needed to operate at capacity the three refineries described above.

Like other independent, inland refiners, Farmland has relied on open-market purchases of "sweet" crude oil to operate its refineries. As was the case with most inland, independent refineries, Farmland had, up until the fall of 1972, exchanged foreign crude oil import rights for domestic crude oil. This business practice was a routine exchange arrangement with many major United States oil companies for a number of years. It allowed inland refineries access to the domestic "sweet" crude oil recovered in the United States interior, and in return, the major oil companies received rights to import the then, less expensive foreign crude oil for processing at coastal refineries.

With the sudden astronomical rise in the costs of foreign crude oil, coupled with a decreasing supply of domestic "sweet" crude oil for sale, the inland, independent refineries could not buy sufficient quantities of crude oil to operate at capacity. Farmland, for example, operate at 13,000 to 15,000 barrels per day under refining capacity, while an increased need for refined fuels for agricultural production by member agricultural cooperatives was being experienced.

Farmland Industries recognized the need for a mandatory program for the allocation of crude oil and refined product in early 1973. This need was expressed, along with the recommendation that the program recognize the needs of agriculture as a national priority, to the Oil Policy Hearing Committee in June, 1973.

The crude oil allocation regulations which were subsequently developed by the Federal Energy Office, and amended, effective June 1, 1974, provide the assistance required by small, inland refiners in the midwest to meet the demand for refined petroleum products for agricultural production uses. *Farmland endorses the crude oil allocation regulations currently in effect, and recommends that these regulations continue beyond the expiration of the Emergency Petroleum Allocation Act, on February 28, 1975. Without the continuation of the crude oil allocation regulations, Farmland Industries, the traditional supplier of refined petroleum products to agricultural users in the midwest, will be unable to meet the demand for refined petroleum fuels for agriculture beyond February, 1975.*

A comment on pricing of refined petroleum products must be made at this juncture. The two-tier pricing system on crude oil has placed many independent refiners located in the midwest at a competitive disadvantage "price-wise". The small, inland, independent refiner located in the midwest must rely on "sweet" crude oil to operate its refineries. Since a high proportion of the recoverable crude oil of this type of uncontrolled oil—stripper oil, new oil or released oil—refiners required to use this type of crude oil exclusively as a raw material input have a higher composite crude oil cost than those refiners that have access to crude oil which has a controlled price. For the above-described reasons, it appears desirable to eliminate the two-tier pricing system that is now in existence in the crude oil area, and permit all domestic crude oil to be priced on a consistent basis. An alternate, and, we believe, workable program, is contained in the proposed crude oil entitlements program, as developed by the Federal Energy Office, and provided to refiners for comment on May 21, 1974.

While the Federal Energy Administration crude oil allocation regulations, in theory, provide to Farmland and other independent, inland refiners the crude oil necessary for refining and subsequent distribution of refined fuels to agricultural users, some problems presently exist in operating under these allocation regulations. For example, during the present crude oil quarter, June, July and August, 1974, Farmland was able to secure less than half of the crude oil allocated to it under the Federal crude oil allocation program. A number of refiner-sellers listed in the Federal crude oil program, chose not to sell Federal Energy Administration directed quantities of crude oil, until a ruling was made by a Federal District Court in Washington, D.C. that upheld the legality of the crude oil allocation program. Due to transportation problems inherent in the crude oil area, even if such refiner-sellers act immediately to comply with the crude oil allocation program, Farmland and other inland, independent refineries will not be able to get the use of their entire allocation of crude oil during the

present crude oil quarter. Thus, active enforcement of the crude oil allocation regulations must be undertaken by the Federal Energy Administration to insure a workable program.

Farmland strongly endorses the designation by the Federal Energy Administration of agricultural production as the highest priority use category for refined fuels, and the June 1, 1974 Federal Energy Administration amendment which requires each supplier in the distribution chain to recognize this priority.

A further, important point on distribution of petroleum products must be made. While a number of major oil companies and other suppliers of petroleum products have chosen to terminate marketing of petroleum products in the rural areas, and instead market in more densely populated urban areas, Farmland has steadfastly continued to serve the rural communities and, indeed, is being faced with the responsibility of providing refined petroleum products to those agricultural users who were formerly served by oil companies which have withdrawn from the agricultural midwest. For example, the Gulf Oil Corporation and the Sun Oil Corporation have chosen to withdraw from substantial portions of the midwest marketing area and many of their rural customers are now looking to Farmland for supply.

The majority of the local, agricultural associations to whom Farmland Industries, Inc. sells motor gasoline are located in very small, basically rural, communities, many times such communities containing only a few hundred people. The service station of the member association is likely to be the only service station serving the community, or one of the very stations serving the community, the member association station is also called upon to serve the refined fuel needs of schools, mail carriers, county road departments, and other important groups. The point must be made that in many of the small rural communities the service station of the Farmland member association is called upon not only to meet agricultural production needs of the community, but *all* the needs of the community.

Through its member associations, Farmland Industries can provide a distribution system that can come closest to insuring that the fuel needs of midwestern farmers and ranchers are met. Additionally, fuels provided to the small rural communities served by Farmland provide the life blood for the very existence of these communities. Regulations must be promulgated and enforced that will insure that Farmland can refine the petroleum products necessary to satisfy the needs of this important segment of the American population.

FERTILIZER

As in the petroleum area, Farmland is both a manufacturer and a distributor of fertilizer. In 1948, the first Farmland manufacturing facility was constructed, an amoniating plant in Eagle Grove, Iowa. Nitrogen plants were subsequently built in Fort Dodge, Iowa, Dodge City, Kansas, Hastings, Nebraska Lawrence, Kansas, and Enid, Oklahoma. Phosphate fertilizer production began in 1966 with the construction of a manufacturing facility in Bartow, Florida.

In 1973, it became apparent that the American farmers was facing a serious shortage of fertilizer products. With Federal controls regulating fertilizer prices, most fertilizer producers looked to exports for greater profits. One exception in the fertilizer industry to this type of business activity was Farmland Industries. Every ton of Farmland's fertilizer supply went through member, agricultural cooperatives to midwestern farmers, to meet the needs of Farmland's farmer-owners.

Despite decontrol of fertilizer prices, the critical supply situation for fertilizer in the agricultural midwest was not alleviated. True, the decontrol of prices was expected to make an additional one and one-half million tons of fertilizer available during the first six months of 1974, but fertilizer industry leaders had estimated before decontrol of prices, a shortage of four million to five million tons for the current crop years. *It is estimated that the farmers and ranchers which Farmland serves needed approximately twenty percent more of both nitrogen and phosphate fertilizers than Farmland was able to supply. Further, Farmland, a net purchaser of potash, was unable to secure supplies sufficient to meet the demand for this product.*

In fertilizer, like in petroleum, allocation is a word farmers and ranchers in the midwestern United States will be living with for at least the next few years. An all, new program has been instituted by Farmland to insure that those

farmers and ranchers who, through their local cooperatives, depend on Farmland Industries, Inc. for a supply of fertilizer, will receive their equitable share share of the fertilizer available.

To help alleviate one problem area of the critical fertilizer situation now facing midwestern farmers, a major anhydrous ammonia project is being undertaken by Farmland Industries and Canadian interests. The first two of the four plant ammonia complex will hopefully be on stream sometime in the calendar year 1976. Each plant will product 1,250 tons of anhydrous ammonia a day, and the product will be channeled by pipeline into Farmland's trade area.

The project will be built in Canada because Farmland was able to obtain natural gas, the raw material used in the manufacture of anhydrous ammonia. It is estimated that two hundred million cubic feet of gas each day will be needed to operate the four plants.

Because natural gas supplies for such industrial purposes as nitrogen are on the wane in the United States, fertilizer production using Canadian natural gas was a logical and beneficial choice. Such a venture in Canada will free United States natural gas for such vital purposes as home heating, while at the same time allowing the production of more fertilizer for Farmland's farmer members.

A pipeline system will be constructed from Canada through Montana, the Dakotas and Minnesota, and tie in with the existing Farmland pipeline system near Garner, Iowa. From there, the product will be pumped in liquid form through Iowa, Kansas, Missouri, Nebraska and Oklahoma, to the end of the pipeline system at Perryton, Texas. That this will be a major step in meeting the United States need for nitrogen, can be seen by the fact that thirty-five to forty percent of the nation's total nitrogen consumption is required in states served by Farmland. Even as the Canadian project is moving ahead, Farmland continues the search for additional natural gas supplies within the United States.

Reordering of priorities is the ultimate answer to the fertilizer shortages. During the last two years, one fertilizer plant after another has had its natural gas supply curtailed. The Fertilizer Institute, a national industry organization, has petitioned the Federal Power Commission to give nitrogen producers a number two unconditional priority on natural gas—a priority second only to home and small commercial uses. Such a priority classification for natural gas for nitrogen producers must be maintained.

While export controls on fertilizer would perhaps have the effect of making more fertilizer available to American farmers on a short term basis, it does not seem the wise position to take in the long run. There is presently only one nitrogen plant in the United States under construction, due in large measure to unstable sources of natural gas. If United States Government policy restricted the exporting of fertilizer, the undesirable effects of trade wars, possibly including the restriction of fertilizer products from other countries into the United States, might be the result; foreign governments might choose also to formulate restrictions that would make United States farm products less competitive in world markets.

Further, government action should be taken to halt the continued deterioration of rail service to agriculture. Adequate transportation of fertilizer must be insured. In the phosphate area, Farmland had hoped to see supply start to come into balance with demand by late 1974 or 1975, but this has been delayed due to power shortages in Florida, where phosphate is mined, plus transportation problems, and fuel shortages.

As is the case with petroleum supply, Farmland continues to search for ways to provide its midwestern agricultural members with a dependable supply of fertilizers at a reasonable cost.

AGRICULTURAL CHEMICALS

During the past decade, cooperatives have become increasingly important in the agricultural midwest in the area of supplying agricultural chemicals. In the case of Farmland Industries, this involvement is two-fold—those agricultural chemicals which Farmland manufactures for distribution, and those agricultural chemicals which are bought for distribution from other suppliers. While Farmland is a purchaser of basic chemical stocks, it formulates approx-

imately forty percent of its own pesticides. While no other area is more important to the farmer or rancher, no other area of agricultural supply is more sophisticated and complicated.

Sales of agricultural chemical pesticides to local cooperatives by Farmland, have increased approximately two hundred fifty percent in the past five years. In the past, an inventory of approximately twenty-five percent above anticipated needs was maintained to guard against abnormal demand for product. However, during the present crop year, even this heretofore considered "safe" supply of back-up product was not sufficient to meet demand.

During this crop year, shortages of intermediate raw chemicals, materials for packing, and industrial accidents all took their toll on the delicate supply situation. As with petroleum and fertilizer, there will, in the future, likely be a need for some form of allocation based on previous history of use. In the agrichemical area, however, if one type of chemical is in short supply, another type can many times be substituted, and achieve the same desired result for the farmer or rancher. This, of course, is not the situation with petroleum or fertilizer.

In seeking to meet the challenge of this increased responsibility, in agrichemicals, Farmland has taken a number of steps to advance the knowledge in this product area. Farmland is presently accelerating its research efforts into new agrichemical problem areas. In addition, test plot evaluation of presently used pesticides and experimental compounds are being conducted as part of Farmland's research effort.

Farmland also works with a college advisory group made up of weed specialists and extension entomologists coming from the land-grant colleges located in the states served by Farmland. Once a year, in a three-day meeting in Kansas City, this group of scientists gives their advice on the proper compounds for use by farmers and ranchers. Such advice is based on the "most effective and least cost basis" regardless of manufacturer's recommendation.

Government supervision of intermediate raw chemicals is encouraged by Farmland so that these raw chemicals can be converted to those chemicals essential to farmers and ranchers. The diversion of these intermediate raw chemicals to another, perhaps, more profitable area, should not be made at the expense of the American farmer or rancher. In addition, government agencies such as the E.P.A. and O.S.H.A. must recognize the farmers' great financial stake in his crop production planning, and such agencies must take care that no new regulation or procedure will unnecessarily prohibit the farmer or rancher from continuing a plan of crop production. *Finally, Farmland recommends that consideration be given to a review of seventeen-year patent rights. It is recommended that when a pesticide patent expires on a compound, that all research, tolerance and other pertinent data be made a part of the public domain so that other manufacturers may register and manufacture the compound, thus making available more production for the in-use market at a lower cost to farmers and ranchers.*

In conclusion, we would reiterate to you the importance of insuring that adequate supplies of the previously discussed scarce products are provided to American farmers and ranchers. As was stated by Mr. Ernest T. Lindsay, President of Farmland Industries, Inc., in his remarks to several thousand farmers and ranchers at the Farmland 1973 annual meeting: "Crude oil, natural gas, phosphate rock; thes are some of the world's most precious goods. Modern farmers must have the petroleum products and nitrogen fertilizers that are made from them!"

STATEMENT OF DUANE HALVERSON, SPECIAL ASSISTANT FOR PETROLEUM TO THE SENIOR VICE PRESIDENT, LAND O'LAKES, FORT DODGE, IOWA

I. A DESCRIPTION OF LAND O'LAKES, INC.

Land O'Lakes is a regional cooperative which serves 175,000 farm families in Iowa, Minnesota, Nebraska, Wisconsin, North Dakota, and South Dakota. The Cooperative has two major divisions: Agricultural Services and Food Marketing.

Agricultural Services provides farmers, through local cooperatives, feed for livestock; fertilizer, seed, and chemicals for crops; and fuels, lubricants, and propane for power and heating purposes. Other products provided include twine,

livestock equipment, paint and related items. Land O'Lakes also owns soybean processing and alfalfa processing plants.

Food Marketing purchases the output of the farmer, processes these products, and merchandises the finished items to the consumer through normal marketing channels. Milk, ice cream, turkeys, and butter are examples of the foods provided. Total sales of Land O'Lakes will exceed one billion dollars in 1974.

The following comments will dwell on the current supply situation of Land O'Lakes and the industry, reasons for these conditions, and recommendations for further action by both the Government and the respective industries. The comments will be covered in two separate sections: Fuels and Agronomy Products.

II. FUELS

Land O'Lakes sells refined fuels such as gasoline, diesel fuel, and propane to the farmer through 123 member cooperatives located throughout the Midwest. Eighty-nine percent of the gasoline and one hundred percent of the diesel fuel is used for farming. All propane is used for the heating of homes and the drying of corn.

In order to fulfill the fuel needs of the farmer, Land O'Lakes historically relied on a refinery in Kansas, National Cooperative Refinery Association, in which Land O'Lakes is a part owner. However, during the past four years Land O'Lakes has moved from a net seller to a net buyer of fuels. To illustrate this situation, in 1974 NCRA will provide Land O'Lakes the following percent of needs: Gasoline—70%; No. 2 Fuel—55%.

To cover the difference in supply and demand, Land O'Lakes has been forced to purchase product from the outside markets. Due to the tight supply situation Land O'Lakes has been forced to purchase the outside products at a very high price. In some cases Land O'Lakes had to rely on the FEA for product under mandatory allocation. Without the FEA it is doubtful if Land O'Lakes could have provided the necessary fuel. The price for the outside purchases is usually $.10–.20/gallon higher that prices from normal domestic channels.

The growth in sales of refined fuels has been brought about by many factors. One reason is the dramatic change in the marketplace. Specifically, many major oil companies are withdrawing from the rural areas. Gulf and Atlantic Richfield are examples. The farmers formerly served by these suppliers must now look for new suppliers. In many cases the farmers turn to the local cooperatives. The local cooperatives then turn to Land O'Lakes and other regional cooperatives. The withdrawal of the majors thus obviously places an increased strain on the cooperative system. Some may argue that the mandatory allocation program prohibits withdrawal from markets served in 1972. This is only partially true. Although some companies continue to serve the 1972 markets, they are reducing the number of outlets who are making the fuel available. This means that in some cases the farmers' service center may be thirty miles from his farm. If this is the case, the level of service will be greatly diminished. In Agriculture, the demands for fuel are specific. Farmers must have the right fuel at the right time. A farmer engaged in cropping activities cannot tolerate delays. He must have the proper fuel the moment he needs it. Thus, even though the mandatory program assists in maintaining the 1972 marketplace, the deviations are great enough to create problems.

Because Land O'Lakes is concerned about its ability to serve and the increased demand for fuels being placed on the local cooperative due to the above discussed situation, Land O'Lakes is currently conducting a survey to determine the volume of fuel needed. Preliminary figures indicate that the demand may be up forty percent over a year ago due to withdrawals of other companies. If this is the case, the refinery owned in part by Land O'Lakes will provide only sixty percent of the total needs. The shortfall must be satisfied by outside purchases.

SUMMARY—FUELS SITUATION AND OUTLOOK

The demand for fuels placed upon Land O'Lakes and other regional cooperatives will increase in the future as more major oil companies withdraw and sell their fuels through branded outlets in major metropolitan centers. Land O'Lakes and other regional cooperatives will be faced with increased shortages in the future.

Some may argue that the shortages of Land O'Lakes should be easily filled by outside purchases. After all, inventories of both gasoline and distillates are very high. Thus, theoretically, product should be available. However, this is not necessarily true. Just last week, July 15–19, Warren Smith and Duane Halverson of Land O'Lakes called upon numerous oil companies in Houston and Dallas, Texas and Tulsa, Oklahoma. After four days of searching the Land O'Lakes representatives finally found one company that had excess gasoline for the month of July, and hence would make product available. The selling company indicated, however, that it would be short of gasoline in August. Thus, the world-wide shortages of energy and the desire of companies to maximize profits result in very little product being sold from one company to another. Independent marketers, such as cooperatives, have no assurance that product will be made available just because inventories are high. For example, the company that sold gasoline to Land O'Lakes last week probably would not have done so without the mandatory allocation program. In order for independents such as Land O'Lakes to be certain their shortfall is covered they need either supply contracts or increased refinery capacity with an assurance of supply of crude oil. Both of these alternatives require time. There are very few companies who have adequate supplies in such a magnitude that they will discuss supply contracts. The only companies who will do so are those who plan to increase their refinery capacity and will have excess capacity. To complete a major project usually takes two or three years. Several companies have indicated to Land O'Lakes that they would be interested in providing refined products beginning in 1976 or 1977. Until that time, however, cooperatives will be faced with increased demand with few alternatives for supply. The other alternative, expanding refinery capacity, is being studied. However, as indicated, an expansion project requires several years to complete.

COMMENTS—THE CURRENT MANDATORY ALLOCATION SYSTEM

The mandatory allocation system for crude oil, refined fuels, and propane is basically fulfilling its intent of moving products from surplus to deficit areas and of maintaining the competitiveness of the industry. Without the regulations many independent refiners and marketers would have been forced out of business due to the following reasons:

1. Lack of crude oil and/or refined products, and/or
2. The necessity of purchasing very high priced product in such quantities that the price could not be averaged in with lower priced products so that the average price would be competitive.

Because of the above-mentioned factors and the continued shortages that exist, we urged that the FEA continue rather than expire on February 28, 1975.

To further document the importance of FEA, let us review the history of the Land O'Lakes Petroleum Division during the past months. During the winter Land O'Lakes was not able to purchase adequate supplies of No. 1. heating oil and propane for use in the heating of homes. The price that Land O'Lakes paid for propane from its suppliers of the base period was approximately 20¢/gallon. Because these suppliers were not able to provide adequate volumes, Land O'Lakes was forced to seek alternative sources. After weeks of searching, the only propane that was available was at 55¢/gallon. There was no way Land O'Lakes could have purchased the needed quantities at this price and remain competitive. Land O'Lakes reviewed our situation with the FEA in Kansas City. The FEA then redirected product from a major oil company to Land O'Lakes. The net effect was that Land O'Lakes was able to provide fuel to farmers to heat homes and do it at a reasonable price. Without the FEA this would not have been possible. Although Land O'Lakes strongly favors retention of the FEA, we recommend the following changes:

1. That Agriculture truly be given the priority as indicated in the regulations. To date the priority rating has been misleading.
2. That the FEA develop an equitable pricing system for crude oil.

The issue of Agricultural priority has been a controversial and misleading issue since the creation of the then Federal Energy Office. Most people now feel that Agriculture, as well as the Defense Department, are assured of receiving all the fuel necessary—that is, 100 percent of current requirements. Such is not the case. According to the FEA regional office in Kansas City, the regulations state that wholesaler-resellers, such as regional cooperatives, are

to provide gasoline, for example, in the following order of priority: 1. Farmers, 2. industry and schools at specified levels, and 3. service stations.

This priority system seems fair on the surface. However, there is one serious drawback. Cooperatives which provide 28 percent of all farm fuel needs serve virtually only farmers. The priority system assumes that the wholesaler-reseller has several classes of users. In order that the farmer is assured of adequate fuel volumes, gallonage must be reduced to the other classes of users, service stations, for example. Thus, when cooperatives serve only farmers there is no class of users that can be drawn upon to sacrifice product. If the cooperative does not have adequate fuel volumes are farmers are in essence being allocated at a level below their needs. This situation runs very contrary to the intent of the regulations. The regulations should be changed to assure farmers of fuel if their supplier has inadequate volumes.

Related to the assurance that Agriculture receives adequate fuel volume is the definition of "Agriculture". Under the current regulations the definition is too limited. Food processing, for example, is not included. Thus, even though farmers may ultimately be able to secure enough fuel, food processing facilities may not be able to obtain fuel for the plants to refine the basic foodstuffs into edible food products. Specifically, in the case of Land O'Lakes, the concern is for natural gas and propane in the drying of milk. Because of the prices when propane is used rather than natural gas, the drying cost increases three-fold. If coal is required, the cost becomes exorbitant. At the present time food processing plants have no assurance of the fuel to run these plants. The regulations should be changed so that this important link of the food chain is assured of the necessary fuel.

It would appear from the earlier comments complimenting the FEA that the above described situation dissolves because of the FEA redirecting product as previously indicated. Early in 1974 this was the case. However, during the past few months we have seen a change in policy of the FEA. Specifically, even though 89 percent of the gasoline and 100 percent of the diesel fuel sold by Land O'Lakes is for priority users, the FEA will redirect fuel from another company only if that supplier has excess product (that is, is allocating at a fraction greater than 1.00). During some months there may be virtually no suppliers that have product at this level. In many cases the companies that do have excess product are those who have extremely high priced product. The net effect during a two-month period of time was that FEA would offer product to Land O'Lakes at the same price as that as from a broker. In reality the FEA became a high priced broker or marketing firm. While this was occurring, other firms with domestic oil were selling all their product through service station. The way the regulations now read or are interpreted, a marketer could sell at 99 percent of the *adjusted base period voume*, which may be 110% of 1972 volume, and move all product through a service station and never have any product redirected by the FEA to Agriculture. This seems far from the intent of the regulations. The FEA should modify its position so that it draws product from suppliers who have a fraction less than 1.00 in order that farmers can be served.

The second area of the regulations that needs to be changed is the pricing of crude oil. Currently, the price of domestically produced crude oil ranges from the $5.25/barrel range to the $10.50/barrel range. This situation results in ridiculous price spreads at the retail level. It is not uncommon to see the price of gasoline vary by $.07/gallon within a few city blocks.

The price discrepancies result because of the two-tier pricing system for crude oil. Unless the system is changed, wide fluctuations will continue. The two tier system in effect grants special favors to those companies who have access to the low priced crude oil. These companies are then able to purchase higher priced product if they desire, average the costs, raise their prices accordingly, still remain below competition, and expand their volume of business if they so desire.

The altenative to the two-tier system would be a one-tier system. That is, price of all domestic crude oil would be one price. The price could either be set by the Federal Government or all domestic prices could be permitted to seek their own level. The net result of either step would be a restoration of competition in the marketplace and the corresponding elimination of wide price spreads at the retail level.

III. FERTILIZER

Land O'Lakes sells fertilizer to over 300 local cooperatives in our trade area. The Land O'Lakes-Felco cooperatives in turn sell the fertilizer as blends or direct application materials to their owner-members.

The sale of fertilizer has been on an allocation basis since September, 1973. Each dealer has a base allocation which is the highest purchase of fertilizer by product and nutrient in any fertilizer year of 1971–72 or 1972–73. In the trade, a fertilizer year is generally considered July 1 to June 30. In the 73–74 season our allocation of product was 100% of base allocation on phosphate and potash and about 90% on nitrogen. Some nitrogen products were as low as 50%.

On Monday of this week we informed our dealers of their allocation for the 1974–75 year. This will be fertilizer that will be used for the 1975 crop. On nitrogen they will receive 76% of their base. By product this will be 70% of their base of anhydrous ammonia; 86.5% of their base on dry nitrogen, i.e., urea, ammonia nitrate, etc., and only 49% of their base on non-pressure solutions.

On phosphate they will receive 97.6% of their base and on potash 85% of their base.

This by no means is their needs. Our owners have indicated that their needs of fertilizer materials is about 10% to 20% more than their base allocation.

Why is our allocation less in 74–75 season than in the 1973–74? C. F. Industries, an interregional cooperative owned by 19 regional cooperatives, supplies 70% of our needs. The balance of our product is purchased on the open market plus some long term commitments by other domestic producers. In the fall of 1973 there was about a $30 spread between the domestic market and the world market. Today this spread is closer to $200 per ton. If we would average our price on anhydrous ammonia and bring our allocation to 100% of base, the price of anhydrous ammonia would be $208.50 compared to $150.00, our announced price as of August 1, 1974. To date we have had no takers at $200 and over. If corn prices remain at today's level the Midwest farmer could afford that price, but if the market drops to $2.00 or less it is questionable if a farmer could afford to pay that price.

The question can be asked, "Why is the fertilizer industry in this situation?" Many factors have contributed to the problem. We believe there are five major reasons. Some go back to the early 60's.

1. In the early 60's the fertilizer industry overbuilt production facilities because of good returns on capital investments and the cry to feed the starving world. Petroleum and chemical companies never in the fertilizer industry entered into the business by building large chemical complexes and even into vertical integration where they owned mine, plant, and retail outlet.

The "Green Revolution" in India and in other under-developed countries curtailed the near-famine that was predicted. This resulted in over-production capabilities and reduced demand. Prices dropped drastically to a breakeven basis by 1971.

2. Price controls. The price freeze in August, 1971 caught the fertilizer industry in the worst possible financial position. Even at the retail level, prices were at the breakeven point or below. Many companies either sold out or just closed up shop. Some did look at the foreign market, but for the record U.S. imported more fertilizer than was exported in the 1973–74 season.

3. The devaluation of the dollar gave foreign buyers an advantage in the U.S. market.

4. Crop failure in Eastern Europe made the farmers of the Midwest a part of the world market. The high price of corn, wheat, and soybeans had a terrific effect on the U.S. farmers' planting intentions.

According to one report the planted acreage of 59 major crops in the United States will be about 334,000,000 acres in 1974. This compares to 321,000,000 acres in 1973 and 295,000,000 acres in 1972. The estimated 1974 acreage will be up a whopping 13.2% over the 1972 level.

Another report by USDA early this spring indicated farmers intended to increase their corn, wheat, and cotton acreage by 20,100,000 acres. Fertilizer needs on this acreage would be 4.1 million tons or 9.6% increase over 1972–73 usage which was 42.5 million tons.

5. Transportation—The U.S. railroads were not equipped to handle the large export movement of grains as well as the increased usage of fertilizer. This coupled with a rail strike in Canada caused delays in shipment. Some shipments, particularly on light rail, were delayed up to 120 days. Many of these dealers had to use trucks at increased costs.

What is the supply outlook? As of now, we see nitrogen being in short supply until the 1980's. This is taken into consideration by the announced plants in the U.S. and Canada. An estimated additional five million tons of anhydrous ammonia will be needed by 1980 or 13 additional 1200-ton per day plants.

Nitrogen production is heavily dependent upon the availability of energy including natural gas, fuel oil, kerosene, and other middle distillates. One ton of ammonia requires approximately 40,000 cu. ft. of natural gas. In 1973 472 billion cubic feet of gas were used in the production of anhydrous ammonia. Though this figure is large it is only 2% of the natural gas produced in the U.S.

Phosphate, though critical, is not as serious at the nitrogen problem. The 1975–76 season could see a near normal supply picture with adequate supplies by 1979–80. U.S. production facilities are operating on lower BPL rock. Some major supplies have announced that they will only manufacture 44% P_2O_5 phosphate this year as compared to 46% P_2O_5 in the past 20 years.

New mines will be needed. Draglines used to mine the rock have a three to four year delivery time.

Potash, of which 65% of our needs is imported, mostly from Canada, is under production controls by the Provincial government of Saskatchewan. The past season, 1973–74, the mines and refineries could only product 55% to 60%. Controls are being eased but only up to 70%. Rail transportation, particularly the rail car shortage in Canada, and their priority on wheat shipments does affect the movement of this product. This product could be in short supply for years to come. What can be done?

1. It is essential that new priorities be developed to provide adequate energy sources for the expansion of new fertilizer manufacturing facilities, particularly natural gas as a feed stock for nitrogen.

2. An adequate transportation system must be developed which includes the greater utilization of rail cars to assure the movement of grains to ports and fertilizer materials to the farming area.

3. No embargo on fertilizer materials, such as is suggested by HR 13080. An embargo will not solve our fertilizer shortage cut could worsen our supply picture by retaliation of foreign governments.

Sixty-five percent of our potash is imported from Canada as well as 900,000 tons of nitrogen that is used by the most northern tier of states.

4. The construction of new plants and mines should be given priorities. particularly in the environmental area.

VI. AGRICULTURAL CHEMICALS

Land O'Lakes sells agricultural chemicals—herbicides, soil insecticides, etc., to farmers through 900 local cooperatives located in six upper midwest states. Land O'Lakes has distributor contracts with thirty of the major agricultural chemical manufacturers in the United States. Land O'Lakes is a part owner of an agricultural chemical formulation plant (Imperial, Inc.) located in Shenandoah, Iowa. Land O'Lakes also operates a research and demonstration farm located near Fort Dodge, Iowa. The farm is utilized for testing new compounds provided by the major chemical manufacturers for weed and insect control in corn, soybeans, sorghum, and other crops, as well as other agronomy-related studies. The farm is also utilized by a number of other Land O'Lakes divisions.

Historically, Land O'Lakes has purchased agricultural chemicals in volume from the major manufacturers and distributed the products through local cooperatives to the farmer. Until 1973, the word 'allocation' was somewhat alien to the agricultural chemical business. The normal process followed was to order total needs for the spring planting season in the fall of the previous year. In the fall of 1973 only one major soybean herbicide manufacturer announced his program—allocating to 90% of their 1972–73 sales. By the time the 1974 planting season was completed, a total of 24 companies had allocated

product availability in some form. The products affected represent about 90% of Land O'Lakes total agricultural chemical business.

The demand for agricultural chemicals for 1974 was the highest in history. This was due to a number of factors, one being world demand for food products. High demand naturally increased acreage planting intentions. In March, 1974 for example, the planting intentions for corn in Minnesota was up 13% over 1973 actual acres. Iowa projected a 12% increase and Nebraska an 11% increase. (USDA Crop Production Reports). Inventories of agricultural chemicals were low going into the 1974 spring season at both the manufacturing level and the distributor level. The 1973 season was very long, with late planting due mainly to the very wet 1973 spring planting season. Therefore, demand for products extended well into the summer of 1973. Production that normally would be scheduled for the 1974 crop year was being utilized in 1973.

During this same period, a world shortage was developing in the production of Chlorene, Benzene, and Phenols, which are all basic building blocks for chemical compounds utilized in the production of agricultural chemicals as well as for non-agricultural uses. In many cases the basic compounds were diverted into products not subject to the price freeze in effect at that time.

Therefore, the spring of 1974 was very chaotic in regard to availability of pesticides. Our farmer-owners were not certain as to the amounts of corn or soybean acres they would be planting. The major manufacturers were uncertain as to their total production capabilities and the weather was playing havoc in the planning.

In summary, 1974 placed extreme pressures on the manufacturers and distributors to meet the wants and needs of the American farmer.

After visiting, just last week, with several major chemical suppliers, their outlook for spring 1975 is that products will still be short of satisfying the demand due to a world shortage of the basic chemicals such as chlorine, pheno and benzine. Also, construction of new production facilities is running behind anticipated schedules. In addition, inventories at the manufacturing level and at the distributor level are at extremely low points.

Senator McGovern. Our final witnesses today are Mr. Lord and Mr. Buffe.

Senator Dole. Baling wire experts.

STATEMENT OF EDWIN F. LORD, VICE PRESIDENT OF SALES, C.F. & I. STEEL CORP., PUEBLO, COLO.

Mr. Lord. I have a statement but I don't have extra copies.

Senator McGovern. Fine. Go ahead and brief your statement.

Mr. Lord. Senators, my name is Ed Lord, vice president, Sales of C.F. & I. Steel Corp., Pueblo, Colo. With me today are, Mr. J. C. Anderson, manager, Steel Sales, and Mr. W. R. Crolius, Washington Office, director.

Your letter of July 18 asking that I give you my thoughts on the outlook for agriculture steel products was particularly appreciated because of the difficulties which have arisen in the supply of such items to the farmer/rancher and the alarm the shortages have caused which has been transmitted back through our marketing network and sometimes directly from Members of the U.S. Senate, themselves.

C.F. & I. is producing baler wire around-the-clock at 100 percent capacity levels. The company has been unable to build an inventory of baler wire as all production is shipped directly from the production line in our jobbers. Even with this all-out effort, C.F. & I. has been unable to keep up with the demand. We have accepted no new customers for baler wire and are selling only to our established jobbers. To maintain a fair and equitable distribution sys-

tem, we are allotting shipments based on past purchasing records of these customers. Our jobbers are also using past history to sell their dealers and it is our understanding that dealers are distributing the wire to farmers and ranchers on the same basis. Shipments of our baler wire this year, began to jobbers in Texas and Oklahoma and as the baling season moved North, shipments were started to these areas in time for the hay season. The shortage is now becoming more acute as hay is ready to be baled throughout our market area in greater quantities than there is wire available, and we feel this imbalance will continue throughout the summer.

By the end of the year, we will have produced and shipped 17 percent more baler wire as we did during 1973. At the present time, jobbers are receiving wire at approximately the same rate at which they received during 1973. C.F. & I. is the largest producer of baler wire in the United States and we service a larger geographical area with our product than other domestic producers.

Our market area includes the states of Texas, Oklahoma, Colorado, New Mexico, Utah, Kansas, Nebraska, Wyoming, Montana, Idaho, Arizona, and parts of North Dakota and South Dakota.

Early this year, we went on record with our jobbers, that should we find our wire being sold at the black market prices, and traced the supply back to them, we would consider this justification for discontinuing to supply them with any more wire. We understand that many of our jobbers have passed this same word on to their dealers.

Each report we receive that C.F. & I. wire is reaching the black market at inflated prices is thoroughly checked. In every instance, to date, we have found the reports to be unfounded.

There are reports of some foreign wire, mainly French, Mexican, and Japanese, selling at extremely high prices in our marketing area.

During the late 1950's and 1960's low-priced foreign baler wire was imported into the United States in large quantities. This cheap foreign wire drove all but a few domestic producers of baler wire out of business. During the early 1970's the worldwide demand for all steel products increased greatly and foreign importers began to curtail their shipments to the United States. As the shortage increased, some foreign suppliers abandoned the baler wire market, limiting their steel exports to the more expensive specialty steels. The few domestic producers of baler wire are unable to fill the demand caused by the loss of foreign wire.

We expect to continue to produce and to ship at full capacity throughout 1974 and 1975. With C.F. & I. at maximum production and other domestic producers contributing a like effort, the supply for the 1975 season will improve.

An increase in production capacity would require considerable capital spending for new equipment. The decision to make this expenditure is being weighed against the uncertainties of the market. That is, the possibility of foreign wire flooding the market again. These uncertainties combined with the high demand for all steel products produced by C.F. & I. makes it unlikely that we would expand our production facilities for baler wire in the immediate future.

A severe shortage of baler twine this year has also contributed to the apparent baler wire shortage, as many balers are attempting to bale hay tonnage with wire where twine was previously used.

C.F. & I. will continue to concentrate all efforts possible to help relieve the current acute situation on baler wire.

As to the years ahead—on the near term 1975 harvest season, there are several factors which will work toward easing any shortage of baling wire. These are:

a. A full winter of production stockpiled for spring.

b. Projected increased in fiber twine.

c. Additional production from other mills.

Over the years beyond 1975, given normal conditions, there should be an adequate supply of all farm bound steel products.

Senator McGovern. Thank you very much, Mr. Lord. We had a memorandum inserted in the record this morning from the Department of Agriculture on price increases on various farm inputs and included in those was a figure on baling wire which showed that it had gone up some 2½ times since last fall. Now you have alluded to that in your statement, but what are the basic factors that have resulted in escalation of that magnitude?

Mr. Lord. They may be talking about the retail price for imported steel. Our price on baler wire in the past period has gone up about 95 percent. Over the same period that our price went up 95 percent the price of hay has gone up 210 percent.

Senator McGovern. And that is over the past year?

Mr. Lord. No, the 98 percent increase on baler wire was taken from a period of 1958 up to the current price.

As I mentioned here, our wire sells for $21 a box currently. We think our dealers' fair price, although we don't control it, would be in the neighborhood of $34 to $35 a box.

We know there is some foreign wire being sold from $60 to $75 a box and it could be foreign wire to which they are referring because that was being sold under the domestic price formerly.

Senator McGovern. I have a lot of farmers who ask me for explanations of why it is in such short supply. There was an impression that one of the reasons is that it is not as profitable an item for the steel companies to push as some of the other things that they produce. And if the profits are not there in terms of comparison with other things, is that part of the explanation?

Mr. Lord. No, I don't think it is true. I think it could have been true under price controls but currently it is not. We make a major portion of baler wire and Mr. Buffe's company makes a major portion of it. We are making all the baler wire we can.

We are running 24 hours a day 7 days a week and we have been since the end of January running at that level.

I think the shortage, I think it is a combination of several factors. I think they are baling more products today than they ever did before. They are baling weeds on railroad right of ways because of the price they can sell the hay for. The decrease in the availability of the imported steel has been significant and has a major effect. Over the years there has been 7 or 8 companies which have discontinued the manufacture of baler wire in the United States because it was such a depressed price commodity.

Senator McGovern. By comparison with?

Mr. Lord. With the other steel products because it was heavily eroded, that is, the pricing, by the imported steel.

Senator McGovern. You don't think that is a continuing problem now?

Mr. Lord. I don't at the moment.

Senator McGovern. Senator Dole, do you have any questions?

Senator Dole. I thought Mr. Buffe might give his statement and then we can ask questions.

STATEMENT OF WILLIAM O. BUFFE, MANAGER SALES, MERCHANT WIRE PRODUCTS, ARMCO STEEL CORP., KANSAS CITY, MO.

Mr. Buffe. If I may, I would like to read a short statement and then I would be happy to answer any questions I might.

My name is William O. Buffe. I am manager-sales, Merchant Wire Products for Armco Steel Corp. living in Kansas City, Mo. and representing our producing facilities at Kansas City, Mo.

Since 1929 Armco Steel has been a prime supplier of merchant wire products to the central United States. We have maintained uninterrupted production of most of our farm-oriented production equipment 24 hours a day, 7 days a week, in an effort to maximize our production to meet our customer needs. Two items, namely baling wire and barbed wire, have been in critically short supply for the last 2 years and all merchant wire products are on complete allocation controls, and have been for over a year. According to American Iron and Steel Institute published figures, we account for approximately 27 percent of all baling wire produced domestically and over 25 percent of all barbed wire produced domestically. In our areas of major sales concentration these figures are considerably higher as our prime market areas are basically between the Mississippi River and the Rocky Mountains, the Canadian border to the Gulf of Mexico.

The chairman of this subcommittee had asked, in his request for my appearance this afternoon, that I testify on the supply-demand outlook for baling wire, barbed wire, and other steel products used by farmers and ranchers. Prior to some brief statements concerning this, the subcommittee might find it interesting to review the causes of our present dilemma. During the 1950's and 1960's foreign producers of farm-oriented steel products, assisted financially by American foreign aid tax dollars, found themselves with a capacity to produce more steel than their local markets could possibly consume. These foreign producers realized that their excess steel production, also subsidized to a great extent by their own governments as well, could be dumped on the shores of the United States at prices considerably under the American steel industry's manufacturing costs. Our manufacturing costs were higher than the foreigner's primarily because of the difference in labor rates and other labor-oriented costs. During the period when foreign wire products were taking more and more of the farm market from domestic mills, the Nation's farm income was in the doldrums and therefore put added pressure on the consumer to buy the lower priced foreign wire. I am sure very few consumers realized that purchasing of foreign

wire products would have such a devastating effect on U.S. wire mills as has been experienced in the last few years. As an example, because they found it no longer possible to produce at a profit, five major manufacturers of fence products have gone by the wayside. Eight of the 11 major producers of automatic baling wire closed their doors and Armco was forced to close its Houston, Tex. wire mill.

Now the picture has changed! The increasing worldwide demand for food and proteins has put the farmer in a more equitable realignments and the increased demand for steel in other countries, foreign producers have elected to withdraw heavily from the U.S. market—at least for the moment—because they can make more money elsewhere. Domestic production capacity, reduced so drastically because of foreign competition, is simply too small to satisfy the demands of the U.S. agricultural economy.

The only solution, of course, is expanded production facilities, but it takes time and enormous amounts of capital expenditures before the first foot of wire can be shipped. The capital problem is particularly critical. Due to cutthroat import competition and misguided Government actions to keep steel prices artificially low, domestic steel producers have been unable to earn an adequate return on sales or investment for many years. In comparison with other manufacturing industries, statistics show that we have ranked at or near the bottom of the list in terms of profitability since 1958.

Without some assurance for the future, it is very difficult to justify the expenditure of the large amounts of capital required to rebuild the domestic fence and wire industry. The very real prospect exists that foreign steel producers, supported by foreign governments, might again destroy a large portion of the U.S. market for domestic wire products.

Senator McGovern. Can I break in and ask a question here? Is the steel industry organized in such a way that the manufacture of wire would be handled at a separate plant?

Mr. Buffe. No, sir.

Senator McGovern. But there might be a number of different steel products manufactured in the same plant?

Mr. Buffe. Well we are not anywhere near the largest. We manufacture more steel products in one plant than any plant in the world.

Senator McGovern. You mentioned that a number of companies had gone under. You are talking about the wire division?

Mr. Buffe. Talking only about the wire end.

Senator McGovern. Of a particular plant?

Mr. Buffe. Of a particular company.

Senator McGovern. I see. But what I am getting at is whether there is a separate factory, a separate plant within the framework of the company.

Mr. Buffe. Not necessarily. It could exist but not necessarily. And particularly with integrated mills. We have, however, maintained production and equitable distribution during more than 2-year period of rigid price controls and soaring material costs. We have within the past few months brought out selling prices more in line with our labor and material costs and will continue to produce

farm-oriented materials within the limitations of our available steel and machine capacities.

Regarding the supply-demand outlook specifically, as related to baling wire, barbed wire, and other steel products used by farmers and ranchers, we are taking some positive, but financially very risky, remedial actions. We are, at the present time, installing 12 new barbed wire machines which will substantially increase our barbed wire production. We have also allocated additional rods and wire within our own system to the merchant wire department which has resulted in total maximum production within our productive capabilities. Yesterday, Armco announced a major expansion program at our Kansas City works—and that would be a 50-percent increase over our present production at Kansas City.

Senator DOLE. How soon would that be?

Mr. BUFFE. Three years. We will break ground in September and expect to have it completed in 1977.

Yesterday, Armco announced a major expansion program at our Kansas City works which, when on stream, will afford backup steel to support the necessary commitment of capital for additional wire producing equipment. Unfortunately this program will take several years to complete and our ability to further alleviate the very critical shortage of farm-oriented steel products will necessarily be delayed.

The domestic and worldwide demand for food and proteins, beef and poultry and other farm produce will, in our opinion, continue at a very high level for several years to come. Because our producing facility at Kansas City, Mo. is dependent to a large degree upon the farm economy, we are, in all probability, more sympathetic to the plight of the farmers than other producers located in highly industrialized areas. It is our intention, barring fuel and energy cutbacks, major mill breakdowns, and continued scrap and raw material shortages, to maintain at absolute full capacity all of our facilities related to the merchant wire field. If we can maintain a cost/price relationship which justifies the large capital investment required, and with assurance that imports will not be allowed to come in and destroy our markets again, I am confident we can do the job.

Gentlemen, if you have any questions I am capable of answering, I will be happy to do so.

Senator DOLE. Maybe I can ask?

Senator MCGOVERN. Yes, thank you. I am going to yield to Senator Dole.

Senator DOLE. I just have one. Is the primary problem—and either one can answer—just lack of production capacity? Is that the problem now?

Mr. LORD. Yes.

Senator DOLE. Are you working 24 hours a day?

Mr. LORD. We can't make any more. It is not like the fuel where you can allocate it to the farmer first. Every pound we make goes right out to the farmers and we are making it at maximum capacity and we can't do any more.

Senator DOLE. Are you shipping more wire to Kansas than you did a year ago?

Mr. LORD. I had a telegram from one of your assistants that I had answered and I told you that we are.

Senator DOLE. Substantially more?

Mr. LORD. Oh, it might be 10 percent more but we can't really ship Kansas substantially more because we are doing the same in all areas.

But we are going to have totally more this year. But the problem of course with the baler wire is that it is all needed right at the same time. That is why I think that perhaps this year it is going to be bad and continue. After all we are getting close to the end of it, but it is going to continue to be bad and I think next year it will be a little better.

Senator DOLE. You didn't have any inventory, did you, because you weren't making baler wire when we had the cost squeeze on?

Mr. LORD. We went through the season last year and then stopped.

Senator DOLE. There may be good reason for price differentials. New Holland sells it for $23 and C.F. & I. sells it for $33 and Armco is about the same as C.F. & I. Why would it be an $11 difference?

Mr. LORD. I don't know that is true. We sell New Holland wire and we sell it to them for the same price as everybody else. Our price is $21.50 a box. Now that goes to a jobber who distributes it to a dealer. We think $33 to $35 a box is a fair price for the dealer to be charging for the wire.

Senator DOLE. Is that about double what it was a year ago?

Mr. LORD. Well you don't know. It could have been a year ago that the dealer was selling it for a penny a box difference. I mean that is the way it was but in our price it is up that much.

Mr. BUFFE. Our price is slightly under $20 a box.

Senator DOLE. That is wholesale?

Mr. BUFFE. Yes, sir. To the distributor. The distributors that we have are selling it in the neighborhood of $24.50 a box to the dealer and the dealer is selling it in the areas that we are primarily concerned with at anywhere from $28 to $33 a box.

Now there is wire being blackmarketed. There is foreign wire.

I have in my file I think a newspaper ad of some Japanese wire on the west coast at $86 a box. It is not unusual for foreign wire to sell from $50 to $75 a box. So what foreign wire is coming into the country, why in our estimation they are being most opportunistic in the pricing of it as compared to the former dumping of $60 a ton under our cost.

Senator MCGOVERN. Are we exporting any wire now?

Mr. BUFFE. We are not.

Senator MCGOVERN. How about you?

Mr. LORD. We are not.

But Senator, on the price, at our current price—and what we think is a reasonable price—we calculated that it would cost about 10 cents a bale for hay for our wire currently and I think the hay is selling at a pretty good price now.

Senator DOLE. Well I don't generally think the farmers would complain about that price if they could obtain it at that price.

Mr. LORD. Right. Every report we have had—and we have had a lot of them—where people report our wire being sold at higher

prices—and in every report we check it out and they are not correct.

Senator DOLE. So a fair range would be in the $30 to $35?

Mr. LORD. Yes. We think it is reasonable. We don't think it is gouging.

Senator DOLE. That would be the same as Armco?

Mr. BUFFE. I would say $35 would be fair.

Mr. LORD. Maybe the tops.

Mr. BUFFE. Yes, the top figure. Most of the dealers that we have checked are in there with $31 to $32 range.

Senator DOLE. Now you have a lot of wire that goes into South Dakota too?

A lot goes into Kansas?

Mr. BUFFE. Yes, sir.

Senator DOLE. And you have increased your shipments into Kansas as I understand?

Is the total demand greater or is it just because others have gone out of business?

Mr. LORD. There is more hay being baled.

Mr. BUFFE. Excuse me, you have to look at geographic areas, Senator.

For instance, there are areas in Texas which are so dry that the hay crop is gone. So consequently that pressure, as it relieves itself, is applied to other areas. For instance, within the last 3 weeks the hay season is starting in Oklahoma. This doesn't seem to be affected too much by moisture. So this is their big crop while they produce a lot of alfalfa. Now Kansas is strongly in the alfalfa-hay production. Nebraska is getting back to barley.

Now there are some—and I am sure that Senator McGovern knows—there is some prairie, but a lot of alfalfa in the South Dakota area is grown.

But as these conditions let up in one area, obviously we are trying to answer the greatest call for it and the greatest demand at the time and we try to shift production into the areas that need it the most.

Put as Mr. Lord pointed out, when you get into eastern Texas, Oklahoma, Kansas, Nebraska, Missouri, what is baled in Iowa, all hitting you at the same time, then we go with our old distributors. We have taken on no new accounts. We have maintained 100 percent allocation and have shipped 100 percent every month to every one of our distributors.

Senator DOLE. These 12 new machines you are putting in, is that for wire?

Mr. BUFFE. Yes, sir.

Senator DOLE. Are those expensive machines?

Mr. BUFFE. Quite.

Senator DOLE. Do they take a long time before they are ready to roll?

Mr. BUFFE. We ordered them in December of 1972. We were promised 6-month delivery. We received the first two in June of 1973. The balance came before Christmas of 1973 and we have gotten them on line I would say by March. Now with any new equipment there is a certain period of running the bugs out of it and we are still having some problems with that, but we have five of the 12

operating at the present time and will shortly have the rest of them.

Senator DOLE. What kind of dent does that make in your overall production?

Mr. BUFFE. It will increase our barbed wire production 20 percent.

Senator DOLE. And you put on a couple of extra turns I think of baling wire earlier?

Mr. BUFFE. Yes, sir because we allocated more in plant rods and wire to that department, which allowed us to go to a 20 turn operation. There is only 21 turns in the week and you've got to have one turn for maintenance. So we can't produce any more.

Now as fall and winter comes on, if severe winter conditions prevail in our areas, then we are the first to be cut back on gas. When gas is cut back why then the annealers go down. Without the annealers you can't make the wire. We had 23 outages from January to April of this year for gas shortages ranging anywhere from 8 hours to 3 days.

Senator DOLE. I see. You lost some wire because of that.

Mr. BUFFE. Oh we expect to because obviously the gas is diverted to residential. But when we shut down it is just that much production that does not go. We have no inventories.

Last year in January of 1972 we had 5,000 tons on the floor. Normally—and I am sure you know this Senator McGovern—the demand for baling wire starts about March and tails off at the end of September or the first of October. Last year we shipped our maximum capacity of baling wire and we didn't stop production all winter long. All through the winter we produced and every one of our distributors sold it off the equipment and never took it off the truck it arrived in. So the farmers were buying and availing themselves of what was available during the winter months.

I expect them to continue to do that this year.

Senator MCGOVERN. Mr. Lord, Mr. Buffe explained that their company is expanding wire production capacity. Did I understand you to say that you have no expansion plans?

Mr. LORD. No, we do not.

Senator MCGOVERN. Do you think there is any capacity that may change in view of this continuing shortage?

Mr. LORD. If we could anticipate a continuing shortage, it might change our thinking about capacity but we don't think it is going to be a continuing shortage.

Senator MCGOVERN. You think this may be temporary?

Mr. LORD. I really believe it is. I think next year we are not going to have this problem.

Senator MCGOVERN. We also have some shortages in common items like nails and steel fence posts. Do either of your companies make those?

Mr. LORD. Yes, we make both.

Senator MCGOVERN. What is the outlook there?

Mr. BUFFE. We are on complete allocations control on every item.

Mr. LORD. On allocation we are allocating the product, but we are making more of every commodity you mentioned than we did last year or the year before or the year preceding. That is why I don't really think they are fencing that many more farms in. I think we are going to catch up with this.

Senator McGovern. So you see these shortages as temporary?

Mr. Lord. I really believe they are. We are making more fenceposts for example then we ever did before and I know you can't seem to find one to buy but I don't know where they are going.

Senator McGovern. I was very surprised the last time I was home. Some of the housewives do home canning and explained about not being able to get those canning lids. They are made from tinplate. Do you produce tinplate?

Mr. Lord. No, we don't make those. Mr. Buffe makes some I think but there is a different department there I think.

Senator McGovern. But it is your best estimate all of these shortages you have been talking about are temporary?

Mr. Lord. I think the farm commodities we talked about. I really certainly do think it is. I don't know if the total steel picture will change materially.

We make oil tubing casting also and I think that is going to be in great demand with the additional wells they are drilling.

Senator Dole. Are you concerned about this? One reason there may be some hesitancy to expand is because the pendulum might swing back the other way and the Japanese might be flooding our market again.

Mr. Lord. That is always possible. We experienced this before and we can see it. As I say, the current price of our baler wire, which people maybe think is too high, is 98 percent higher than it was in 1958. Now at that time hay was selling for about $18 or $19 a ton and right now it is about $57 a ton.

Mr. Buffe. I would like to buy some at $57.

Senator McGovern. You think they will go up to around——

Mr. Buffe. They are around $80.

Mr. Lord. I think we have a reasonable price on our product. I don't think it needs to move at the moment. We are presently in steel contract negotiations with the labor and of course where that is going to go we don't know.

But no, I don't anticipate the price of baler wire going to go up from what it is now.

Senator Dole. But that is of some concern. One reason companies are not expanding is, first, you don't think the shortage will last and second you will be put out of business by the Japanese?

Mr. Lord. That is in the back of our minds at all times of course. The fact that they could come back in here at any time and depress our pricing and upset the market is in the back of our minds.

The harm is not our lack of expansion but it is the stops which Mr. Buffe mentioned. It is the reference to the discontinued operations of operations that formerly made the product. He didn't mention it but U.S. Steel stopped, J. & L. stopped, Pittsburgh, and so on. All these places that did make the product stopped because of the margin of profit. We are trying to pick up that full load.

I understand some of them are making some wire now too, which I think will help. It is not a big volume.

Mr. Buffe. Senator, I would say this. If the steel industry could be assured that foreign steel would not again at some future time be dumped on our shores at prices under our manufacturing costs, I could almost speak for my company and say we would double our

automatic baling production within 6 months. But to spend $450,000 to $700,000, and to know that you might have to close up shop as we did in our Houston plant, well, it isn't good economics.

Senator McGovern. Any more questions?

Well, thank you very much, gentlemen. It has been a good presentation. We appreciate your testimony.

Tomorrow there will be hearings both in the morning and in the afternoon.

Mr. Sawhill will lead off in the morning and we will have the Chairman of the Federal Power Commission in the afternoon along with other witnesses.

Senator McGovern. If there is nothing further we will recess until 10 a.m. tomorrow.

[Whereupon, at 3:35 p.m. the committee recessed to reconvene at 10 a.m., Thursday, July 25, 1974.]

FUTURE SUPPLY-DEMAND SITUATION FOR FERTILIZER, FUEL, AND PESTICIDES

THURSDAY, JULY 25, 1974

U.S. SENATE,
SUBCOMMITTEE ON AGRICULTURAL CREDIT AND
RURAL ELECTRIFICATION OF THE
COMMITTEE ON AGRICULTURE AND FORESTRY,
Washington, D.C.

The subcommittee met at 10:10 a.m., pursuant to recess, in room 324, Russell Senate Office Building, Hon. James B. Allen presiding.

Present: Senators Allen, Dole, and Talmadge (ex officio).

STATEMENT OF HON. JAMES B. ALLEN, A U.S. SENATOR FROM THE STATE OF ALABAMA

Senator ALLEN. The subcommittee will please come to order.

There is a quorum of the subcommittee present, so we will proceed. Today's hearing is the continuation of yesterday's hearing, chaired by Senator McGovern, on the supply, demand, and price outlook for a number of essential farm inputs such as fertilizer, farm chemicals, baling wire, fuels, and energy.

In reviewing the supply of our major crops, such as wheat, feed grains, soybeans, and cotton, along with the lowering of the production of these crops in 1974, it is obvious that every effort will have to be made again this next crop year to maximize production.

To do that, our Nation's farmers will have to be assured of an adequate supply of their farm inputs which are essential to reaching such a goal. Because U.S. agriculture is such a highly mechanized industry, fuels are vital to the operation. Currently, farming accounts for 3 percent of the electricity consumed in the United States.

The chief petroleum fuel used is propane. Any significant shortage of any of these fuels for agricultural use in this country would likely be translated into loss of valuable food and fiber production. I also should like to note that these inputs must not only be made available in sufficient amounts to farmers, but on a timely basis.

While natural gas may not be used on farms directly in any significant amounts, natural gas is a basic feedstock utilized in the production of nitrogenous fertilizers and many essential farm chemicals. Also, we must remember that most propane is made from natural gas, and propane is one of the important fuels used by agriculture, especially for such uses as crop drying.

Keeping in mind how much of this year's corn crop in the Midwest was planted late—due to a wet spring—crop drying requirements this fall could be substantially higher than normal or than earlier expected.

The top priority given to agriculture under the Federal mandatory fuel allocation program was essential this past year in insuring maximum production of agricultural commodities this year. The same is true with respect to the inclusion of the fertilizer and farm chemical industries in this same "agricultural" priority.

I understand that there are proposals now under discussion and consideration within the executive branch of our Government to begin a process of deregulating all fuels now covered under either the general mandatory program or under propane regulations.

We hope to hear more on this matter from Mr. Sawhill, Administrator of the Federal Energy Administration, who will be our first witness today. Senator McGovern, yesterday, heard testimony from several organizations and witnesses regarding this same matter.

In addition to Mr. Sawhill, we will be hearing this morning from several State commissioners of agriculture regarding all of these farm input materials and from Mr. Straube, representing the National Agricultural Chemical Association, regarding that association's concern about the continued availability of feedstocks, intermediates, solvents, and emulsifiers utilized in the formulation and production of essential farm chemicals such as pesticides, herbicides, and fungicides.

I and other members of this committee are greatly concerned about the future supply and pricing of these essential farm input materials. Our Nation's farmers cannot provide the food and fiber that both our Nation and much of the world must have without these materials.

The chairman of our full committee, Senator Talmadge, has made it very clear that he and this committee will continue its efforts to assist American farm producers in gaining access to these materials, and at a reasonable cost.

Mr. Sawhill, we appreciate very much your coming to appear before the subcommittee to give us the benefit of your views and the views of the agency and of the administration to the extent that you are permitted to do so. We look forward to hearing your testimony at this time.

STATEMENT OF HON. JOHN C. SAWHILL, ADMINISTRATOR, FEDERAL ENERGY OFFICE

Mr. SAWHILL. Thank you very much, Mr. Chairman.

As you know, our agency has worked very closely with your committee over the past months. We have assigned the highest priority to agriculture and we felt it necessary to work closely with the members of this committee as we attempted to carry out our task.

I would like to preface my comments this morning with an overall picture of the energy supply and demand situation. During the recent oil embargo, our supplies of both crude oil and products were reduced by 2.7 million barrels a day for the first quarter of 1974, which is about 14 percent of expected demand. Mild weather, price increases, significant voluntary conservation, and the allocation program combined to minimize the impact of the embargo.

With the lifting of the embargo, imports are approaching 7 million barrels a day. The latest FEA forecasts indicate no shortages

of major products through mid-1975, assuming only moderate energy conservation, which we expect to get.

Mr. Chairman, my comments this morning, in response to your request of July 19, are divided into several categories on fuels and energy used by American agriculture and related industries. My introduction concerns the difficulties in getting energy that were experienced in some agricultural sectors and what we have done to eliminate those difficulties. The remaining categories are petrochemical feedstocks, fuels, fertilizers, and propane.

To those of us concerned with the development of national energy policy, the supply-demand outlook for energy sources used in agriculture is a matter of utmost importance. The Federal Energy Administration recognizes the requirements of agriculture as one of the highest priority energy needs of this country. As you know, under our allocation rules, we are committed to supplying agriculture with 100 percent of its current fuel requirements.

During the 1974 crop year, however, we found that some suppliers were having difficulties in meeting their obligations to supply agricultural users with 100 percent of their fuel needs. In these cases, the suppliers themselves were receiving less than 100 percent of their fuel requirements.

Obviously, this placed a severe burden on such suppliers when their business was predominantly in the agriculture sector. The end result was reduced fuel supplies for some agricultural customers who should have been receiving all of their current needs. We have taken steps to insure that such shortages in the agriculture sectors will not occur again.

Our May 6 regulations incorporate a procedure whereby the seller at the end of the supply chain may certify his entire agricultural requirements upstream to his supplier, until all agricultural needs are finally certified back to the refinery level.

The supplies at the refinery level are first allocated to meet all agricultural needs, and only then allocated to others using the current allocation fraction methodology. These regulations, which became effective June 1, should help relieve any fuel shortages previously experienced in the agricultural sector.

PETROCHEMICAL FEEDSTOCKS

Last year's shortages of petrochemical feedstocks were not the first in recent history; they have been in short supply since mid–1971, when producers had started their own rationing schemes to customers.

Domestic refiners, even operating at or near capacity, have been able to keep chemical producers supplied with only 85 percent of their feedstocks requirements. This situation was aggravated by the recent oil embargo.

Now that the embargo is lifted, we can expect an increase in the supply of feedstocks over the near term. In the long run, as more refineries are built in the United States, we will acquire the capability of bringing the supply and demand for feedstocks into better balance.

As for petrochemical supply in the immediate future, our most recent forecasts are encouraging. With a moderate increase in imports, and with continuing practice of conservation measures, the shortfall in petrochemicals is expected to be less than 8 percent. This shortfall is projected to continue through the spring of 1975.

As you know, the FEA allocation program for petrochemicals was revised in the May 6 regulations. Because petrochemical feedstocks can be made from many different oil products, the new program removes petrochemicals as a separate subpart from the regulations and instead provides for their allocation in the remaining product subparts of crude oil, propane, butane, and natural gas, middle distillates, naphtha and gas oil, and other products from which the petrochemicals are made.

The former regulation governing the petrochemical feedstock subpart was deficient because it did not permit customers to obtain the needed stocks from suppliers without direct intervention of FEA. The plain fact of the matter is that the provisions in the former rules proved to be unworkable in practice.

FUELS

Federal Energy Administration comparisons of constrained demand growth to estimates of available product show rapidly falling product shortfalls. If refinery yield patterns are maintained, the total shortfall of all products is expected to be less than 1 percent through the last quarter of this year and into 1975. Due to potential surpluses in some products, minor product imbalances can be accommodated by slight shifts in refinery operations.

The supply-demand situations for motor gasoline and diesel fuel indicate no shortfalls expected for the remainder of the year. Of course, some spot shortages may occur, but these are expected to be very brief. Certainly the agricultural community can be assured that their fuel picture is bright.

FERTILIZERS

Last year the demand for nitrogen fertilizers placed intensive pressures on supply. The most pressing problem in the area has been to assure adequate supplies of feedstocks for nitrogen fertilizer production, and of fuel to operate both nitrogen and phosphate manufacturing facilities.

As new ammonia plants are brought on stream in late 1974 and early 1975, the additional production of ammonia, the basis for almost all nitrogeneous fertilizer, should more than offset the net loss of 89,000 tons of capacity experienced during 1973.

One new plant scheduled to begin operations in the last quarter of this year has the capacity to boost total output by 340,000 tons per year. Trade sources have indicated that old, dismantled plants are being rebuilt and reactivated. This means that further gains in capacity can be expected for 1975 and beyond.

In addition, domestic producers of anhydrous ammonia have pledged to divert substantial tonnages from their export market to domestic use. A Department of Commerce monitoring system has

indicated that most producers are already substantially reducing their export commitments to levels below their 1973 actual exports.

On balance, despite lower beginning inventories, a combination of increased production, reduced exports and somewhat higher imports should result in an increase in nitrogeneous fertilizer materials available to the American farmer this year.

Because nitrogen-base fertilizers are manufactured principally in the United States using natural gas as both a fuel and a raw material, it is important that we have information on natural gas requirements. However, at this time the FEA does not have general authority over natural gas and cannot control the priority of its uses.

I have, therefore, recently begun to coordinate planning with John Nassikas, Chairman of the Federal Power Commission. I understand that, to date, the FPC has granted relief from natural gas curtailments to all fertilizer industry petitions which have fallen under their jurisdiction.

I might add that one of the administration's major initiatives is the deregulation of new natural gas prices at the wellhead. It is our belief at FEA that this deregulation will encourage enough investment in gas exploration and development that a significant additional supply will be forthcoming. With more natural gas entering fertilizer plants, the supply of nitrogen-base fertilizer will also increase.

On February 27 of this year, S. Res. 289 was passed unanimously, urging "all agencies of the Federal Government which have any responsibility for establishing priorities for the allocation of materials and facilities utilized in the production or distribution of fertilizer, give the highest priority to the fertilizer industry regarding the allocation of such materials."

In response to this urging, new regulations issued May 6, 1974, provide for allocation of petroleum products at 100 percent of current need for the "manufacturing of both nitrogeneous and phosphatic fertilizers and all industries primarily engaged in mixing fertilizers."

Similarly, a fuel allocation of 100 percent of current requirements is provided for the mining of potash and phosphate rock which are used in fertilizer production. With these commitments, we believe we have provided adequate petroleum allocations for production of fertilizers.

PROPANE

As you know, last winter was one of the warmest in the last 50 years. With such warm weather, the need for propane to dry crops was minimal. The midwest region did experience excess demand for a period because of the late wet crop, but in the aggregate there was no major supply problem. As transportation bottlenecks are eliminated, any spot shortages that do occur can be relieved more rapidly than in the past.

This year's inventory situation is one of the best in the last decade. We have more propane in storage this year than we have ever had before. In terms of days of demand, the propane stock is the third highest inventory in the last 8 years. According to our most recent

estimates, there are sufficient supplies of propane to meet a moderately constrained demand for the rest of the 1974–75 crop year.

Senator ALLEN. Don't you think the demand will be larger this year than last year for propane?

Mr. SAWHILL. In view of the constraints, I was thinking of the kinds of conservations authorized that the farmers can use. I realize that overall demand will be up because of the larger crop.

I would like to take this opportunity to clarify a couple of points having to do with propane. The first point concerns the propane price spread that exists today. Our ruling 1974–75, which was published in the February 19 Federal Register, contains explicit guidance for sellers concerning the price of propane.

The special propane rule was adopted in January to provide that the percentage of a refiner's total increased products costs in a 12-month period that can be allocated to propane under the pricing formula cannot exceed the percentage that the total sales volume of propane of that refiner is to the total sales volume of all covered products during the same 12-month period.

I would like to say that some of the observed price spread can be explained by the timing of suppliers' cost increases. Since all suppliers do not pass their costs through on the same schedule, the price spread can be expected to change from month to month.

Also of considerable interest is the price of propane in the future. Unfortunately, the future price can't really be predicted with any degree of certainty because those prices will depend on the cost to the refiner of its crude oil and on the extent to which—up to the maximum permitted under the rule—the percentage of those increased costs of crude are assigned to propane prices under the propane pricing rule.

In summary, mild weather, price increases, significant voluntary conservation and the allocation program combined to minimize the impact of the recent embargo. With the lifting of the embargo, the supply-demand situation was dramatically improved.

Because of the increasing crude runs to stills, the total availability of products is increasing. With these higher levels of supply and the very favorable current inventory position, FEA's latest forecasts, assuming only moderate conservation, indicate no shortage through the first months of 1975 for all major petroleum products. Actual consumer behavior during 1974 supports the continued use of constrained demand forecasts. That means giving effect to some conservation.

There are ways in which the farmers themselves can help conserve energy both to reduce the dependence of our Nation as a whole and at the same time to handle their own fuel problems. We don't expect farmers to return to the primitive methods of production which consume less energy, but adjustments on-the-farm can be made to conserve fuel and to get the job done during periods of temporary shortages.

I refer to conservation checklists and other valuable information we offer in an FEA publication designed especially for farmers, called "Handling Fuel Problems." Our conservation checklist for farmers was developed jointly with the Department of Agriculture and includes such suggestions as using soil tests to more precisely

determine fertilizer requirements, using natural drying process for grain whenever possible, running tractors in highest gear and lowest throttle for load, and many others.

Only by continuing dedicated conservation efforts will we be able to weather the energy problems in the years ahead, and American agriculture can make a large contribution to this effort.

Mr. Chairman, this concludes my prepared comments. Thank you for the opportunity to meet with this committee on a most important subject. I will be pleased to respond to questions.

Senator ALLEN. Thank you very much, Mr. Sawhill. We appreciate your fine statement.

Senator Dole, do you have an opening statement?

Senator DOLE. No. I had an opening statement yesterday, which was made a part of the record.

Senator ALLEN. Mr. Sawhill, you commented on the price and availability of propane, which is a fuel of much concern to the people of Alabama. It is sort of the poor man's or the rural man's natural gas. A great deal is consumed in my State.

Our people are concerned with the availability of the product and with the price. What is the status of the supply and the price of propane?

Mr. SAWHILL. The supply situation looks pretty good to me right now. Propane inventories are about as large as they have been. We think we will be able to satisfy all legitimate needs for propane supply.

The price situation is of continuing concern to us. Prices rose very rapidly last fall. They reached a peak early last winter. We changed our pricing regulations to some extent in an attempt to jawbone these prices down. We were somewhat successful in that. Prices have begun to firm up recently.

I think we will have to take a look at the propane price situation. If necessary, we may have to restrict propane in certain uses in order to make supplies of propane available to rural farmers and for agricultural uses.

Senator ALLEN. You don't think. then, that the present regulation is sufficient to keep the price of propane from getting out of hand and exceeding the formula that is allowed? Is it exceeding the formula?

Mr. SAWHILL. It is not exceeding the formula. The problem is that propane prices have begun to firm up recently. I think the problem is more on the demand side of the situation, utilities which have been restricted from natural gas supplies, because we are running out of natural gas in this country and even some major industries are bidding up the prices of propane.

I think it is a situation we will have to look into to assure that propone prices don't get out of hand.

Senator DOLE. Will the Chairman yield?

Senator ALLEN. Yes.

Senator DOLE. I might say, with all respect, I think they are getting out of hand already. Here we are in the summertime and it is up to 27 cents in areas of Kansas. It never got much above 39 cents last year, but that was three times the price the year before.

So it appears propane prices are out of hand already. There are

a number of us who have already objected to the formula. We have been in effect charging the price of other refinery costs for other products to propane. It has been a problem since you first drew up the regulations.

Mr. SAWHILL. We did make propane a so-called special product.

Senator DOLE. If inventory is at an all time high, what accounts for the price escalation now?

Mr. SAWHILL. The only explanation I can give for the current price escalation is the fact that demand is expanding rapidly from utilities and others who are running out of natural gas.

Senator DOLE. Is that why you suggest it might be necessary to restrict usage in these areas?

Mr. SAWHILL. Yes.

Senator DOLE. I assume if there were restrictions, that agriculture would have some priorities, crop drying and others?

Mr. SAWHILL. Yes. I think we would restrict utility and other uses.

Senator ALLEN. Mr. Sawhill, do you think that the projected supply of propane will be sufficient to accommodate the heavy crop drying uses as well as the use of propane by manufacturing establishments and utilities who may be cut off from natural gas? It looks to me like the demand will be up a great deal.

Mr. SAWHILL. Yes. It seems to me what we will have to do is restrict its use in utilities in order to make sufficient supplies available to agriculture. Utilities have other sources they can use; agriculture doesn't.

Senator ALLEN. What about people who have gone to the futures market and purchased propane and have large supplies on contract? Would they be allowed to use that?

Mr. SAWHILL. It would depend on the usage. We might have to restrict some of those usages. If we don't want to see this price escalate very sharply—and I gather that is the intent of Congress from the FEA bill and the comments you have made—then we will have to restrict some of these usages.

Senator ALLEN. What is the anticipated Administration policy regarding the control? I notice an article appearing the Washington Post of July 14. It is an article in which comments are attributed to you saying, "Sawhill Seeks Fuel Decontrol by March, 1975."

We will insert the article into the record at this point.

[The article follows:]

[From the Washington Post, July 14, 1974]

SAWHILL SEEKS FUEL DECONTROL BY MARCH 1975

(By Morton Mintz)

A grand strategy for an "orderly phase-out of both petroleum allocation and price controls" has been proposed by Federal Energy Administrator John C. Sawhill to the White House, it was learned yesterday.

"It is essential that our strategy promote a stable economic *and political* environment in which the allocation program will be seen as having served its purpose and vested interests in its extension will be minimal," Sawhill said in a 13-page memo. The emphasis was in the original.

Sawhill said the strategy is aimed at achieving "a smooth transition to total decontrol by Feb. 28, 1975," when the Emergency Petroleum Allocation Act is

due to expire, and to "avoid congressional action to extend the Allocation Act."

Sawhill sent the memo—a copy of which was obtained by a reporter—to six top White House advisers, including Kenneth Rush, President Nixon's coordinator of economic policy; Roy L. Ash, director of the Office of Management and Budget; William E. Simon, Secretary of the Treasury, and Herbert Stein, chairman of the Council of Economic Advisers.

The last page of the memo which was dated June 10, was a "time schedule for deallocation" listing for each major category of petroleum products a proposed action and the month in which the action would be taken.

As recommended by Sawhill, the "phased decontrol strategy" would begin with residual fuel oil and be followed by propane and then by aviation fuel.

The strategy for residual fuel oil was in fact implemented on July 5, to deregulate.

The agency apparently intends to proceed on a compressed schedule. It did not disclose the technical basis for the proposal until last Friday, although it set hearings for July 22 and 23 and although the allocation law gives Congress only five days to exercise a vote before deregulation takes effect—in this case, on Aug. 1.

One purpose of the law is to protect the competitive viability of the independent sector of the petroleum industry," Sawhill notes in the memo.

The squeeze on independents is largely limited to gasoline, heating oil and independent refineries, while "other products do not have a significant independent marketing sector, and a decision to deallocate does not hinge on market-share questions," Sawhill said.

However, an informed source told a reporter that independent sellers of residual fuel oil whose customers do not include utilities have about 70 per cent of the market in the New York metropolitan area and about 65 per cent in New England.

The desire for overall "quick decontrol must be weighed against minimizing the possibility that Congress will (1) extend the Emergency Petroleum Allocation Act, . . . or (2) enact more comprehensive or stringent petroleum controls." Sawhill told the White House advisers, who also included Peter Flanigan and John T. Dunlop.

"Similarly, we wish to insure a smooth transition, with minimal risk of creating economic dislocations or the need to reverse ourselves and reimpose controls later in the year should unforeseen events adversely affect current supply/demand projections," Sawhill said.

He went on to outline the "phased decontrol strategy" which after deallocating residual fuel oil, propane and aviation fuel would:

- Substantially relax controls over other products "when suppliers possess more than sufficient quantities to meet the entitlements of their historical customers."
- End the system under which certain supplies are set asides for states to allocate and under which states are authorized to establish priorities among purchasers who are without allocations.
- Implement "a market-share monitoring system and begin the analysis and recommendations on the two-tier pricing system needed prior to decontrolling crude oil, gasoline and distillate."

Under the two-tier system, the price of "old" oil is controlled and the price of "new" and imported oil is not.

The price of a barrel of "old" crude is $5.25. The Cost of Living Council and Sawhill have acknowledged that it was raised by $1 last December without any hard evidence that the increase would produce the desired result, a significant expansion of production.

The uncontrolled world-market price of a barrel of crude, landed in New York, is about $12.25.

For the time being, such "wide disparities" in prices for controlled and uncontrolled crude make it "not feasible" gasoline and distillate, Sawhill to decontrol crude as well as said.

He pointed out that major oil companies control a "very large percentage" of the domestic production of less costly "old" oil. For that reason, he said, the average crude oil cost for the 15 largest refiners is only about $8.70 per barrel, while for independents and small refiners it ranges up to $15 even if a few pay as little as $5.

Senator ALLEN. Is that part of the Administration's policy?

Mr. SAWHILL. The President made a speech, I believe either in late May or early June, in which he directed me to come up with a plan for deallocating fuels. That article was written because the writer of that article got a hold of the plan I came up with.

Basically, our proposal is this: That we look into the supply and demand of all fuels. We have started with residual oil. We hold public hearings on our estimates of supply and demand to try to determine if they are accurate. When we find situations where supplies are adequate, and we find that we can deallocate or deregulate without seriously injuring the independent sector of the industry, we would propose to come to the Congress and give the Congress 5 days to see if they agreed with us.

If they did, we would temporarily suspend our plan. We held hearings on the residual oils at the beginning of this week. We had pro and con arguments. Once we review those, we will come before the Congress with a finding, either that we should deallocate or we shouldn't. If we decide we should, the Congress will have an opportunity to agree or disagree with us. If we decide to deallocate residual oil, we would suspend the program for 60 days.

I don't think we should go past November 1, because we face a coal strike with the United Mine Workers and the bituminous coal workers. In the event we suspend these regulations for 60 days, we would continue to collect figures from the industry so there would be an easy transition back into the program, if necessary.

Senator ALLEN. When you say come before the Congress with this plan, does that mean you would come to ask the advice and the assistance of Congress before coming up with your definite plan? In other words, would Congress be asked to participate in the discussions leading to the arriving at the plan?

Mr. SAWHILL. I have assured certain Members of Congress who are concerned with particular fuels that I would discuss it with them in advance. For example, the New England Senators are particularly concerned with residual oil. They have asked me if I would come and brief them privately on any program that we might develop and I have agreed to do that before we came forward with a formal finding.

Senator ALLEN. You would also take it up with the Agricultural Committees?

Mr. SAWHILL. Yes. I don't think I would make a point of coming before the Agricultural Committee on residual oil, but I would for propane or middle distillates.

Senator ALLEN. Would you do that with regard to feedstock?

Mr. SAWHILL. Yes.

Senator ALLEN. What effect would deregulations have on the price structure, in your judgment?

Mr. SAWHILL. In the case of the one fuel we are talking about, residual oil, if we are right that supplies are more than adequate to meet demands, it could even result in some lowering of price. I would not expect it to increase price.

Senator ALLEN. What about the domestic crude, the old oil, so to speak?

Mr. SAWHILL. Clearly, if we were to come up with a decontrol program for that, it would increase prices sharply. It is not our objective to decontrol old oil. I assume you would support that.

Senator ALLEN. You would leave the old oil under control?

Mr. SAWHILL. Yes, sir.

Senator ALLEN. You feel it is the policy of the Administration, acting through the FEA, to see that all of the legitimate needs of agriculture for fuel and for various commodities necessary in agricultural pursuits are met 100 percent and that their needs for fertilizer are also met 100 percent; is that correct?

Mr. SAWHILL. Yes. Of course, we can control their needs for fuel. We have put in a program—as I mentioned in my testimony—which I believe will ensure that these needs are met. A supplier estimates his needs for the farmers in his community and then he certifies this up to the refiner who supplies him.

This refiner then gets top priority. It is not only that the farmers can go to their suppliers and get top priority, but we put in a system to ensure that the farmers themselves get adequate fuel.

I have an agricultural advisory committee that helped me develop this system. I believe it is working very well. As far as fertilizer is concerned, we can do our best to provide petroleum supplies, but as you know, the problem there is really more of a natural gas problem than a petroleum problem.

Senator ALLEN. As I see the deregulation outlook, you still, in sense, have a two-tiered price. You would have the price of the old oil under regulations and no regulations on new oil; is that correct?

Mr. SAWHILL. That is correct. That is to provide an incentive to explore and find more new oil. It seems to be working pretty well because the drilling activity is up considerably this year over what it was last year. Of course, our authority expires in February 1975; beyond that, we will not have any authority to control.

Senator ALLEN. There are bills in the Congress to extend that act beyond February 28. Is it the plan of the Administration to oppose the extension?

Mr. SAWHILL. I think what we would probably do would be to see if there could be some changes in the bill. There are a number of things that need to be changed in that bill in order to make it more workable for a period when supply and demand are back into balance. I believe the Senate Interior Committee will be holding hearings on that subject within the next few weeks.

Senator ALLEN. Mr. Sawhill, many of our farm co-ops are in the fuel business. They sell various types of fuel. I have a letter which I will put into the record from the National Farmers Union. Their situation is not unique. It applies to all of the farm co-ops engaged in this type of activity.

[The above-mentioned letter follows:]

NATIONAL FARMERS UNION,
Washington, D.C., July 24, 1974.

Hon. GEORGE MCGOVERN, *Chairman,*
Subcommittee on Agricultural Credit and Rural Electrification,
Senate Agriculture and Forestry Committee,
Russell Office Building,
Washington, D.C.

DEAR GEORGE: I am writing in regard to your hearing, scheduled for July 24–25, on the future supply-demand outlook for fertilizer, farm chemicals,

natural gas, propane and other fuels and energy utilized by U.S. agriculture.

I understand that FEA Administrator John Sawhill is scheduled to testify Thursday morning, and in advance of his appearance I wanted to mention one or two points that you may wish to raise with Mr. Sawhill while he is before the Subcommittee.

As you know, the Administration (FEA) is now testing the pulse of Congress and the public on how fast they might remove price and supply regulations for propane, crude oil, and refined petroleum products. It also appears that the FEA, rather than work out some of the technical problems and inequities of the present "two-tier" system of crude oil price regulations, is likely to exploit such inequities to support a total phase-out of price and allocation regulations prior to expiration of the Emergency Petroleum Allocation Act on February 28, 1975.

If that occurs, it would of course mean much higher prices of domestic oil within a few months as regulations are phased out, and would forestall any real possibility of extending the Act beyond February 28.

Our agricultural cooperatives, including Farmers Union Central Exchange, are experiencing serious problems with the two-tier system because—combined with their reliance upon higher-priced foreign (Canadian) oil—they are having to price their product to the farmer and other customers at a higher level than the integrated oil company outlets that compete with them in an area. For instance, Central Exchange, for its Laurel, Montana, refinery, is dependent upon Canadian imports and non-controlled domestic crude for about 75 per cent of its total refinery runs, and that has meant that local cooperative outlets supplied by Central Exchange have had to price their gasoline at 3–6 cents per gallon higher than their corporate competitors in the area.

Removal of all price controls on crude oil of course would remove the crude oil price differentials and eliminate the competitive disadvantage faced by cooperatives, but that would throw out the "baby with the bath water," in the sense that it would increase the costs of gasoline and diesel to farmers by about $360 million per year.

Enclosed is a copy of Farmers Union's statement to the Federal Energy Administration, presented on Tuesday of this week. To cope with the problems raised above, we urged the FEA to: 1) reiterate in a firm, unequivocal way that the United States intends to maintain governmental restraint on domestic prices and to promote international cooperative efforts to reduce world prices of oil; 2) get on with the business of applying an equalization formula that will remove the competitive disadvantage faced by cooperatives and independents, who must buy relatively more of their oil from foreign source and at the higher "tier" of domestic prices.

It would be very helpful if you would pose questions along the following lines to Mr. Sawhill, when he appears Thursday:

(1) Does the Administration intend to hold firm to controls on prices charged for crude oil and refined products by the integrated oil corporations, at least until international negotiations can be carried out to achieve a downward adjustment in world prices of oil and until inflationary pressures in oil subside?

(2) What is the Administration doing to eliminate the competitive disadvantaged faced by cooperatives and independents resulting from the differentials in crude oil prices, which at the same time will maintain effective price regulations?

I think it would be very helpful to probe Mr. Sawhill on these two points, to attempt to get the Administration's contemplated directions on petroleum policy as clearly as possible on the record.

Allow me to commend you for the efforts that you are making through your Subcommittee on energy, fertilizer, and related problems. The expertise that you are developing and the actions that you are taking no doubt will serve in an important way the interests of farmers and the public in the months ahead.

Best Regards.

Sincerely,

TONY T. DECHANT,
President.

Senator ALLEN. They raise some questions here. If you don't object, I will pose two of them to you. Does the Administration intend to hold firm to controls on prices charged for crude oil and refined products by the integrated oil corporations, at least until international negotiations can be carried out to achieve a downward adjustment in world prices of oil and until inflationary pressures in oil subsidies? I believe you have pretty well answered that question.

Mr. SAWHILL. I would say that the answer to that is yes, with the caveat that my authority expires in February of 1975.

Senator ALLEN. Then they ask, what is the Administration doing to eliminate the competitive disadvantages faced by cooperatives and independents resulting from the differentials in crude oil prices, which at the same time will maintain effective price regulations?

Mr. SAWHILL. We have instituted, under the requirements of the law, a crude oil allocation program. This requires the large major refiners to sell to the smaller independent refiners. This has the effect of equalizing prices to some extent. There is still too large a price differential for some of the smaller refiners to remain competitive. We are working on a price equalization scheme which would provide further assistance to the smaller independent refiners.

Senator ALLEN. I notice on the matter of fertilizers you say, "A Department of Commerce monitoring system has indicated that most producers are already substantially reducing their export commitments to levels below their 1973 actual exports."

That is very good news, if that works out that way. Why would they cut back? Is the demand less? Are they becoming dedicated to the thought to taking care of domestic needs first?

Mr. SAWHILL. I think probably the latter. The demand is still very large. I have talked to a number of foreign ministers recently. The demand is still high abroad.

Senator DOLE. Mr. Chairman, exports are down, but we are importing all the high-priced fertilizers and exporting all the low-priced fertilizers. The fertilizer we get from Rotterdam is double the cost of the fertilizer we are shipping out from somewhere in Mississippi. It is hard to explain that to the farmer.

Mr. SAWHILL. I am not actually involved in the fertilizer business.

Senator DOLE. We had an expert yesterday, a member of the Fertilizer Institute. He is well qualified for his job.

Senator ALLEN. Mr. Sawhill, what is being done in most international cooperative efforts to reduce the price of oil?

Mr. SAWHILL. There are two measures we are taking. First, Secretary Kissinger coordinated a group which has been meeting over the last several months with the other energy consuming nations in an attempt to develop an approach to the Middle Eastern nations to convince them that the current price of fuel is intolerable.

There have been a number of estimates made. They have ranged between $50 billion and $60 billion of surplus funds that would be consumed in these OPEC nations if the current price continues at the levels it has reached. This price has to come down because our institutions cannot recycle these $60 billion in an orderly way. I think it could be a very serious situation.

I must say that in spite of the fact that we are working with our European allies on this problem, the current indications we have are not encouraging. The Kuwait Government recently raised the price of oil to the Gulf Oil Corporation. Gulf felt they had no alternative but to accept this higher price.

The current allocations are not good for a lower price, but a lower price is essential. Clearly, we are going to have to go beyond our current efficiencies.

Senator ALLEN. Are we moving in the direction of self-sufficiency in energy, not only in oil but in other forms of energy?

Mr. SAWHILL. We hope to move in the direction of self-sufficiency. The problem is that demand for energy has been growing at a rapid rate. Our domestic production of most kinds of energy has been declining, or increasing only slowly. The gap between demand and supply has been widening.

I would expect we would continue to be heavily dependent on the rest of the world for the next few years until we launch our independence program and bring on the additional supplies that are necessary to close this gap between demand and domestic supply.

Senator ALLEN. It is my observation that the public generally—not the farm economy which realizes that the supply is in acute shortage, the byproducts of oil—but it seems to be a general feeling of complacency about the problem and the energy shortage and the fact that the energy shortage is over. We know that is not true.

What is being done to alert the American people to this? What is being done to urge them to continue the conservation measures that worked so well in the early days of the shortage?

Mr. SAWHILL. It is true that demand has been rising in recent weeks. It is encouraging to me that the 4-week average demand for the 4 weeks ending July 12 was still below 1973 levels, while our consumption has been expanding, it is still below 1973 levels.

We would normally have expected an increase. Our conservation program is having some effect. We are doing a number of things to keep demands down. I recently met with the heads of automobile companies to work with them on a program to produce more energy-efficient cars. I am meeting with the heads of major industries to encourage them to set forth programs of energy conservation. They are responding well.

We are encouraging the utilities industry to work with us to get people to conserve electricity more efficiently. Some times, when I am not before Congress, I take off my necktie to tell people that they can turn off their air-conditioning.

Senator ALLEN. What will the effect be with respect to benzene, which is a basic feedstock?

Mr. SAWHILL. That is a problem that has recently been brought to my attention. Since I am not very familiar with the benzene problem, I think it would be better if I wrote you an answer to that question.

Benzene is used as one of the basic catalysts in making this gasoline which is required by the EPA. We will have to get a better understanding of that. I will write you an answer.

[The following information was subsequently received for the record:]

AUGUST 15, 1974.

Hon. JAMES B. ALLEN,
U.S. Senate,
Washington, D.C.

DEAR SENATOR ALLEN: During the July 25 hearings before the Agriculture Committee you requested information concerning the effect the energy conservation program would have on the availability of benzene for chemical feedstocks.

It is our view that the conservation program per se will have little or no effect on the availability of benzene as a chemical feedstock. However, the trend in increased demand for benzene as a lead substitute to increase the octane rating of gasoline could eventually affect the availability and price of benzene.

We plan to monitor the situation to ascertain if any actions by FEA are warranted in this area.

The reports you requested on propane, fertilizers and petrochemicals feedstocks are being developed and will be forwarded to you by the latter part of September 1974.

Sincerely,

JOHN C. SAWHILL,
Administrator.

Senator ALLEN. This article of July 14, in the Washington Post,* that was not released by your office?

Mr. SAWHILL. No. This was an internal document that a reporter got hold of because they seem to be able to get hold of all our documents.

Senator ALLEN. Mr. Sawhill, since this committee has general legislative oversight in this area, would it be asking too much if we asked your office not only to continue to review the propane supply and price situation, but that from time to time, you report your findings, possibly monthly, for the next few months on this subject?

Mr. SAWHILL. Yes, I would like to do that. We need to have a good joint understanding before we can agree on a program. Propane is going to be a problem.

Senator ALLEN. I would also like to have that information with regard to fertilizers, petrochemicals, feedstocks. Could you keep us alerted on that?

Mr. SAWHILL. Yes, sir.

Senator ALLEN. We certainly appreciate—speaking for the committee, Senator Dole and the Chairman, Senator McGovern—the inclusion of agriculture in top priority status. We feel the Administration is aware of this problem and that you are doing all you can to alleviate the problem and to keep it from getting out of hand. We appreciate your cooperation.

Mr. SAWHILL. Thank you.

Senator ALLEN. The fact that the hearing is being held is in no sense a criticism of your office and your operation of the office. I am sure you understand that. We are merely trying to alert the committee and the farm economy to what the situation is, what we may expect in coming months and on a long-range outlook.

Thank you very much.

Senator Dole?

Senator DOLE. Along those same lines it is well to point out there were a great many critics and cynics who suggested we would never get through the harvest this year because of energy problems. I can report from my State there were no problems. If there were

*See p. 154.

problems, they were quickly disposed of through the efforts of FEA and other offices involved.

The performance was extremely good. Mr. Sawhill understands the need. Some of us go home weekly. We get a lot of input on the problems.

I want to return briefly to the propane situation. It is as, Senator Allen pointed out, a very important fuel in some States. The price is still about 250 percent higher than it was during the base period. We are seeing—at least the retailers tell me, we are getting ready for a further escalation of the price.

It has been suggested that one way to solve it would be decontrol. I am not certain you have reached that point yet.

Mr. SAWHILL. We have considered propane as a fuel and are looking into the supply and demand to determine whether or not it should be decontrolled. We have not yet held public hearings or made any determination on that.

Senator DOLE. However, you are looking into some way of establishing priorities which would limit the demand, which, I assume, would at least stabilize the problem?

Mr. SAWHILL. We could move toward decontrol. I am sure we will have public hearings on that subject. If we do decontrol, I think we would still have to maintain some priority categories or restrict its usage in some areas, otherwise, I think, the price would rise fairly high.

Senator DOLE. What about asphalt? That is important not only from the aspect of major highways but also farm-to-market roads. This is another area where there is a scarcity. Many people report that the shortage problems continue. Is that under any review by FEA?

Mr. SAWHILL. As you may remember, I met with a group in your office that subsequently sent me some material defining their situation. Our best way of working is not to issue blanket regulations.

Senator DOLE. Several weeks ago, the FEA held hearings on synthetic natural gas. Has there been any decision reached as a result of those hearings?

Mr. SAWHILL. No. However, we have committed ourselves to make a decision by the end of this month. We are rapidly approaching it.

Senator DOLE. That is basically a situation of economies?

Mr. SAWHILL. It is really trying to determine whether we should make naptha available for these plants. Is that the best use of a petroleum product and how much should we make available. To the extent that we make it available here, it reduces its use in another area.

My feeling is that on a strict Btu basis, the use of petroleum to make natural gas is not a very high priority use.

Senator DOLE. Along the same lines as the Chairman said, it is well to point out that animal drugs are important, too, for the production. We have pesticides included in the FEA regulation definition of agriculture, and animal drugs are not. I assume this is another matter that is being pursued and may be under consideration?

Mr. SAWHILL. Yes. I met recently with representatives of the trade associations concerned with animal drugs. I assured them we

would have adequate supply available to them. They assured me there was no problem right now.

I have been somewhat reluctant to open up the definition of agriculture as it is defined in our regulations because there is a tremendous pressure to change that definition from sources and container manufacturers and pretty soon we include the whole economy.

I told them we would colsely monitor the situation. If any shortages developed, we would make sure they get adequate supplies. But I am reluctant to change the definition right now.

Senator DOLE. Yesterday, we had a witness Mr. Halverson, who was one of the two gentlemen from Land O'Lakes. They have had considerable difficulty—maybe it is justified—in getting consistent responses from the Kansas City regional office with reference to redirection of products for agriculture priorities by the companies to this so-called fraction system.

I think the best way to respond to that is to give you copies of the letters which we happen to have available. I will ask that copies be included in the record at this point.

Senator ALLEN. They will be included.

[The following material was also referred to on p. 122.]

LAND O'LAKES,
AGRICULTURAL SERVICES,
Fort Dodge, Iowa, July 2, 1974.

Mr. JAMES R. NEWMAN,
Federal Energy Office,
Kansas City, Mo.

DEAR MR. NEWMAN: Thank you for your correspondence of June 14 indicating Region VII's position regarding supply of refined fuel for Land O'Lakes. Due to vacation plans I was out of the office from June 17 to July 1. Thus, my response to your letter is later than is our normal practice.

Your June 14 letter dealt basically with Land O'Lakes-Tauber Oil contacts. We have had numerous discussions with Tauber Oil regarding potential fuel. Our latest discussion was at 11:30 a.m. on July 1, between Mr. Joe Breiner of Tauber and Mr. Warren Smith of Land O'Lakes. The statements made during this discussion vary considerably from that of your June 14 letter (note the attached).

Specifically, in the third paragraph of your letter you stated, "Tauber Oil Company would in fact contact Land O'Lakes with an offer of two separate amounts of excess gasoline." We have not received this offer. The reason we have not is because Tauber never owned the product to which you referred. Tauber still does not have the product.

To further complicate the matter, on Friday, June 14, Mr. Bob Roland of your office contacted both Land O'Lakes and Tauber informing both parties that we were to begin observing your February 5, 1974, directive. We talked with Mr. Breiner of Tauber and he agreed that everything was set. Because of the confusion that had previously existed, Mr. Warren Smith of Land O'Lakes sent the attached letter to Tauber. We were then under the assumption that everything was set. However, on June 18, the second business day after your office had set up both parties to honor the directive, you issued an order by certified mail rescinding the directive (note Attachment C). I'm sure you can imagine the complete state of chaos this created. Given the action recently taken by your office, I would appreciate a written response to the following:

1. Why did your office completely reverse itself within a two-day period?
2. What was the rationale behind the June 18 letter whereby you rescinded the February 5 directive?
3. In the past your office has issued intermediate allocations, rather than assigning a permanent supplier, to Land O'Lakes. This action has enabled us to in turn move the fuel through local cooperatives to the farmer. These directives were issued on some occasions when the suppliers were allocating at a fraction less than 1.0. Now, however, your office states you will not re-

direct product unless the supplier's fraction is greater than 1.0. Why has your office changed its position? Please quote from the regulations which caused you to change your procedure.

You further mentioned in paragraph No. 1 that "with the exception of an interim order for supply by Phillips Petroleum Company in the month of April, Land O'Lakes has not purchased any of the excess gasoline made available to them." This statement is incorrect. Land O'Lakes purchased gasoline from Sun Oil in March as per your directive of March 1, 1974, Case No. 07–0019131–6. A copy of that directive is also attached. (We have also received fuel oil under FEO orders.)

In summary, Mr. Newman, two of the four paragraphs of your June 14 letter contain statements that we feel are not correct. In addition, the recent action taken by your office leaves us in a complete state of confusion. We feel if we cannot turn to you as the top administrative official of Region VII for accurate answers, the FEO leaves much to be desired. We are attempting to do what we can to secure fuel. We are working to negotiate long term contracts. During the week of July 15 we will be in Dallas, Houston, and Tulsa attempting to secure product. If we fail we must turn to the FEO. Our customers are farmers, priority users. What is your advice as to what other steps we should take?

Because of the continuing chain of confusing events, I am forwarding a copy of this report to our congressional contacts so that we may all work as a team to be certain that food production receives the fuel it deserves.

Very truly yours,

DUANE HALVERSON,
Special Assistant for Petroleum to the Vice President.

FEDERAL ENERGY REGIONAL OFFICE,
Kansas City, Mo., July 10, 1974.

Mr. DUANE HALVERSON,
Land O'Lakes, Inc.
Fort Dodge, Iowa

DEAR MR. HALVERSON: Thank you for your letter of July 2. We were pleased to learn of your continuing efforts to locate and purchase gasoline to ease the supply picture. Your refiner has also written spelling out their efforts to increase the amount of product available to Land O'Lakes.

Enclosed are copies of the corrected orders which should have been issued February 5, 1974, and are now directed to your base period suppliers.

Land O'Lakes' purchase of gasoline under an FEO Interim Order March 1, 1974, for 1,407,000 gallons of gasoline was omitted in the June 14, 1974 letter.

This office will issue Interim Orders under part 205.26 where FEA deems such action consistent with the purposes and objectives of the Acts. Additionally, as you know, this office will make available product declared "excess" by a supplier. There has been no change in procedure by this office in these areas.

However, under part 211.12(e), (May 6, 1974 Regulations) Land O'Lakes may apply to another supplier for product; a possible avenue not available under previous regulations.

Please keep this office advised if fuel needs become tight, so that we may timely respond to your needs.

Sincerely,

JAMES R. NEWMAN,
Regional Administrator.

Enclosure.

OFFICE OF OPERATIONS AND COMPLIANCE,
FEDERAL ENERGY REGIONAL OFFICE,
Kansas City, Mo., July 12, 1974.

(Case No. 07–001931–G)

Subject: *Adjustment of Base Period Supply Volume (1972)* in accordance with Mandatory Petroleum Products Allocation Program
Supplier: National Coop Refinery Association, P.O. Box 908, McPherson, Kans.

This order is issued pursuant to, and under statutory authority cited in, 10 CFR Chapter II, Parts 205, 210, 211 and 212 (39 FR 1925 *et seq.*). Petitioner's

request for adjustment of base period supply volume (1972) is granted pursuant to Section 205.24 and 205.25, on the grounds that the Federal Energy Administration hereby adjusts petitioner's base period volume in accordance with Section 211.13(c)(4).

This order constitutes adjustment of base period supply volume (1972) to petitioner for the duration of the Mandatory Petroleum Products Allocation Program. Supplier will allocate the above-noted petroleum product to petitioner in the following volumes:

[In gallons]

January	2,961,000	(2,961,000)	July	3,948,000	(3,948,000)
February	3,454,000	(3,454,000)	August	4,442,000	(4,442,000)
March	3,948,000	(3,948,000)	September	3,948,000	(3,948,000)
April	3,940,000	(2,818,600)	October	5,429,000	(5,429,000)
May	4,442,000	(4,442,000)	November	4,442,000	(3,320,600)
June	4,935,000	(4,935,000)	December	3,455,000	(1,885,040)

The above monthly allocations equal 45,531,240 gallons annually.

The method of allocation and adjustment to the allocation program shall be determined in accordance with Sections 211.10 and 211.13, respectively.

This order is effective upon issuance, pursuant to Section 205.10, and supplier will allocate above-noted volumes unless and until this order is stayed, modified, suspended, or revoked by this office.

Any party aggrieved by this order may file an appeal with this office in accordance with the provisions of Part 205, Subpart H, within thirty days of service of this order.

Remarks.—NCRA is obligated to supply only those gallons indicated in parentheses (Jan–Dec) for a total of 92.27% of the total annual gallons.

This cancels and supersedes letter dated February 5, 1974.

JAMES R. NEWMAN,
Regional Administrator.

OFFICE OF OPERATIONS AND COMPLIANCE,
FEDERAL ENERGY REGIONAL OFFICE,
Kansas City, Mo., July 12, 1974.

(Case No. 07–001931–G)

Subject: *Adjustment of Base Period Supply Volume (1972)* in accordance with Mandatory Petroleum Products Allocation Program
Supplier: Champlin Petrolum Co., P.O. Box 9365, Fort Worth, Tex.

This order is issued pursuant to, and under statutory authority cited in, 10 CFR Chapter II, Parts 205, 210, 211 and 212 (39 FR 1925 *et seq.*). Petitioner's request for adjustment of base period supply volume (1972) is granted pursuant to Section 205.24 and 205.25, on the grounds that the Federal Energy Administration hereby adjusts petitioner's base period volume in accordance with Section 211.13(c)(4).

This order constitutes adjustment of base period supply volume (1972) to petitioner for the duration of the Mandatory Petroleum Products Allocation Program. Supplier will allocate the above-noted petroleum product to petitioner in the following volumes:

[In gallons]

January	2,961,000	(0)	July	3,948,000	(0)
February	3,454,000	(0)	August	4,442,000	(0)
March	3,948,000	(0)	September	3,948,000	(0)
April	3,940,000	(0)	October	5,429,000	(0)
May	4,442,000	(0)	November	4,442,000	(1,121,400)
June	4,935,000	(0)	December	3,455,000	(0)

The above monthly allocations equal 1,121,400 gallons annually.

The method of allocation and adjustment to the allocation program shall be determined in accordance with Sections 211.10 and 211.13, respectively.

This order is effective upon issuance, pursuant to Section 205.10, and supplier will allocate above-noted volumes unless and until this order is stayed, modified, suspended, or revoked by this office.

Any party aggrieved by this order may file an appeal with this office in accordance with the provisions of Part 205, Subpart H, within thirty days of service of this order.

Remarks.—Champlin Petroleum Co., is obligated to supply only those gallons indicated in parentheses (November) for a total of 2.27% of the total annual gallons.

This cancels and supersedes letter dated February 5, 1974.

JAMES R. NEWMAN,
Regional Administrator.

OFFICE OF OPERATIONS AND COMPLIANCE,
FEDERAL ENERGY REGIONAL OFFICE,
Kansas City, Mo., July 12, 1974.

(Case No. 07–001931–G)

Subject: *Adjustment of Base Period Supply Volume (1972)* in accordance with Mandatory Petroleum Products Allocation Program
Supplier: Tauber Oil Co., 1610 Melrose Building, Houston, Tex.

This order is issued pursuant to, and under statutory authority cited in, 10 CFR Chapter II, Parts 205, 210, 211 and 212 (39 FR 1925 *et seq.*). Petitioner's request for adjustment of base period supply volume (1972) is granted pursuant to Section 205.24 and 205.25, on the grounds that the Federal Energy Administration hereby adjusts petitioner's base period volume in accordance with Section 211.13(c)(4).

This order constitutes adjustment of base period supply volume (1972) to petitioner for the duration of the Mandatory Petroleum Products Allocation Program. Supplier will allocate the above-noted petroleum product to petitioner in the following volumes:

[In gallons]

January	2,961,000	(0)	July	3,948,000	(0)
February	3,454,000	(0)	August	4,442,000	(0)
March	3,948,000	(0)	September	3,948,000	(0)
April	3,940,000	(1,121,400)	October	5,429,000	(0)
May	4,442,000	(0)	November	4,442,000	(0)
June	4,935,000	(0)	December	3,455,000	(1,569,960)

The above monthly allocations equal 2,691,360 gallons annually.

The method of allocation and adjustment to the allocation program shall be determined in accordance with Sections 211.10 and 211.13, respectively.

This order is effective upon issuance, pursuant to Section 205.10, and supplier will allocate above-noted volumes unless and until this order is stayed, modified, suspended, or revoked by this office.

Any party aggrieved by this order may file an appeal with this office in accordance with the provisions of Part 205, Subpart H, within thirty days of service of this order.

Remarks.—Tauber Oil Co., is obligated to supply only those gallons indicated in parentheses (April & Dec) for a total of 5.45% of the total annual gallons.

JAMES R. NEWMAN,
Regional Administrator.

This cancels and supersedes letter dated February 5, 1974.

Senator DOLE. In addition, I would like the letter I addressed to Mr. Sawhill on July 8, 1974, be made a part of the record.

Senator ALLEN. Without objection, so ordered.

[The above-mentioned letter follows:]

July 8, 1974.

Hon. JOHN SAWHILL,
Administrator,
Federal Energy Administration,
Washington, D.C.

DEAR MR. SAWHILL: Retail members of the propane industry have advised me that unusually high wholesale prices for propane have not been resolved

in spite of actions by the Federal Energy Administration and that home-owners and rural consumers may have supply problems in the coming fall and winter months.

It is my understanding that the average wholesale price for propane continues to be more than 250 percent higher than it was in the base period. Since the prices of gasoline, diesel and other fuels have not increased this much, it appears that refiners are continuing to charge disproportionately high prices for propane. The conclusion reached by myself and members of the trade is that regulations by FEA requiring the allocation of increased oil and refining costs in direct proportion to the quantity of each refined product have failed.

Members of the trade advise me that wholesale prices have been rising steadily for the past two months. This situation has not attracted a great deal of attention because of the normal low summer demand. However, a continuation of the trend is likely to result in the recurrence of extremely high heating bills for homeowners and rural residents in Kansas and other midwestern states this winter.

It has been suggested that the best way to resolve the pricing problem is to deregulate petroleum products. A return to a market regulated by supply and demand is expected to prevent further discrimination against propane consumers. Your comments on this suggestion and information on any action the Federal Energy Administration is taking to resolve the disproportionate pricing on propane would be much appreciated.

Also of great concern to me are reports that propane refiners are preparing to move away from supplying dealers and to ship longer quantities to industrial, petrochemical and synthetic natural gas users. This would leave homeowners, agriculture and other small volume consumers without a supply of fuel. At the same time, FEA is considering phasing out the propane allocation program.

Last winter, the allocation program, with its inherent weaknesses, helped insure an adequate supply of propane to farmers and homeowners in Kansas and other states. A sudden disruption of the propane supply to these consumers brought on by ending the allocation program could be financially disastrous. If an end to the allocation program is being planned, specific measures to prevent dislocations should be implemented and I would like to be kept advised of these efforts. A report on your expectations for the propane supply outlook and your efforts to insure a continuation of an adequate supply to small volume users would be greatly appreciated.

It is widely felt among propane dealers that the government has damaged the image of the industry by permitting disproportionately high wholesale prices to be charged. There is now concern that the government will undermine the economic future of the industry by ending the supply protection of propane dealers. I strongly urge that the FEA do everything possible to resolve further doubts about these matters and would like to be kept advised of your efforts.

Sincerely yours,

BOB DOLE.
U.S. Senate.

Senator DOLE. I assume there is some long-range planning beyond next February 28. Do you believe it is essential that we continue the FEA beyond that date?

Mr. SAWHILL. I think we should. I think we need some kind of stand-by authority so that when shortages develop, we can alleviate them. I don't know that we need the total allocation program that we have now.

We can do away with some of the burdensome regulations we now have. I think the FEA should be continued as the focal point for developing energy policies in this country.

Senator DOLE. It would shift from allocation to policy, which I think would be helpful, but the allocation problems are now easier than they were 6 months ago.

Mr. SAWHILL. Yes, definitely.

Senator DOLE. I only have one other question. I have another case concerning industries, again with reference to the refinery and pass

through. I will hand you that letter with an explanation from Charles Koch, president of Koch Industries. Hopefully, they can meet with you sometime?

Mr. SAWHILL. Yes, we would be glad to.

Senator DOLE. Thank you, Mr. Chairman.

Senator ALLEN. Mr. Sawhill, I have one other question. Working toward the deregulation by February 28, the possibility of that, I assume if we had another embargo put on us by the Mideast nations, that would cause a reassessment of positions, would it not?

Mr. SAWHILL. Yes. If we had another embargo imposed on us, we would have to go back to the very complex type of allocations that we had last winter.

Senator ALLEN. We hope that doesn't happen. We hope some price reduction can be agreed upon with those sheiks.

Mr. SAWHILL. I hope so.

Senator ALLEN. Thank you, very much, sir.

Mr. SAWHILL. Thank you, sir.

Senator ALLEN. I will insert in the record the statement of the National Canners Association on the cotton industry's need for improved natural gas priorities.

[The statement follows:]

STATEMENT OF LEONARD K. LOBRED, DIRECTOR, INDUSTRY AND TRADE REGULATIONS, NATIONAL CANNERS ASSOCIATION

THE USE OF NATURAL GAS IN THE CANNING INDUSTRY

Natural gas is the number one energy source for generating steam with which to heat-sterilize canned foods, including fruits, vegetables, juices, poultry, meat, fish, shellfish, soups, baby foods, and many formulated food products and food specialties. Canning converts perishable foods into non-perishable form.

Natural gas consumed in canning during 1971 was reported in the 1972 Census of Manufacturers at 38.6 bcf, only 6/10 of 1 percent of the natural gas sales to all industries. The food and kindred products industry purchased 478.5 bcf, only 7.4 percent of the 6,454.4 bcf sold to all industries last year.

Canners across the country and all consumers of canned foods benefit from the canning industry's utilization of this low-cost and efficient energy source. In 1971, natural gas accounted for 23 percent of the canning industry's dollar expenditures for energy and 30 percent of the industry's energy as measured in Btus. Among four fuels suitable for generating steam for thermal processing, natural gas accounted for almost two-thirds of the canning industry's energy on a Btu basis but only 57 percent of the industry cost for the four fuels.

SEASONALITY

Natural gas is utilized by canners throughout the year, but its peak utilization is during the harvest of seasonal canning crops from June 1 through mid-October. In an energy study under contract for the Federal Energy Administration, Development Planning & Research Associates, Inc., of Manhattan, Kansas, has reported that the fruit and vegetable canning industry consumes 65 percent of its total annual energy, on a weighted basis, during the third calendar quarter. As the canning season is coincident with the nonheating season, the use of natural gas in canning should not interfere with the Federal Power Commission's number one priority, assuring natural gas for residential and small commercial customers.

ESSENTIALITY

Natural gas has uses in food processing for which there are no feasible alternatives, specifically in peeling pimientos and peppers.

Natural gas also is essential to can manufacturers in soldering side-seams.

NATIONWIDE USE

Natural gas is used by canners in all geographic areas. Development Planning & Research Associates, Inc., reported to the FEA that natural gas is the number one energy source for canners in all geographic regions except New England, where residential fuel is predominant.

BENEFICIAL TO CONSUMERS

Because of its relatively lower cost, in relation to fuel oil, the use of natural gas in food canning is beneficial to the nation's consumers. According to the BLS, the price of No. 2 fuel oil has increased some 60 percent during the last year while the price of natural gas has risen less than 10 percent. Where canners have been curtailed on natural gas, they have had no choice but to shift to fuel oil, and therefore to increase their production costs. An assured supply of natural gas in food production and processing should help to hold the line on food prices.

As a result of natural gas curtailments since 1971, natural gas consumption by the canning industry probably has declined slightly below the volumes reported in the 1972 Census of Manufacturers, and utilization of other fuels—at higher cost—has increased accordingly. A number of canners have been informed of curtailments to take effect in the near future, and they likewise will be obliged to shift to more expensive energy sources, and thus to have higher production costs.

QUANTITY AND COST OF PURCHASED FUELS USED BY ALL INDUSTRIES, FOOD AND KINDRED PRODUCTS, AND CANNING INDUSTRY, 197

	Quantity (billion cubic feet)	Cost (million dollars)
All industries, total	6,454.4	2,559.9
Group 20, food and kindred products	478.5	220.9
Groups, 2031, 2032, 2033, canning	38.6	19.1

Source: "Fuels and Electric Energy Consumed," 1972 Census of Manufactures (MC72(SR)-6). These tables combine data which are reported separately for SIC Group 2031, Canned and Cured Seafoods; SIC Group 2032, Canned Specialties; and SIC Group 2033, Canned Fruits and Vegetables.

QUANTITY AND COST OF PURCHASED FUELS USED FOR HEAT AND POWER BY THE CANNING INDUSTRY, 1971

Quantity	Million dollars	Million BTU's	Percent of total BTU's	Cost per thousand BTU's
21.1 billion kilowatt-hours equivalent	40.5	72,014.3	54.18	$0.562
1,481,300 barrels of distillates	6.7	8,628.6	6.49	0.776
1,070,900 barrels of residual fuels	4.6	6,732.7	5.06	0.683
217,700 short tons of coal	2.9	5,704.0	4.29	0.508
38.6 billion cubic feet natural gas	19.1	39,835.2	29.98	0.479
Other (gasoline, LPG, wood, purchased steam)	2.1	(1)	(1)	(1)
Not specified	6.0	(1)	(1)	(1)
Total	81.9	132,914.8	100.00	

1 Not available.

Source: "Fuels and Electric Energy Consumed," 1972 Census of Manufactures (MC72(SR)-6). These tables combine data which are reported separately for SIC Group 2031, Canned and Cured Seafoods; SIC Group 2032, Canned Specialties; and SIC Group 2033, Canned Fruits and Vegetables.

QUANTITY AND COST TO THE CANNING INDUSTRY OF FOUR FUELS SUITABLE FOR GENERATING STEAM FOR THERMAL PROCESSING, 1971

Quantity	Million dollars	Million Btu's	Percent of total Btu's	Percent of total cost
1,481,000 barrels of distillates	6.7	8,628.6	14.17	20.12
1,070,900 barrels of residual fuels	4.6	6,732.7	11.05	13.81
217,700 short tons of coal	2.9	5,704.0	9.37	8.71
38.6 billion cubic feet natural gas	19.1	39,835.2	65.41	57.36
Total	33.3	60,900.5	100.00	100.00

Source: "Fuels and Electric Energy Consumed," 1972 Census of Manufactures (MC72(SR)-6). These tables combine data which are reported separately for SIC Group 2031, Canned and cured Seafoods; SIC Group 2032, Canned Specialties; and SIC Group 2033, Canned Fruits and Vegetables.

Senator ALLEN. Our next witnesses are Mr. Jim Buck Ross of the Department of Agriculture of the State of Mississippi and Mr. S. Mason Carbaugh, commissioner of agriculture of the State of Virginia.

You gentlemen are each going to give a statement and then answer questions posed to you singularly or jointly, is that correct?

Mr. Ross. Yes, sir.

Senator ALLEN. You gentlemen may proceed in any manner you choose.

We have Mr. Tom Abernethy in the chamber. He is one of the ablest Members ever to serve in the Congress. We are delighted to have him here today as a potential witness or as an adviser. You certainly are welcome.

Mr. ABERNETHY. Thank you, Senator.

STATEMENT OF S. MASON CARBAUGH, COMMISSIONER, VIRGINIA DEPARTMENT OF AGRICULTURE, RICHMOND, VA., AND SECRETARY-TREASURER, NATIONAL ASSOCIATION OF STATE DEPARTMENTS OF AGRICULTURE

Mr. CARBAUGH. Mr. Chairman and members of the committee, my name is S. Mason Carbaugh. I am commissioner of agriculture and commerce of the Commonwealth of Virginia.

I am pleased to appear before this committee to discuss some of the economic problems facing agriculture as a result of the growing scarcities and rising costs of nonfarm agricultural inputs.

This statement is submitted on behalf of the National Association of State Departments of Agriculture (NASDA) of which I have the privilege of serving as secretary-treasurer. NASDA represents all 50 States, plus Puerto Rico, Guam, American Samoa, and the Virgin Islands.

Although it is virtually impossible to provide specific data concerning the outlook for agricultural inputs in 1975, I would like to review the present situation briefly; point out what may happen during the forthcoming year; and offer some comments concerning possible solutions.

My discussion this morning will be limited to a coverage of several of the more important agricultural inputs, including fertilizer, fuels, agricultural chemicals, feedstuffs, and miscellaneous production of supplies, which I will discuss in the order listed.

FERTILIZER

With the U.S. agriculture being encouraged by the administration to increase production to the maximum in order to meet growing domestic and export demands, fertilizer must be considered the most critical nonland agricultural input.

As heavy demands were placed on available fertilizer supplies during fiscal 1974, the situation with respect to 1975 deserves critical review. Producers are finishing this year's production with record low stocks, and their demands will be even greater during the forthcoming year. From all information currently available, it appears that the future U.S. demand for fertilizers is larger than our industry—as it exists today—can supply.

However, it is generally considered likely that some relief will be available from increased imports and decreased exports. Already there are indications that U.S. producers are importing more while exporting less nitrogen fertilizer than had been anticipated earlier.

But even if this change in exports and imports continues and our best hopes for domestic production increases are realized, the situation for 1975 is expected to be one of shortages even more critical than in the past year.

Prices seem to be continuing to increase nationally as well as in Virginia. A general increase of approximately 25 percent in retail prices became effective in Virginia July 1, bringing the average increase in retail prices of mixed fertilizers to approximately 90 percent over the past 12 months.

As the world price of ammonia is approximately $300 per ton, it would appear that farmers can still buy U.S. produced fertilizer considerably below the world price. I do feel, however, that Government should keep a close watch on prices to prevent gouging.

I believe that Government could best serve to alleviate the current shortages by creating a climate which will encourage industry to expand to meet the future demand. Every effort should be made to use supplies available to the greatest advantage. I also encourage all States to submit monthly tonnage reports to USDA in order to keep Government and industry better informed. Currently, only 15 States are making such reports.

FUELS

The fuel supply situation became critical in some areas of the country for a short time during the summer and late fall of 1973 and early spring of 1974. Machinery was idled, and farmers were unable to carry on essential activities in an orderly and timely manner.

Fortunately, Federal authorities soon recognized the critical need to maintain agricultural production at a very high level to satisfy domestic needs and continue exports in order to bolster the U.S. balance of payments. Agricultural production was therefore given a top priority in the fuel allocation program, and producers were provided with 100 percent of their needs of propane and petroleum products.

While the supply situation has improved somewhat over the past few months, there is a continuing need to maintain agricultural production in a top priority position on any allocation fuel supply.

There is also a need to consider such assurance on non-allocated substances such as natural gas.

Suppliers of agricultural inputs such as fertilizer or packing materials, whose production largely depends on natural gas or petrochemicals, should be assured of adequate supplies to meet agricultural needs.

AGRICULTURAL CHEMICALS

Pesticides have been no exception to the raw material shortages, particularly with respect to the many agricultural chemicals requiring petrochemical derivatives. As a result, some manufacturers have discontinued certain formulations in favor of soluble powders, and others have restricted the choice of product form. These developments have required farmers to seek alternate methods of application, and created a greater demand on equipment also in short supply.

Severe pesticide shortages were experienced this year in some areas; however, the supply has been generally adequate. The additional acreage planted this year has created greater demand, and some acute shortages could still develop in the event of severe pest outbreaks. Most basic producers of agricultural chemicals have allocated formulators and dealers from 50 to 80 percent of 1973 purchases.

Low inventories at the end of this season, along with an almost certain increase in demand for 1975, will perpetuate the overall shortages for at least the 1975 use season. There are already indications that carbaryl (sevin)—one of the most widely used pesticides—will be in short supply, and formulators have been notified that allocations for 1975 are in the offing.

All indications point toward higher prices. Some raw materials costs have increased substantially—from 7 to 8 cents to as much as 30 cents per pound. In addition, the inflationary trend has increased costs for expanding facilities by approximately 30 percent.

This overall situation highlights the need to have substitute chemicals available which should not be removed except for very compelling reasons. For example, the banning of DDT for most pest control uses has increased the demand and need for carbaryl and parathion as replacements.

Efforts should also be made to allocate raw materials needed for agricultural chemicals to insure adequate supplies, and farmers should be encouraged to use pesticides most judiciously. Close cooperation between Government and industry will be required in order for farmers to continue optimum production of food and fiber.

FARM EQUIPMENT

I understand that the availability of tractors and combines has reached the point where these items are virtually unobtainable at any price. Very few tractors are being received from the manufacturers by most dealers, and deliveries are averaging 6 months or more.

The supply of combines is practically nil, and although manufacturers are still taking orders, there is no guarantee on deliveries. As this situation has naturally increased the demand for parts to repair existing equipment, many parts are also becoming scarce.

However, present indications are that these shortages will probably level off by the end of this year, as the problem has resulted mainly from the lack of small component parts necessary for completion. When these parts do become available, it is feared the situation could quite possibly itself to create an oversupply.

It is believed that future situations of this type could be averted by not waiting until matters become critical to take action. Also, improved communications between manufacturers, dealers, and consumers are needed to provide a better understanding and acceptance of the problem.

FEEDSTUFFS

The current feed grain and ingredient supply and demand situation is literally without precedent, and therefore any forecast is extremely difficult to develop. However, with the exception of phosphate, urea, and some drugs and vitamins, most predictions indicate that there will be a sufficient supply of feed grains and ingredients for the industry this year.

Although it appears that the export market has been less aggressive, the feed price outlook has clouded the domestic demand picture, despite efforts of the feed industry to keep feed prices low in relation to increases in grain prices. Prospects for the coming year are very uncertain; however, if weather conditions improve and export demand declines, a more plentiful supply of feedstuffs can be expected at lower prices.

MISCELLANEOUS PRODUCTION SUPPLIES

I will not attempt to enumerate the situation on the many production items that farmers (and many other consumers) use, but will cover some of the more critical items including seeds, rope and twine, and fence and steel products.

The supply of grasses and small grains, with the exception of winter oats and rye, is expected to be adequate and prices should be lower this fall. Shortages will cause oats and rye to be more costly, and the same situation applies to legumes.

Rope and twine prices are expected to continue to climb due to the tight world market situation and the inability of domestic mills to produce plastic twine. Fence and steel products are continuing to increase in price, and demand is much greater than supply.

In conclusion, I would like to point out that there are many other economic factors affecting agriculture that could be discussed, but I hope that the facts I have presented concerning the agricultural input situation will provide a good insight into some of the critical problems now confronting agriculture.

Although agriculture has become one of our Nation's largest industries, it cannot remain healthy if the present trends are allowed to continue. The modest profits farmers have realized recently are being severely eroded by the inflationary costs of production supplies, and we must remember that while farm prices go up and down, the prices of production items usually go up and up.

Every effort should be made to create a better balance between the supply and demand sectors of our agricultural economy, and I

believe that this can be accomplished by closer coordination between Government and industry.

The contents of this statement are derived from a compilation of information reaching my office, but based on my discussions with other commissioners, I believe that it represents the situation in their States fairly accurately.

Mr. Chairman, that concludes my statement.

Senator ALLEN. Thank you, Mr. Carbaugh. We appreciate your very fine statement and your coming before the subcommittee to give us the benefit of your advice aid to point out some of the problems you are encountering and your people are encountering and offering your valuable suggestions to the subcommittee.

Mr. Ross, you may proceed.

STATEMENT OF JIM BUCK ROSS, COMMISSIONER, MISSISSIPPI DEPARTMENT OF AGRICULTURE AND COMMERCE, JACKSON, MISS., AND CHAIRMAN, ENERGY AD HOC COMMITTEE, NATIONAL ASSOCIATION OF STATE DEPARTMENTS OF AGRICULTURE

Mr. Ross. It is an honor to appear before you distinguished gentlemen.

I am the commissioner of agriculture and commerce of the State of Mississippi. I come wearing two hats today. We are chairmen of the energy committee of the National Association of Departments of Agriculture and a member of the transportation committee of the National Association of Departments of Agriculture and chairman of a subcommittee on railroads.

On June 1, 1974, at the end of a fiscal accounting period for one of our larger egg producers in Mississippi, I lifted the below figures intact from their report to the officers of the firm. The figures represent the percentage increase in cost from May 31, 1974, to June 1, 1974, and are, of course, exclusive of feed costs.

	Percentage increase
Production:	
Building and equipment	35
Fuel cost	60
Chick cost	20
Replacement pullets	15
Producer payment	18
Salaries	9
Interest	12
Trucks and car expense	25
Depreciation	15
Processing:	
Egg cartons	23
Egg cases	56
Labor	16
Utilities	53
Interest	20
Can cost	46
Marketing and distribution:	
Salaries	20
Interest on accounts receivable	38
Truck expense	47

These figures are indicative of what is happening to virtually all of agriculture, and I stress these figures do not represent the feed costs.

This same firm has a midsize broiler operation which statistically has a cost of production factor that is the envy of many others in its field. A very detailed cost comparison on the projected increased cost for the broiler operation for its new fiscal year, beginning June 1, 1974, and ending May 31, was made for presentation to this firm's management group.

	Additional cost	Percentage of increase
Farmer producer pay	$700,000	40
Transportation cost	445,000	30
Maintenance and repair parts	143,000	45
Power for plant	148,000	90
Labor	750,000	25
Interest	120,000	50
Packaging cost	325,000	25
	2,631,000	

I believe Alabama is the third largest broiler producing, Georgia, first; Arkansas, second; Alabama, third, and we are fifth. Gentlemen, I won't go through the figures, but it will cost this Company another $2,631,000 to operate this program as compared with the year that ended on May 31.

What we are looking at here is that we are going to fight inflation with increased production. In 1948 in the Truman administration—the farmer made a decent profit. In 1972 and 1973, he made a fairly decent profit. But now his production costs have far exceeded what his selling price is in everything except cotton and soybeans.

The soybean production farmer represents one of the bright spots in Mississippi agriculture. While I may specifically indicate Mississippi, I am certain the same generally applies to all of the delta States. Soybeans today are approaching $7 per bushel.

In the Mississippi delta, the production cost, notwithstanding the prices on some purchased inputs, will probably not exceed $3.75 per bushel. They are planting soybeans down there now. Propane will come in in drying out crops. I have written every commissioner of agriculture in the corn and soybean producing States.

I don't know what our corn crops are going to be. It doesn't look good. I don't think our soybean crop looks good. You can not feed $4 corn to 33 cent chickens. You cannot feed $4 corn in feedlots. It is just not compatible.

In the hills, the soybean cost will probably not exceed $4 per bushel, and these costs reflect a modest return for land rent and management. On the other hand, cotton production cost, in relation to the current market, is a matter of great concern.

On the basis of projected costs made the last week of May, it would not be out of line to assume that the cost of production of delta cotton will exceed 41 cents per pound, and that of hill cotton 51 cents per pound because we have to put out more fertilizer.

The fortunate few who locked in their crop with forward contracting at prices of 60 cents per pound or more will probably show a livable profit; but forward contracting was not as widespread for this crop as it was for the preceding crop (36 percent against

82 percent) and most farmers are producing a crop to sell at harvest with the current forward contracting price already under the cost of production in the hills and with practically no profit left for the delta producer.

A cottonpicker sold last year for $22,000. That same cottonpicker—if you can get it—now costs $33,000. We talk about production. I think the whole thing is that this inflation—not only in America, but worldwide—is the whole problem.

Production is fine if you can produce at a profit. However, production here is tied in with environment. If we can get the environmental people to relax some, we can start to build new fertilizer plants and mine coal. We can move there.

However, when you have to put one third more into the building of a plant because of environmental protection, and with pollution in automobiles, it looks to me it would be simpler to not add inflation. Perhaps that is cotton-patch economics.

Senator ALLEN. It makes sense to me.

Senator DOLE. Are many people suffering from auto pollution in your State? We haven't in my State.

Mr. Ross. Less people were turned down for the Army in my State. We have clear streams, clean air.

We have to have a profit. Profit is not a dirty word. Thousands of cotton farmers sat down with their lending agencies last winter and together made a crop plan using all the considerable skills and expertise and professionalism each possessed. They borrowed a given sum of money to make this year's crop—but—by the time the crop was planted, they had to return to the lending agency for more funds because the purchased inputs had so skyrocketed they could not buy the chemicals, fuel, and so forth, to see the crop through to harvest.

We are getting a nervous production credit. We are getting a nervous credit. I think of toxaphene, one of our principal insecticides, which last year was $2.50 per gallon and this year the farmers have paid $3.50. I think of things like MSMA, an essential herbicide, at $3.20 per gallon lat year and $7.50 per gallon this year.

But these are known factors. What will our cost be on things like treflan which this year was approximately the same base as last year? However, we could not get it and there were thousands who paid not $20 or $22 a gallon, but $35 and $40 per gallon. They were buying on the grey market, as the need for this item was over in one locality and what remained was brought up and transported to another area. The manufacturer indicated certain ingredients were unavailable and seemingly tried to do what they could.

The higher costs on pre and post emergence chemicals are difficult to bear. Yet the fact they were simply not available in many localities when needed caused countless crops to be planted with no herbicides or severely reduced herbicide programs. Our nitrogen plants that are currently on stream run at capacity, but the real urgency of the situation is to provide natural gas for new plants.

Let me deviate and let me read this statement: The supply of propane gas is considered adequate to serve agricultural customers, however, it is in no way sufficient to take care of large new users.

If constraints are not rigidly maintained on such large new users, the traditional customer who has no alternative will be victimized.

Senator DOLE. In this area, Mr. Chairman, we have raised the question of Mr. Sawhill. It might be helpful for this committee to direct a letter to Mr. Sawhill urging some classification in restraints. Otherwise, people in rural America are going to end up paying an inflated bill.

Senator ALLEN. We asked Mr. Sawhill to make a report to the committee in this regard on a monthly basis.

Mr. Ross. The new fertilizer year beginning July 15, 1974, shows increases of $38 to $60 per ton on mixed fertilizers as openers. The Fertilizer Institute tells us production may be up as much as 6 percent to 8 percent in 1975, but if these maximum projections are realized, the American farmer will still be unable to maximize his production. The Fertilizer Institute also tells us there is no known insulation that will effectively protect the American farmer from world prices for a world commodity such as phosphate rock, ammonia, and other prime ingredients.

Yet I submit that if foreign policy or any other consideration dictates heavy exports of fertilizer, it will immediately adversely affect every citizen of this Nation, to say nothing of the catastrophic effect on the producing farmer, no matter where he resides or the crop he produces.

Steel products, such as barbed wire, field fence, hay baling wire, poultry wire, galvanized steel roofing, fence post, nails, staples, and all types of livestock equipment are on allocation. Heavy duty barbed wire, hay baling wire, and poultry wire, for all practical purposes, are not available in Mississippi today at any price.

In the days of price controls, apparently the domestic mills cut production of those items drastically. Some mills even discontinued making barged wire and farm roofing. Since price controls were discontinued, these steel items have increased in price almost monthly, with many of them showing a 100 percent since April of 1973.

Heavy duty 12½ gauge barbed wire, 1 year ago, was costing the farmer $16 to $18 per roll; today it is $36 to $40 per roll, with very little being available. The ordinary 5½ foot galvanized steel fence post which sold for around 90 cents in 1972 brings $2.50 today or more when and if they can be found.

Common nails which were 16 cents per pound are now 42 cents per pound, again, if and where you can find them. Baler twine of an acceptable grade was $9 and this year most of our farmers paid $28 for the earlier purchases and $35 for the midsummer purchases. Buyer resistance is also showing up in this area, especially from the cattleman.

No matter how resourceful the substitution, how careful the planning, or adroid his marketing skills may be, the American farmer cannot be asked to risk his all, everything he has worked for in a lifetime, on the outcome of a single crop on which, if all went exceedingly well, he could hope to realize a modest profit. No matter how resourceful the substitution, I respectfully submit it would be utter madness to presuppose that he should or would for long accept such benefits to risk ratio.

In years gone by if we made a failure, we tightened our belts and lived at home. Today this input cost is so great you are talking about walking away a bankrupt man on 1 year's production.

Now you say, do you have any proposition? There are two bright spots, cotton and soybeans. On anything that is fed, I don't know. I would like to give you something to consider in your thinking because this consumer has a part in this.

The American housewife is the jury; the agricultural picture is the pipeline. She has to buy a product at what she considers to be worth her money.

Because of the inability of the U.S. livestock feeding industry, including poultry, to sell its products for prices which would cover its costs, many of its producers have depleted their capital resources and are near the threshold of bankruptcy. I am telling you what the Lord loves, that is the truth. You know that.

Since the health and welfare of the people in this Nation are dependent upon a good balanced diet, a part of it should come from animal protein. The economic welfare of the grain producers of our Nation depends in part on its production for livestock feed. It is urgent that responsible groups should immediately determine the present economic situation of the livestock feeding industry for the purpose of assuring its continued existence.

If we make a poor crop this year of corn and soybeans and the price escalates, and the price of broilers and beef don't go up, I don't know what will happen. It looks bad.

If this group—and I talk about you distinguished gentlemen—should determine that the livestock feeding industry is truly on that threshold of disaster and probably extinction, and if you make further study in search of a remedy for this situation, there are possibilities.

One approach that seems realistic would be the establishment by the proper governmental agency of some reasonable relationship between the price of meat and the price of grain, and some program that would maintain this relationship within such bounds as to prevent catatrosphic losses—not guarantee of profit—such as the target levels in row crops.

As I suggested above, there may be better solutions to this problem. But in my humble judgment, unless we find some solution, the livestock feeding industry and, then later, the grain producing industry are doomed between now and a crop in the fall of 1975, if not complete destruction.

I am sorry that I present a picture of gloom. There is one other suggestion, sir. That is this: I think inflation is brought about by an over abundance of money and credit competing for the available foods and services, which causes a reaction in the marketplace.

I ask you gentlemen to put the American Government on a pay-as-you-go basis. Let's not spend any more than we take in.

Senator ALLEN. That is a very good suggestion.

Mr. Ross. Let's limit the cost of input. I don't believe we can limit it because we are locked in inflation. What the American farmer has to buy as input is industrial production. What he sells can come down, and it has.

However, we are looking from an inflationary standpoint at the results of the fertilizer factory and the cottonpicker factory. That is all going up. We have to stop this inflation so we can get this matter on a balance.

You gentlemen are far smarter than I am. However, if you can limit the supply of money by limiting the Federal Government to a pay-as-you-go operation, there is enough money in a $290 billion budget for everything we need.

Senator DOLE. It is a $305 billion budget.

Senator ALLEN. He is talking about cutting down to $290 billion.

Mr. Ross. I am saying you cannot take out more from the cash register than you put in without going broke. If we can do that, I think there is enough there. I do not believe there is enough tax income to keep giving to foreign governments which will turn their backs on us everytime we need help.

Senator DOLE. You would be a good candidate.

Mr. Ross. The only candidate I know is—let me tell you one other thing. If we can keep a profit element in agriculture, the American farmer will develop rural America more than your sending somebody down their with a sack full of money, telling you how to do it.

We will have a better economy. We will build better churches. All we need is an atmosphere where we can make mony.

That is all. Thank you.

Senator ALLEN. Thank you, very much, Mr. Ross and Mr. Carbaugh. You have certainly made a fine contribution to the committee's study of this problem. I feel we also ought to arrange for your appearance before the Senate Finance Committee and the Appropriations Committees. I think some of this cotton-patch philosophy you referred to is needed here in Washington. I believe your practical approach to this problem is a lot better than some of the theories we hear expressed.

We commend you for these comments. Come on in on the minority side of that philosophy. Senator Dole and I subscribe to that philosophy which you have enunciated in the minority. We need your help in working—not with your Mississippi Senators or the Virginia Senators, but some of the other Senators need a little of that philosophy spelled out to them. We appreciate your comments.

Mr. CARBAUGH. We appreciate the opportunity to appear before you.

Senator ALLEN. We appreciate your fine organization, your National Association of Departments of Agriculture. You have done a great job in working with this committee and the Congress and the Department of Agriculture and the FEA. You have certainly done a good job of presenting the farm economy and the people of your States.

I certainly agree with your thought that despite the statement by low-placed officials that the farmer never had it so good, we don't agree with that. We know that you are squeezed between the declining cost of the farm product and the ever rising cost of the supplies that are necessary for the farmer to purchase. We recognize that.

Mr. CARBAUGH. It has certainly turned around quite rapidly in the last 6 months.

Senator ALLEN. I have two or three questions I would like to propound. Do you have any comment on the manner in which the fertilizer supplies were made available or allocated among farmers this past year? Do you feel it was handled in a proper fashion? Do you have any suggestions you would like to make?

I feel sure Mr. Sawhill will get a copy of these hearings. If you have any inputs there, we would appreciate hearing from you.

Senator DOLE. Mr. Chairman, except in reference to the fertilizer, they are not under the allocation program.

Mr. CARBAUGH. I would like to answer this way: I would like to get more input from the States to more fully answer your question. However, as relates to Virginia and the surrounding States, while there were some spot shortages in certain cases, I think the supplies were generally adequate to meet the needs of the farmers, distributors, and dealers seemed to work it out satisfactorily.

Senator ALLEN. The FEA has done a creditable job in the area of allocations and making the supply that is available go as far as possible.

Mr. CARBAUGH. In my view, they have approached it on a fairly sound basis.

Senator ALLEN. Do you have any recommendations to make to the Agency for possible improvements in their policies and regulations in this regard?

Mr. ROSS. No, sir. I would find them very helpful. If they have found a shortage, they have come through and worked it our, Senator.

Senator ALLEN. If problems arise in your States among your farmers, I am sure you would feel free to communicate with the committee to make those problems known and see if we could help through our oversight powers and responsibility.

Mr. CARBAUGH. What I would propose we might do as a followup is to survey of States for specifics. I think that would be more helpful to you.

Senator ALLEN. We would like to hear from you. Are your State departments setting up any monitoring system on agricultural farm input supplies? What are you doing on the local level on this?

Mr. ROSS. Senator, we have a network of farm supply businesses. At just almost the press of a button, we can get a reading from these input costs. It is most accurate.

Mr. CARBAUGH. As it relates to fertilizers, I mentioned there was a need for more information than we had. Only 15 States collect specific fertilizer tonnage figures. We are trying to get the other States to do the same thing so we will have it better handled on sales.

That does not give us much on the demand side, but it does give us a picture on the use side. I think that is one way to accomplish this objective. We will be pursuing that. That is usually done on an individual State basis. That is the reason we don't have more than 15 States.

I understand that Texas, for example, is conducting a survey on agricultural inputs. I think it is a rather good idea. I don't know to

what extent it would have application in, say, Virginia, or in other States. However, there is some of this type of activity going on in the country.

Senator ALLEN. I think that is very good.

Mr. CARBAUGH. We would be glad to make a note of that and furnish this committee with that information.

Senator ALLEN. We would appreciate that. You heard Mr. Sawhill's comments about possible deregulation of oil and petroleum products. What is your view of the advisability of doing that?

Mr. CARBAUGH. I will let Commissioner Ross lead off.

Mr. Ross. I would approach it with a great deal of caution and some trepidation. Another thing that is of great concern to me at the present time in looking at it from an overall picture is that in some areas of the world, it looks like they will become the economic monetary center of the world, based on the production and sale of oil.

What is of great concern to me—and I mentioned it and you touched on it in questioning here—10 months ago we said we were going to become energy independent. Are we drilling more wells? Are we making any progress? Are we doing it? I don't believe we have moved a step further. We are not getting the conservation of energy.

Mr. CARBAUGH. I might add to that. The indication is more of agriculture is served by independent operators who do not control the raw materials. The word that comes to me is, if they were to completely deregulate, that the independents would have a more difficult time in getting the supplies to serve the agricultural needs of this country. I would certainly back up what Commissioner Ross said, that we would approach it with some trepidation.

Senator ALLEN. Thank you, very much.

Senator Dole?

Senator DOLE. I do not have any questions. I appreciate the statements of both of the witnesses. I thank you for your comments.

Senator ALLEN. Thank you, gentlemen.

Mr. Ross. Thank you, Senators.

[The following information was subsequently received for the record:]

Through inquiry by this office of all State Departments of Agriculture, we are able to provide Senator Allen with the following information:

All States are notified of the farm supply situation through the county ASCS system. These periodic reports are used quite extensively by our departments in determining trends.

Some States, however, have developed monitoring systems of their own to supplement the ASCS reports and to further determine the severity of local supply situations.

The California Department of Agriculture has made substantial inquiry of the manufacturers and suppliers of farm commodities. Of note are their studies on the availability of fuel, baling wire, tin plate for canning, fertilizers, tractor parts and tires, fence posts, railroad reefer cars, rodenticides, pesticides, animal feeds and refrigerated cargo space on ships. All of these situations are being reported to the State Office of Emergency Service.

The Oregon Department of Agriculture was directed by the Oregon legislature to monitor the agricultural supply situation and act as a clearinghouse for farmers needing certain scarce supplies. The department was funded by the legislature to make a detailed study of farm shortages. The voluntary reporting system established for this purpose utilizes county agents and the ASCS county officer to determine troubled areas.

In the State of Washington the Department of Agriculture works closely with commodity commissioners (14), holds quarterly meetings with State extension staff for area reports of shortages, and holds weekly reviews of ASCS reports that come in.

In most States the different division directors have the responsibility for recognizing apparent shortages and bringing them to the attention of the commissioner. These directors have broad authority in working closely with dairy, livestock, fruit and vegetable and producers of ornamental horticultural specialties.

Most States are in constant contact with the manufacturers and distribuors of farm supplies and their State and national trade association. Much that is done to alleviate local and State shortages is accomplished by "jawboning" with these companies directly.

Senator ALLEN. Mr. Straube and Mr. Greeno, we are delighted to have both of you here appearing before this committee. Will both of you make a statement?

STATEMENT OF H. L. STRAUBE, CORPORATE VICE PRESIDENT, STAUFFER CHEMICAL CO., WESTPORT, CONN., AND CHAIRMAN, COMMITTEE ON SHORTAGES, NATIONAL AGRICULTURAL CHEMICAL ASSOCIATION

Mr. STRAUBE. I believe I will make the statement. If we need any particular support, Mr. Greeno will respond.

I appreciate the opportunity to appear here. With me is Dan Greeno, who is the director of Energy Management for Stauffer Chemical Co.

My name is Hal L. Straube and I am the vice president and general manager of the Agricultural Chemical Division of the Stauffer Chemical Co. I am testifying today as chairman of the Ad Hoc Committee on Shortages of the National Agricultural Chemicals Association.

The National Agricultural Chemicals Association is the national trade association representing the agricultural pesticides chemicals industry. The 115 members of the association produce and formulate virtually all the agricultural pest control products used in this country.

With the number of farms declining in this country, and limitations on the amount of acres that can be devoted to the growing of crops, our country can only supply its food needs, as well as that needed to satisfy demands overseas, by the employment of scientific methods of agriculture. The use of crop protection products that our industry produces—herbicides, insecticides and fungicides are one of the essentials needed.

The importance of pesticides to agriculture production is well known. Dr. W. C. Shaw, an outstanding scientist in the U.S. Department of Agriculture, speaking before a University of California symposium said, "The use of pesticides has accounted for at least 20 percent of the increase in farm output since 1940."

Dr. Homer Fairchild, Industrial Liaison, Criteria and Evaluation Division, EPA, stated that agricultural experts reported that herbicides reduced cultivation by 50 percent on 160 million acres of agricultural lands in the United States.

Restating Dr. Fairchild's quotation in terms of fuel savings, this would mean a savings of 129.6 million gallons of gasoline, 94.4 mil-

lion gallons of diesel fuel or 169.6 million gallons of liquefied petroleum gas, depending upon the type of fuel used for cultivation.

Later, Dr. F. J. Mulhern, Administrator, Animal and Plant Health Inspection Service, USDA, in a statement before the House Committee on Agriculture in support of H.R. 7278, said:

> A chemical weed control was used as a standard farm practice in 1972 on more than 150 million acres, about 50 percent of our total harvested crop acreage.
>
> In 1959, 1962, and 1965, the acres treated with herbicides were 53 million, 71 million, and 120 million. This trend is expected to continue . . . The cost to American agriculture of weed control and losses caused by weeds approximates $5 billion each year.

Precipitated by the energy crisis and the difficulties that were becoming more and more apparent in the supply of critical raw materials, the National Agricultural Chemicals Association established in the latter part of 1973 an ad hoc committee to look into a possible shortage of pesticides and to take whatever steps would be needed to alleviate this situation. I was appointed chairman of this committee.

One of the first things we did was to conduct a spot survey of representative companies which manufacture and formulate pesticides used in the United States. It was made in January of this year. The questions asked, as well as the responses, have already been made available to this Senate Agricultural Committee.

Briefly, the survey showed concern in the ability to supply products for both the 1974 and 1975 season. Eighty percent of those surveyed did not expect to be able to satisfy the demands for their products for 1974 and an even greater concern was expressed for 1975 when marginal land, requiring high use of crop protection chemicals might have to be used food demands here and abroad.

It was heartening to learn through the survey that the industry had already begun to take steps to allocate their products, so that, hopefully, material would be available throughout the country to take care of expected demands. Eighty-one percent had already notified, or were planning to notify the trade of an allocation program for their products.

It is difficult to give specifics in summarizing the supply of pesticides for the 1974 season because of the large number and the diversity of our products. The season is not over and our products—in particular, insecticides and fungicides are still being used by the grower.

I believe, however, that we can make two generalizations. First, that overall for the 1974 season, supplies of agricultural chemicals can be described as tight with a few individual products in critical supply. Through the use of alternate products and barring any large scale insect or fungus infestation, however, the grower should be able to obtain enough material this year to protect his crops.

Second, the demand for our industry's products exceeded earlier estimates. There are several reasons for this. First, there was an increase in planted acres. The USDA reports over 40 million additional acres were brought into cultivation over the past 2 years.

Second, the general farm economy prompted growers to emphasize the use of agricultural chemicals in order to best protect their

crops and to maintain high yields. Third, there were instances of plant capacity limitations. Finally, shortages of raw materials contributed to an inability to satisfy full product demands.

Because of the concern expressed in our industry survey, our committee worked with many government agencies and obtained fine cooperation with this Senate Agricultural Committee, the USDA, and others.

Our objective of price decontrol, so that our industry could competitively bid for needed raw materials and cover these cost increases in our selling prices was obtained on April 1. Perhaps too late to do any real good for 1974, but certainly of help for 1975.

I feel it is important to bring out that although the use period for agricultural chemicals is relatively short, the necessary lead time for the manufacture of a raw material, the manufacture and the formulation of the pesticide product and the distribution to the grower requires a much longer period.

For example, manufacturing of herbicides for the 1974 season started just after the use season in May or June of 1973. We, therefore, had many months of production for 1974 requirements before being curtailed by raw material shortages. This will not be the case for 1975.

The products of our industry rely heavily on petroleum derivatives of one sort or another. A random sampling of 30 agricultural chemicals showed 14 of them required benzene in their manufacture, 23 involved natural gas derivatives, and all 30 involved petroleum derivatives of one sort or another.

Due to the importance of petroleum products, another objective of our committee was to revise Federal Energy Administration regulations to include agricultural chemicals in the definition of agricultural production and thus obtain a high priority for our products. This was accomplished. I believe this came through in the middle part of June.

Other changes in the allocation regulations to restructure subparts J and K will be helpful where they are applicable. The latest changes have, however, been so recent—July 9, 1974—that they have not been tested and the effectiveness of these regulations will be dependent on how they are administered by the FEA.

While some allocated products are used directly to manufacture pesticides, there is the additional problem, not solved by present FEA regulations, that many critical agricultural chemical intermediates and ingredients are at the end of a chain several times removed from the allocated petroleum productes.

Furthermore, many of these intermediates are manufactured by other processors who themselves buy the raw materials. The intermediate manufacturer may lack the allocation priority to obtain his raw materials or the capacity to satisfy all his customers.

In summary, we have a situation in which on one hand there is some control and authority directing feedstocks to refineries and petrochemical companies; and on the other hand, the intent expressed in the FEA regulations to insure agricultural production of its entire needs.

The problem is that there are many companies producing hundreds of critical raw materials between the petrochemical companies

and the producers of pesticides on which there is no direction or control.

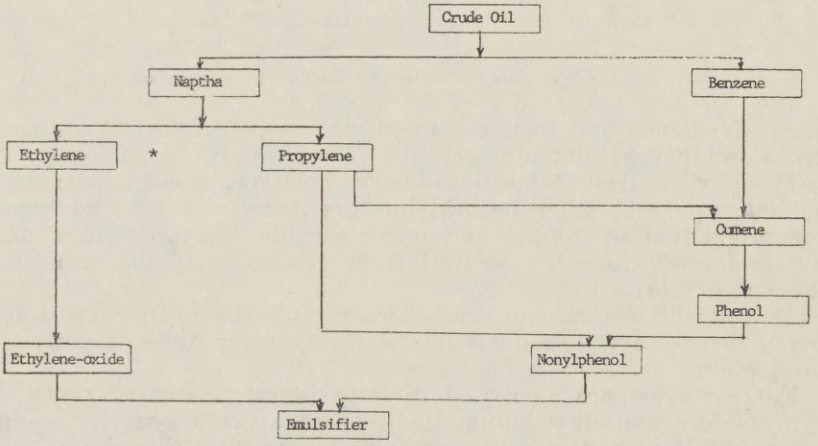
One example of this is a critical shortage of ethylene oxide, a basic raw material for the manufacture of emulsifiers used in pesticide formulations. We have a chart, Senator. [See chart I.]

These emulsifiers are manufactured by a multistep process whereby ethyelne is oxidized to ethylene oxide. The ethylene oxide is further reacted with nonylphenol, which is itself made by stepwise reaction involing benzene and propylene to form phenol. This is further reacted to form the nonylphenol.

The various steps in the chain can involve many different chemical companies. Each step in the chain may have a shortage of a raw material or insufficient capacity to produce enough intermediate product for all their customers.

CHART I

Simplified Example of One Possible
Production of a Commonly Used Emulsifier



* Ethylene is made from crude oil or natural gas condensates

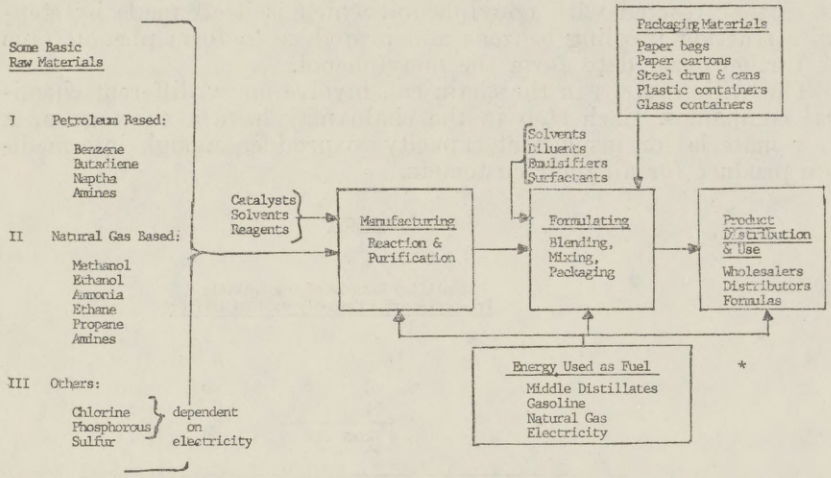
In the above example, as an additional complexity, one segment of the agricultural chemical industry is suffering from a serious shortage of phenol to manufacture phenoxy acetic acid derivatives extensively used as herbicides. The manufacture of pesticides includes energy products in many forms. We can show this in chart II.

Raw materials include items produced not only from petroleum but from natural gas, and others as chlorine, phosphorus and sulphur, which require large amounts of electricity in their manufacture.

The importance of natural gas—methane—as a raw material for the fertilizer industry is well recognized for the production of am-

CHART II

Typical Manufacture and Distribution of Pesticides



* The petroleum based items in this group are allocated to agricultural use on a priority basis.

monia fertilizers and some consideration has been taken to insuring its availability to that industry.

The agricultural chemical industry, however, is also dependent on ammonia and other natural gas derivatives such as methanol for production of amines and other organic chemicals. Raw materials for our industry derived from natural gas have also been extremely short.

As you will notice, our emulsifier example shown in chart I becomes a necessary ingredient in the formulating stage of pesticide production.

Energy items are also used directly in all phases of pesticide manufacture and distribution in order to operate essential equipment, but it is important to again point out that this is the only area under an allocation system.

This is the item in red. This is not quite true. Since the July changes in the FEA, there are some products, like benzene and others, which can be in the allocation program when used not only as a solvent, as it was previous to the change. There is no allocation procedure directing the basic raw materials to the production of pesticides.

Finally, there are other potential constraints on our industry, such as possible shortages of necessary packing materials. Our industry is still concerned about the supply situation for 1975. This was reflected in our earlier industry survey.

At this time, we do not know what additional demands, if any, will be made on farm production for 1975. It is difficult then to predict the demands that will be made on our industry's products.

The message that we wish to leave with you is that we can predict continuing shortages of many key raw materials. We can also predict significantly lower inventories at the end of this season at all levels—manufacturers, resellers, farmers—than they were 1 year ago. Based upon these predictions, it appears we will again face shortages of pesticides in 1975.

We understand that the intent of this committee hearing is to obtain information rather than to receive specific recommendations. Our industry would appreciate the opportunity to cooperate with you at the time recommendations are being prepared.

That ends my statement. I welcome any questions you might have.

Senator ALLEN. Thank you, very much, Mr. Straube. We appreciate your information. We are certainly mindful of the problem you have and the complicated formulae that you have to contend with.

I might state that the chairman, on the date of July 5, 1974, sent a letter to all major oil and natural gas producers touching on this question about their total production of petro-chemical feedstock and/or feedstock and how many were imported and exported and what steps the companies had taken to increase the production.

For your information, if you would care to see his letter you may have a copy of that. You are possibly familiar with it. That will be inserted in the record.

[The above referred to letter follows:]

U.S. SENATE,
COMMITTEE ON AGRICULTURE AND FORESTRY,
Washington, D.C., July 5, 1974.

MR. WILLIAM S. MCCONNOR,
Union Oil Company of California,
Union Oil Center,
Los Angeles, Calif.

DEAR MR. MCCONNOR: As Chairman of the Senate Committee on Agriculture and Forestry, I am becoming increasingly concerned about the availability of petrochemical feedstock supplies which are so essential to the production of chemicals that are used in agriculture.

As you know, the energy shortage has placed an extreme hardship on the agricultural production capacity of our farmers. Natural gas shortages and curtailment have limited the amount of fertilizer available for important crops such as corn, wheat, and cotton. Now it appears that herbicides, pesticides, and fungicides are becoming equally difficult to obtain in adequate quantities.

Our Committee has received numerous complaints and requests for assistance regarding the availability of these chemicals and the feedstocks that are required to produce them. Producers of these agricultural chemicals—that is, those producers who are not an integral part of the corporate structure of the oil companies themselves—have informed me that they are finding it very difficult to secure the petrochemical feedstocks and intermediates they need to meet the growing demands for these agricultural chemicals.

The Federal Energy Administration has consistently refrained from actively engaging in the allocation of petrochemicals other than those defined under very limited conditions and definitions. Unfortunately, this approach is not providing adequate relief to those companies dependent on petrochemicals. These include a variety of agricultural oriented production companies as well as numerous industries located in predominantly rural areas.

Agricultural production is one of our nation's highest priority uses. The Federal Energy Office had already acknowledged this fact in its allocation system, and the Federal Power Commission is also investigating priority allocation of natural gas to agricultural producers and industries.

In view of the fact that our Committee is now planning to conduct public hearings, in the very near future, on our nation's agricultural requirements of these products for the 1974 and 1975 crops, I would appreciate your responding to the following questions—in writing—by July 19, 1974:

1. What quantity and which petrochemical feedstocks and/or intermediates did your company produce in calendar year 1973, and what are the quantities of these products planned for the 1974 and 1975 calendar years?

2. What was the percentage of these products destined for the purpose of agricultural production in 1973, and what percentages are planned for 1974 and 1975?

3. What quantity and percentage of the total production of these petrochemicals for agricultural production was marketed during calendar year 1973 and planned to be marketed in 1974 and 1975 through: (a) Your own corporation or subsidiaries; (b) independent formulators and producers of agricultural chemicals; (c) others; specify if any.

4. What quantity and percentage of your total production of petrochemical feedstocks and/or intermediates were exported in 1973? What are the estimates for 1974 and 1975?

5. Is your company now taking any steps to increase the production of petrochemical feedstocks and/or intermediates to accommodate the need for such products in agricultural and industrial production?

6. While I understand that you may have contractual commitments that must be met, I would like your comments or suggestions regarding the establishment of a voluntary allocation system for the sharing or distribution of available petrochemical feedstocks.

I would greatly appreciate any other thoughts you may wish to offer on these issues. Also, I would like to know what your plans are to assist in overcoming these short term problems until additional petrochemical production capacity can be brought on stream.

I am looking forward to hearing from you.

Sincerely,

HERMAN E. TALMADGE,
Chairman.

Senator ALLEN. Replies are coming in to the Chairman. He will be conducting hearings this afternoon.

I want to know if the shortage survey you conducted in January, if those are the latest figures you have. Has there been any updating of those figures?

Mr. STRAUBE. We received word rather late that we would appear before this committee. We recognize the importance of uprating this survey. We did attempt to conduct one. It was a spot survey done by telephone. It was completed on Monday of this week, too late to be incorporated in this statement.

I have some data that I can give you. The survey has not been properly analyzed, but I think there are some things that are important. First, we tried to determine whether our industry members today felt the situation was any worse than what they had previously indicated it would be back in January.

At that time, our survey—as I have mentioned in my report—stated that some 19 percent of those surveyed felt they could supply 100 percent of the demand. All the rest felt they could not.

As of this Monday, on the question, can you now say whether this is better or worse than you previously predicted, zero percent said better, 26 percent said the same, and 74 percent said worse.

When asked if they felt they were in the position to produce 100 percent of the product, 6 percent felt they could take care of 100

percent of the demand, where previously it had been 19, and all the rest felt they could not.

On the question of allocation, if you will recall, 80 percent said they were planning to allocate their production and 80 percent actually did do so. We asked for information on the situation for 1975. Here, I think we have to do more analyses.

I am not quite sure exactly what the figures indicated because their concern for 1975 seems to be somewhat less than it had been previously stated. For example, in January, 14 percent said that the situation in 1975 would be about the same as 1975.

Now we say 26 percent. As far as better than 1975, previously it was 19 percent, it is now 32 percent. We did ask one other question. This had to do with inventories, as to whether they felt the inventories, manufacturers, and growers levels were better or worse than at this time last year.

I think this is very pertinent because every person asked the question felt that inventories at the manufacturer's level were below 1973. Every person felt that inventories at the distributor and dealer level were below 1973, at the grower level, 11 percent said inventories there would be above 1973, 17 percent, the same, 72 percent, below.

In general, I think we still have a great concern for 1975.

Senator ALLEN. Inside the Department of Agriculture, the ASCS division maintains a continuous survey of supplies of fuels and pesticides and fungicides, and so forth. I have a report dated July 19, which states,

> Pesticide supplies were reported tight to acute in some counties in 44 states. Herbicide supplies were tight in over 22 percent of all agricultural counties, with an acute shortage in only 1 percent.
>
> More than 18 percent of all agricultural counties reported tight supplies of insecticides, with only 1 percent reporting the supply situation acute.
>
> Fungicide supplies were reported tight in nearly 16 percent of all agricultural counties, with slightly over 1 percent reporting an acute shortage.

That information might be of interest to you.

Mr. STRAUBE. I have not seen that.

Senator ALLEN. Do you have any recommendations to make to the committee to improve your supply picture?

Mr. STRAUBE. We don't have any official recommendations. However, I think we can make several statements that reflect the feelings of the people in our industry. First, in the matter of Government controls, it is our feeling that these are not needed.

We do not favor control. We feel if any allocation system had to be put out, it would require allocation probably for the entire chemical industry. We don't feel it could be done piecemeal, just to take the particular raw materials that we need.

We do not feel this would help. We think in the long run, we could perhaps face potential problems that would far outweigh whatever the advantages might be.

Senator ALLEN. When you speak of control, you are not speaking of the price of the oil at the well. You are talking about further down the system?

Mr. STRAUBE. Yes, an allocation of supply further down. That is what I am speaking of. We would favor a strong effort toward a voluntary allocation. This, perhaps, could be beefed up through

a monitoring group as you had mentioned earlier today; perhaps a USLA group that could be on top of critical situations as we and they begin to see them develop and a group that industry people could go to without concern of FTC and/or other problems; perhaps a liaison or expeditors through your Senate Agricultural Committee.

Certainly, when you people send us a letter, I think you find that the industry will do whatever your request will be, at least I would hope so.

I think anything that can be done toward the establishment of incentives to obtain needed plant expansions is a must. I would personally put in that category the continuation of present tax incentives. Certainly, the industry needs profits in order to build new plants.

Ours is a highly research-oriented industry. We have high research expenses. We have high expenses of plant construction, in particular, today. All of this would have to be covered in order to put the money and get the return on investment that the companies would want.

I think we need better insurance by the EPA of product longevity and product registration. We are working with them toward obtaining a more rapid registration system when necessary for the use of emulsifiers or things of that sort in order to substitute them for critically short products.

The EPA and our industry are working together toward the implementation of the new act that our industry operates under, the Federal Environmental Pesticide Control Act—what these requirements will be, we are not sure—we must continue to work together with the objective of assuring agriculture with a continuous flow of crop protection chemicals and a flow of new products out of our research laboratories.

Senator ALLEN. As a matter of curiosity, do your companies start out with the raw products of the crude oil and start refining it down to these various other chemical elements, or do you buy it at some place down along the chain?

Mr. STRAUBE. We do both. I believe I could quickly touch on one product I am familiar with. It is a fungicide. Incidentally, it is in tight supply. There are also some capacity limitations, but that is not the limiting factor now.

We react butadiene which comes from natural gas and crude oil. As you know, the major refineries are the people who supply it. It is reacted with maleicanhydride, which is an intermediate involving benzene.

We react that product with ammonia and obtain one of the principal raw materials for this product, captan. The second principal raw material involves a combination of carbon bisulfide, which is natural gas derived, basically from methane, and sulphur, and chlorine.

Stauffer Chemical Co. makes both of these products, but Stauffer is still a net buyer of chlorine. We react the two principal raw materials and that is the way we produce captan.

Using that example, the answer to your question is that we use products produced by the natural gas and petrochemical companies,

as well as other companies down the chain producing intermediates.

Senator ALLEN. You mentioned this problem of obtaining products from other companies. Can you give us some examples of this, perhaps, in the production of one of your products?

Mr. STRAUBE. I think the example I gave on captan is probably as good as I could do because it involves all of the various categories, from both natural gas and oil and others like phosphorus, sulphur, and chlorine.

Senator ALLEN. Which one of the agricultural chemical products were in most critical short supply this past year and at the present time?

Mr. STRAUBE. This would be a personal reflection, but I would say that all fungicides have been tight. Some of them have been critically tight throughout the whole year. They are products used basically on vegetables and fruits of one sort or another.

The critical raw material is probably ethylene or its derivatives. In addition to fungicides, cotton insecticides are about—as I believe was mentioned before by the Virginia Department of Agriculture representative—shortages of parathion. We certainly agree with that.

There are some spot shortages now in the West with mite infestations that are beginning to develop in some of the corn that is more susceptible now because of the drought conditions in Kansas and Nebraska and that area of the country.

You mentioned herbicides on that report of yours. Of course, that is true. I have another report here from the Department of Agriculture in a joint meeting of themselves and Interior Committees. As you know, they sponsor a great number of programs involving herbicide applications in their Animal and Health Plant Service, their Forestry Service, and all of these programs have been curtailed because of shortages.

Senator ALLEN. I would like to ask one or two more questions, but we have a rollcall and we must go and vote on a bill.

Senator DOLE. Perhaps you could submit the questions and he could answer them in writing. I don't have any questions.

Senator ALLEN. The committee is going to continue following this situation, Mr. Straube, and maintain oversight over the situation.

The committee will reconvene at 1:30 this afternoon.

(Whereupon, at 12:30 p.m., the committee recessed, to reconvene at 1:30 p.m. the same day.)

AFTERNOON SESSION

STATEMENT OF HON. HERMAN E. TALMADGE, A U.S. SENATOR FROM THE STATE OF GEORGIA

The CHAIRMAN. The committee will please come to order.

Last summer, the Agriculture Committee held hearings on the serious problems facing the farmers of our Nation. The conclusions drawn from the testimony was less than encouraging.

Shortages of various products were predicted in view of the degenerating economic stability and increasing worldwide demand.

These predictions have proven accurate. In the past year, farmers have experienced shortages in diesel fuel, gasoline, propane, fertilizer and nitrogenous products, herbicides, pesticides, and fungicides, baling wire, fencing wire, and even machinery.

Although the Federal Energy Administration was slow in its response to Senator McGovern's request for remarks on S. Res. 289, it was apparently convinced through the efforts of this committee and members of the agricultural community that agricultural production should receive a priority in the mandatory allocation program.

Today, the farmer receives priority in the use of diesel fuel, gasoline, and propane.

However, this past year has pointed out the need to resolve continuing problems. Fertilizer is still in tight supply, and indications are that this will continue for the next 2 years.

Hearings held by this subcommittee examined the problem and pointed out the need to maximize present fertilizer production until new capacity can be brought on stream.

The Federal Power Commission apparently agreed to this need in principle, and granted emergency relief to fertilizer producers who suffered from natural gas curtailment this past year.

However, I understand that curtailment problems still exist with at least one company, Kaiser Chemical in Savannah, Ga.; and that organization has submitted its position for the record.

In the Federal Power Commission's response to S. Res. 289, Chairman Nassikas appears to have carefully documented actions taken by the Federal Power Commission to grant emergency relief.

Unfortunately, the issue of gas supplies for the new fertilizer capacity that is so desperately needed was not addressed, and I would hope the chairman is prepared to do so today.

If, as Commissioner Springer indicates in his remarks on S. Res. 289, legislation is the only solution to agricultural priority for users of natural gas, then I hope that the Federal Power Commission stands ready to provide adequate assistance to assure that reasonable and responsive legislative measures will result.

In addition to curtailment problems, internal pipeline supply problems continue to exist, as I indicated in my May 16 letter to Mr. Nassikas.

Mr. Clem White, general counsel for Columbia Nitrogen of Augusta, Ga., is going to address the need for this priority and reallocation of pipeline gas in the case of his company, which is planning major capacity expansion.

Petrochemical shortages also continue to plague producers of herbicides, pesticides, and fungicides.

This committee is presently conducting a study to determine the availability of petrochemicals for agricultural uses in the coming year. Preliminary reports of the responses indicate availability may not increase substantially until 1975 or 1976.

This means farmers may face 2 more years of insufficient supplies of the fungicides, pesticides, and herbicides needed to produce the high yield crops demanded by our Nation and the other nations of the world.

I certainly hope that the testimony of the representatives of the American Petroleum Institute will be beneficial in offering a means to assure agriculture of its petrochemical needs.

As I stated on the Senate floor on May 28, no country in the world can match the American farmer in efficiency when it comes to producing food and fiber.

But to produce, the American farmer needs fertilizer, fuels, and chemicals to assure high yields.

If the American consumer wants to continue to be the best fed people on earth, then they must be willing to not only pay a reasonable price for their food, but must insist that the farmers get what they need.

Our food, fiber, and natural resource assets continue to play an increasingly vital role in our national life and economy, and it appears that priorities must be determined.

Now, the first witness this afternoon is Mr. Clem White, vice president, Columbia Nitrogen Corp. of Augusta, Ga.

I am honored to have Mr. White present. He is an old friend and constituent.

You may proceed as you see fit, Mr. White.

STATEMENT OF CLEM WHITE, VICE PRESIDENT, COLUMBIA NITROGEN CORP., AUGUSTA, GA.

Mr. WHITE. Thank you, Mr. Chairman.

Mr. Chairman, members of this committe, I appreciate the opportunity of appearing before you.

And I would like to preface my statement by pointing out that I appeared before this subcommittee, June 12 of last year. And at that time, I stated we anticipated substantial nitrogen shortages in the 1973–74 crop year in the southeastern States.

At that time, the problem appeared largely one of maintaining stable and constant production levels in the manufacture of nitrogen.

Since that time, it has become apparent that the situation is more serious than was generally recognized at that time, and that the problem is a more fundamental one than the one that I outlined in June of last year.

In this age when inflation, fueled by shortages, seems to be afflicting most of the world, those of us in the fertilizer industry feel that we are more than ever called upon to produce greater quantities of fertilizer.

A more abundant food production can contribute to a dampening of the fires of inflation. Diminished food supplies will not only cause more inflation, but will result in wide-spread hunger and suffering.

The U.S. Senate, on February 27, 1974, recognized by its Resolution No. 289 that our Nation is experiencing a fertilizer shortage, and that such shortage would bring about serious consequences.

Estimates show that for the 1973–74 fertilizer year there will be a shortfall of approximately 3 million tons of nitrogen material. The supply-demand imbalance can be expected to further deteriorate by approximately 50 percent between 1974 and 1978.

The present fertilizer shortage results not only from natural gas curtailments, but more fundamentally from a shortage of fertilizer production facilities.

It was correctly stated in Senate Resolution No. 289 that "current productive capacity of the nation's fertilizer industry is insufficient to meet existing and future demand."

It was apparently this situation which prompted the Senate to request that the Federal Power Commission grant the highest priority of natural gas delivery to fertilizer producers.

In response to the Senate Resolution, the Federal Power Commission issued its notice in RM 74–14.

In addition, the Commission has, in a number of recent decisions, recognized the current fertilizer shortage and the urgent need for providing adequate natural gas service to help alleviate that situation, as referred to in Southern Natural Gas Co., Opinion No. 696, issued June 12, 1974, and United Gas Pipeline Co. in the case of *Mississippi Chemical Corp.*, Docket RP 74–37, June 17, 1974.

The imbalance between supply and demand for fertilizer is particularly acute in the southeastern region of the United States.

Columbia Nitrogen, which does not export any of its fertilizer products, supplies that market, particularly the three State region of Georgia, South Carolina, and North Carolina.

The southeastern States do not have adequate fertilizer production facilities to serve their needs. For many years, these States have been net importers of fertilizer products, relying on production facilities in other States.

With the advent of the fertilizer crisis, other States with adequate production facilities have stopped shipping into southeastern States, because all production is required at home.

The following table summarizes the comparison between ammonia production capacity and ammonia production consumption in the three State area primarily served by Columbia Nitrogen:

Georgia, 220,000 tons of production; consumption is 286,000.

South Carolina has no production facilities; consumption is 96,000 tons.

North Carolina has a production capacity of 165,000; but consumption is 217,000.

Making a total for the region of a capacity of 385,000 tons, with consumption at 599,000 tons.

In the State of Georgia, the shortage became so severe last month that many farmers were threatening to plow under corn crops, because they were unable to obtain sufficient fertilizer supplies to grow their crops profitably.

In response to numerous Federal and State requests, Columbia Nitrogen took the emergency action of diverting all available supplies from other areas, in an attempt to alleviate that situation.

Obviously, however, such stop-gap measures cannot be relied upon in the future.

On May 28 of this year, Senator Talmadge's office conducted a survey of the seriousness of the situation in Georgia, and characterized the results as "gloomy, if not disastrous."

That survey showed shortages ranging from 20 percent to 50 percent, and averaging an astronomical 34 percent.

The severe fertilizer shortage, particularly in Georgia, prompted the Georgia General Assembly to direct to our natural gas suppliers, among others, Resolution No. 82, which provides in part as follows:

Resolved by the General Assembly of Georgia that this body does hereby urge upon those agencies and administrators charged with the responsibility of establishing priorities for the allocation of energy fuels to allocate to the producers of nitrogen sufficient quantities of natural gas so that the agricultural industry of this nation will be able to maintain its unparalleled record of economy and efficiency in producing the food requirements of this nation.

My comments today will focus on two points: one, the interrelationship of the natural gas shortage and the fertilizer crisis; and two, the effectiveness of Federal actions, particularly of the Federal Power Commission, taken in attempts to alleviate the fertilizer situation.

This committee, after having conducted serveral hearings concerning this and related matters, is familiar with the fact that domestic fertilizer production is entirely dependent upon natural gas supplies.

Natural gas is the major raw material in nitrogenous fertilizer production. The process requires hydrogen, which is obtained through reforming of natural gas.

The organic chemistry involved in nitrogenous fertilizer production is quite simple: from natural gas, methane, CH_4, hydrogen, H_2, is obtained and then combined with nitrogen, N, to produce ammonia, NH_3.

This is the basic feedstock use of natural gas in the production of fertilizer, and is contrasted with other uses, in which natural gas is burned for processing or for mere heat value.

In our fertilizer production facilities, natural gas is the only purchased raw material.

Therefore, there is a direct correlation between curtailments of natural gas supplies, and loss of fertilizer production.

Chairman Nassikas has, on several occasions, noted that interstate natural gas pipeline companies are now operating under proposed or approved curtailment programs.

What those general comments fail to emphasize, however, is that the curtailment plans, in many instances, directly contributed to the fertilizer shortage.

Columbia Nitrogen's experience is illustrative of the problems of the industry in general.

For example, during the first 7 years of operation in Augusta, Ga., Columbia Nitrogen was curtailed only 1 to 3 days per year.

However, as the national gas supply-demand imbalance occurred, and the interstate pipeline company from which Columbia Nitrogen's supplies are obtained was allowed to implement a curtailment program, curtailments to Columbia Nitrogen sharply increased.

The following table summarizes Columbia Nitrogen's curtailments for the last 2 years:

1972, total hours curtailed, 1,889, or equivalent days of 78.7; tons of ammonia production lost, 14,983.

1973, total hours curtailed, 2,016½. That is equivalent to 84 days; or 13,524 tons of production lost.

Even though we acknowledge and appreciate the efforts of the Federal Power Commission in attempting to deal with the natural gas shortage, it is obvious from the increased curtailments noted above that the Federal Power Commission's curtailment programs do not provide effective and meaningful recognition of the fertilizer industry's need for natural gas service.

In fact, just the contrary has occurred. And I warned of that problem in testimony filed with the Federal Power Commission many months ago:

> Such serious curtailments obviously created serious problems concerning the continued economic viability of our operations.

Of course, it is only fair to note that, in our case, the Federal Power Commission responded by granting temporary emergency relief, to enable us to continue operations. However, as of this time, that relief has not been made permanent, and our company still stands at the precipice.

There are many among the uninformed who mistakenly assume that the fertilizer shortage is analogous to the national gasoline shortage experienced only a few months ago, and that after a short period of deprivation, followed by higher prices, the shortage will disappear.

Gentlemen, let there be no mistake on this point. The fertilizer crisis will not disappear in a year, 2 years, or even 5 years. In fact, it may well continue for the remainder of the lives of many of us in this room today.

A report published on March 21, 1974, by this committee, and prepared by the Tennessee Valley Authority, "World Fertilizer Market Review and Outlook," states that the national supply-demand imbalance of fertilizers may further deteriorate by almost 50 percent, between 1974 and 1978.

I commend that report to your attention.

Although the Federal Power Commission has been alerted and has received a substantial amount of documentation regarding this crisis, it seems doubtful that the full impact of the situation is fully appreciated by the Federal Power Commission.

Taking cognizance of Senate resolution No. 289, the Federal Power Commission instituted a separate proceeding, and, on July 16, 1974, approximately 6 months after the U.S. Senate adopted Senate resolution No. 289, the Federal Power Commission issued an order in that proceeding, and found:

> The existing procedures of the Commission are adequate to protect the interests of fertilizer industries and agriculture related activities.

In that order, the Federal Power Commission relied heavily upon a decision of the U.S. Court of Appeals for the District of Columbia Circuit, in *American Smelting and Refining Co.* v. *Federal Power Commission*, Nos. 72-2204, et al., January 21, 1974, slip Op. at 17:

> Like any order issued pursuant to section 5(a), an interim order can only issue after full hearing and must include a statement of reasons based upon findings of fact which are supported by substantial evidence in the record. No emergency can excuse these procedural requirements.

Relying upon that decison, the Federal Power Commission is now saying that, even if its existing procedures were not adequate to protect the fertilizer industry, the Commission would be powerless to act, because it could not do so without first holding hearings and establishing an evidentiary record.

However, the Federal Power Commission has allowed natural gas pipeline companies to implement curtailment plans, which have become operational without prior evidentiary hearings.

For example, the interstate natural gas pipeline company which is the source of our natural gas is still operating today under a curtailment plan which first went into effect in January 1972.

Hearings in that proceeding did not commence until after the curtailment plan was implemented, and have just recently concluded.

And I have outlined above the drastic effect on Columbia Nitrogen of the curtailments caused by that very curtailment plan.

To us at least, it just does not seem equitable that the Federal Power Commission should permit pipeline companies to impose curtailments under plans which were implemented without hearings, yet say to the fertilizer industry that, "we can afford you no similar relief, until we have first held lengthy hearings."

In one case, the Federal Power Commission deprives us of natural gas which is so critically needed, without any hearing. And in the other case, the Federal Power Commission tells us they are powerless to act to help us.

The conclusion seems to us inescapable, that either the Federal Power Commission is not willing to face the issue, and make the hard and critical choices it claims need to be made, or that appropriate congressional action is needed immediately.

Chairman Nassikas has, on prior occasions, summarized for this subcommittee the curtailment priorities which the Federal Power Commission has recommended be included in curtailment plans.

He has claimed that natural gas requirements for fertilizer production are subordinate in priority only to human needs uses, and are certainly superior to boiler fuel uses.

However laudatory those statements are as matters of general principle, the simple fact is that the curtailment plans which the Federal Power Commission has allowed to become operational do not always follow those priorities.

The fact that our plant has suffered increasingly severe curtailments as a result of the pipeline-imposed curtailment plans would seem to be sufficient proof of our contention.

However, the case is even stronger. Even the pipeline company witnesses admitted in Federal Power Commission hearings that, under the plan by which we are now allocated gas, we could be curtailed at the same time that, in other areas, the pipeline company would be allocating up to 111,000 M f^3 per day of gas for boiler fuel requirements for steam electric generation facilities.

Chairman Nassikas has also stated to this subcommittee that the Federal Power Commission's list of priorities "requires the full curtailment of the lower priority category volumes to be accomplished before curtailment of any higher priority volumes is commenced."

Again, it has been amply demonstrated in hearing before the Federal Power Commission that the curtailment plans just do not operate in that manner.

In the most recent hearings regarding our interstate supplier's curtailment plan, our witnesses demonstrated beyond question that the plan will allocate under certain conditions 100 percent of boiler fuel requirements, while, at the same time, we are obtaining only a portion of our feedstock requirements.

Such inequities again lead us to the conclusion that either the Federal Power Commission should re-examine the operation of its curtailment priorities, or that appropriate congressional action is needed.

In making the above criticisms of Federal Power Commission actions, I am neither unmindful nor unappreciative of the fact that the Commission has granted to our company temporary extraordinary relief, to help us maintain production levels.

However, we believe that the Federal Power Commission's emphasis on maintenance of present production levels indicates that the Commission has failed to grasp the real problem.

Even in its July 16, 1974 order, the Federal Power Commission states the issue as being one only of insuring producers of supplies of natural gas "sufficient to maintain maximum production levels."

That approach simply is not responsive to the real problem which the U.S. Senate recognized in Senate Resolution No. 289, when it stated:

> The current productive capacity of the nation's fertilizer industry is insufficient to meet existing and future demands.

Thus, the U.S. Senate wisely recognized that the fertilizer crisis is both a present and continuing one, and that governmental agencies such as the Federal Power Commission must not only insure that existing production capacity is maintained, but must also take steps which will encourage construction of additional production capacity.

As I noted above, the fertilizer supply-demand imbalance will, in the next 5 years, deteriorate by an additional 50 percent, according to the Tennessee Valley Authority report.

Therefore, additional production capacity is an absolute necessity.

As officers of our company have stated to this subcommittee on previous occasions, our company is ready, willing, and able to make the quite substantial expenditures necessary to increase production capacity.

But we are unable to make the commitments to do so because the Federal Power Commission has failed to assure us of adequate natural gas supplies.

> More significant to us, and maybe to this committee, is because the Southeast is so deficient in its ability to supply its own nitrogen, that we are highly desirous of building a large, new, modern, efficient ammonia plant at Augusta.
>
> So again, we come back to the question which has been placed back and forth today, that we can do so only if we are assured continuing natural gas supplies.
>
> In the three years that it would take to construct this plant, as far as we can see, the fertilizer situation in the Southeast is going to become increasingly worse from year to year.
>
> We need the producing capacity in this area; and we want to do this expansion.

That is a quotation from a representative of our company in a meeting on February 19, 1974, before this Committee.

On March 29, 1974, we requested that the Federal Power Commission allow us to amend our emergency relief application, in order to request "reasonable assurance" for the proposed new fertilizer facility, which we would undertake to build upon receipt of that requested assurance.

The Federal Power Commission denied our request, claiming:

> Under the Natural Gas Act, the Commission lacks the authority to initiate any action which would compel an interstate natural gas pipeline company to either add a new customer or increase firm deliveries beyond certificated volumes to an existing customer.
>
> Such requests must be instituted by an appropriate filing by the pipeline under Section 7(a) of the Natural Gas Act, or by a distribution company Section 7(a) of said Act.
>
> In summary then, petitioners cannot seek to obtain, through our extraordinary relief procedures, that which must be sought through statutory procedures dictated in the Natural Gas Act—procedures in which they would have no standing as applicants.
>
> Consequently, the petition to amend must be denied.

That was the Commission's order of May 10, 1974.

Gentlemen, I hope you will try to place yourselves in our situation, and share the frustration we feel, when the Commission tells us in our own case that their existing procedures will not permit us to increase production facilities, but the Commission in its proceeding in response to Senate Resolution No. 289 claim that "existing procedures of the Commission are adequate to protect the interests of fertilizer industries."

A note here in my statement is that Columbia Nitrogen subsequently obtained the assistance of its intrastate distributor, who previously had been reluctant to do so, in filing an application under section 7(a) of the Natural Gas Act.

However, any decision in the section 7(a) proceeding could be months or even years in arriving, as opposed to the expedited relief afforded in the extraordinary relief procedures of the Federal Power Commission, to which Columbia Nitrogen has been denied access.

In Senate Resolution No. 289, the Federal Power Commission was requested to take all actions necessary to maintain existing production levels, and to encourage expansion of production facilities.

The Commission has only partially responded to that request. In fact, in its July 16, 1974 order, the Federal Power Commission makes no mention whatever of encouraging additional fertilizer production capacity.

The Federal Power Commission's July 16, 1974 order relates solely to the fertilizer shortage existing in the present crop year, and specifically deletes any response regarding the continuing crisis.

> Senate Resolution Number 289 suggests the immediacy of a problem relating to 1974 agricultural production.
>
> Under the circumstances, our existing procedures capable of providing immediate relief are preferable to rule-making. Accordingly, we are of the opinion that further proceedings in this docket are not warranted.

We believe one of the responsibilities of the Federal Power Commission is to respond to Senate Resolution No. 289 fully and com-

pletely, and to, with clarity, state whether existing procedures are adequate to afford the fertilizer industry of reasonable assurance of natural gas supplies for expanded facilities.

If the Commission's procedures are not adequate, the Federal Power Commission should recommend appropriate enabling legislation.

A survey conducted by Morgan Guaranty & Trust Co. of New York, and published in March 1974, states that there is a worldwide shortage of nitrogen which will continue for an indefinite period of time.

It further reports that expedited efforts and massive applications of capital will be required to avert a worldwide food crisis.

There is no doubt that our Government needs to act to assure that measures to avert or lessen this danger are taken promptly.

Thank you again, Mr. Chairman.

The CHAIRMAN. Thank you, Mr. White. I congratulate you on an excellent statement.

You would agree, and I think all Americans would agree that the highest priority of a human being is food, is it not?

Mr. WHITE. I certainly would.

The CHAIRMAN. And in order to produce adequate food, you must have adequate fertilizer. Does that necessarily follow?

Mr. WHITE. Yes, sir.

And I think it can be substantiated by published data that at least a third of the food supply in this country is dependent upon fertilizer.

We would have at least one-third less than we have if we did not use fertilizer.

The CHAIRMAN. And nitrogen is probably one of the most important to the basic ingredients for fertilizer, is it not?

Mr. WHITE. I think you could say it would be the most essential.

The CHAIRMAN. And nitrogen can only be made with gas. Is that correct?

Mr. WHITE. Theoretically and technically, it is possible to make it by other means. But it is not practical, nor possible with the present technology.

The CHAIRMAN. So it follows, then, that to have adequate food, adequate gas must be allocated to the nitrogen plants.

Mr. WHITE. That is correct.

The CHAIRMAN. And what you are pleading for here today is adequate gas, not only to maintain your present production of nitrogen, but to increase the production.

Mr. WHITE. That is correct.

Because we know that the need for the size plant we are proposing exists in our region of the country. And we, furthermore, believe—and we have pretty thoroughly researched it—by the time this size plant that we are proposing to build is built, plans will have to be on the drawing board for another one of similar size.

The CHAIRMAN. And how much lead-time will you require before that plant will be in production?

Mr. WHITE. We need 3 years from the time that we are able to go ahead to know that we can go ahead with the project.

The CHAIRMAN. And you are producing in a deficit area now that imports about half its nitrogen?

Mr. WHITE. Something like that. A large share of that market, has been by imports from foreign countries, or imports from other regions of the United States; at least half of the supply.

The CHAIRMAN: Thank you very much for an excellent statement.

Any questions, Senator Dole?

Senator DOLE. I have no questions. I share the view expressed by the Chairman; it is an excellent statement.

Mr. WHITE. Thank you very much.

The CHAIRMAN. Thank you.

Senator Dole is recognized. I believe that he has some witnesses that need to take a plane.

And at this point, without objection, I desire to insert in the record a couple of statements.

[The documents follow:]

KAISER ALUMINUM & CHEMICAL CORP.,
Washington, D.C., July 25, 1974.

DEAR MR. BRAGG: As we discussed earlier this week, enclosed please find a telefax copy of a letter from Frank Wooten to Senator Talmadge. The original is on its way by mail, but we did want to get this copy to you today for inclusion in the record of the hearings on fertilizer supply-demand being held by the Agricultural and Forestry Subcommittee on Agricultural Credit and Rural Electrification.

We certainly appreciate your calling these hearings to our attention and the invitation extended to Mr. Wooten to participate in them. Thank you for your continuing interest in Kaiser Agricultural Chemicals.

Very truly yours,

ROBERT L. MAIER,
Executive Director, Washington Affairs.

KAISER AGRICULTURAL CHEMICALS,
July 24, 1974.

Hon. HERMAN TALMADGE,
U.S. Senate,
Washington, D.C.

MY DEAR SENATOR TALMADGE: I appreciate the opportunity to give you Kaiser's anticipated position in supplying fertilizer for 1974–75. It is with regret I could not be there in person, but rapid pursuit of potential capital investments to improve our supply position to our many customers at the earliest practical date is an absolute must.

Kaiser Agricultural Chemicals, a division of Kaiser Aluminum & Chemical Corporation, has completed its projections on fertilizer product availability for the 1974–75 fertilizer year (July 1, 1974—June 30, 1975). It is expected that, barring unusual plant breakdowns or greater interruption by energy suppliers, plant productions will equal the 1973–74 year. Our plants at Savannah and Bainbridge, Georgia; Tampa, Florida; Wilmington, North Carolina; Cincinnati, Ohio; plus six liquid plants ship more than one million tons annually to the agricultural market. The only product deficiency we project for our 1974–75 year versus 1973–74 is 12,000 tons of prilled ammonium nitrate imported in 1973–74, but at this time priced in the world market so as to be unattractive domestically. Major portions of our plant production come from purchased raw materials. Purchase contracts have been made and it is assumed will be honored by all suppliers.

In 1973–74 at our Savannah plant we were on gas curtailment 1,817.75 total hours. These curtailments caused an absolute reduction of 2,424 tons of anhydrous ammonia produced. This lost production equates to 5,200 tons of lost prilled ammonium nitrate production.

There have been no hours of gas curtailment to date in July. However, it must be pointed out that most curtailments are made on short notice. A petition has been filed with the Federal Power Commission for relief from this curtailment exposure.

Sincerely yours,

FRANK WOOTEN,
Vice President and General Manager.

The CHAIRMAN. You may introduce the witnesses, Senator Dole.

Senator DOLE. Mr. Chairman, first let me say that all these witnesses are bona fide Kansas farmers.

Frank Boyd, on the far end of the table, operates the general farming operation in southeast Kansas. He has been active in Kansas State Farm Bureau and community activities. He has served on the Kansas ASC Committee for a number of years as well.

He is well qualified as a spokesman on behalf of agriculture.

Charles Hamon of Valley Falls is active in many community activities, and operates a diversified farm in Jefferson County, Kans.

Ross Doyen, directly in front of me, in addition to his farming activities, is one of our leading State senators in the Kansas State senate.

He is well aware of the needs of—not only his own needs—but those of his constituents.

Mr. Ralph Walker has an extensive irrigated farming operation in western Kansas, near Sharon Springs. And for many years, he grew sugar beets, but the principal crop in this irrigated land is now corn and grain sorghum.

And Carl Holmes operates a 3,500-acre area ranching operation, 1,800 acres of which are in crops in southwest Kansas, near Plains.

Some of these men also double as fertilizer dealers, and were caught in the recent squeeze when the fertilizer companies stopped supplying dealers less than 1,000 tons per year.

Their testimony will be helpful to the committee, as we look at the shortages in not only these areas, but in many others.

I think Senator Doyen is the principal spokesman. He can lead off, and these other gentlemen can fill in however they wish.

The CHAIRMAN. You may proceed, Senator.

STATEMENT OF HON. ROSS DOYEN, KANSAS STATE SENATOR, CONCORDIA, KANS., ALSO REPRESENTING THE KANSAS FARM BUREAU

Senator DOYEN. Thank you, Mr. Chairman, Senator Dole.

It is a great privilege and an honor to have the opportunity to share some of our knowledge and concerns about the shortages that we have in Kansas, concerning the shortages of fuel, fertilizer, and agricultural chemicals.

We have a prepared statement here, and I will leave it with the committee. I will briefly summarize it.

The CHAIRMAN. Without objection, it will be inserted in full.

Senator DOYEN. We are very short of moisture at the present time, but none of us felt that Congress could do much to assist us in this area, so we are not even going to discuss that today.

One of the effects of the shortages of fertilizer, I think, is the fact that we cannot obtain the type of fertilizers that we would like to have.

Yesterday, Mr. Wheeler testified here, and showed some of his charts where we noticed that the supplies were diminishing, particularly in potash.

I refer to these as the exotic blends, where you have the 12–12–12, and the 10–10–10, and what-have-you. And lots of times, we don't need the potash in the areas that we are applying this fertilizer.

It appears to me that some of the companies are attempting to pawn off, so to speak, some potash that we do not need, in order to pick up our nitrogen and phosphates.

And for this reason, I would hope that this committee would look into the facts that these companies, maybe they are attempting to use the blends to elevate the price, and so forth, and force upon us something that we really do not need, in order to get the amount of nitrogen and phosphates that we need for our growing crops.

It has been a real difficult spring and summer in Concordia, Kans., due to the fact that, when you go to plant, you try to have the plant population that will benefit the most from the fertilizer that you apply.

When you go down to your local dealer, and he gives you the discouraging news that 50 percent of the amount that you used a year ago is all that you are entitled to this summer, well, then you begin to back up on the plant population, and hope that what you do apply will be fruitful, and so forth.

And so, this year has been touch and go. The drought, of course, has had a drastic effect. And some of us have held off fertilizing until it does rain.

If it doesn't rain, of course, we are going to save the fertilizer.

We are also in the dilemma, right at the present time, where some of these operators are beginning to prepare the wheat ground for the 1975 crop. And as a result, they can get a little fertilizer here, and a little there. And they are applying this in this extremely dry ground.

And when you apply anhydrous ammonia in extremely dry ground, you do not get the coverage, the sealing, and so forth. And a lot of it escapes. So we are wasting fertilizer, Mr. Chairman.

As a result of a scare tactic, they may not be available in September and October when this fetilizer should be applied.

We are applying it much in advance of when we normally do, and as a result, I am fearful that we are going to lose maybe 20 or 30 percent of what we apply. And this also creates a shortage for the crop that would be grown there the next spring.

Now, the other gentlemen that are here with me today are dealers. Three of them are—or, two of them are. And they can give you some of the effects.

But the main effect that is happening in some of our small, rural communities, that they are not a real big supplier, to promote their—for the area that they have to serve.

And as a result, why, they don't have the tonnage that some of the larger areas do. And the companies have seemed to shut them off.

And when you do this, why, there is no place for them to go if they are on a quota basis. Because you cannot go to the next dealer, because you don't have the quota; and as a result, these farmers have had a very, very difficult time to obtain fertilizer.

And I think these other two gentlemen—so, at this time, I would ask Mr. Ralph Walker to sum up some of the things that he has experienced as a fertilizer dealer in western Kansas.

STATEMENT OF RALPH W. WALKER, SHARON SPRINGS, KANS., REPRESENTING THE KANSAS FARM BUREAU

Mr. WALKER. Thank you.

Thank you, Mr. Chairman.

I, too, have a prepared testimony. I would like to——

The CHAIRMAN. Without objection, the full statement will be inserted in the record.

Mr. WALKER. Of course, it is a matter of history that the fertilizer industry overbuilt production plants during the 1960's. And to alleviate the overproduction, some of the companies started their own company stores.

Other companies started consignee programs. And the consignee programs consisted of renting storage facilities to small, independent businessmen, and placing fertilizer in these facilities, charging for it as it was sold to the farmers. Now, in the 1970's, we find that the supply supposedly is not keeping up with the demand.

The fertilizer industry tells the farmers that not enough plants were built in the late 1960's to offset the demand. Of course, in the High Plains of Kansas, Oklahoma, and Texas, we have had a problem in the fact that Phillip Petroleum Co. had a plant at Etter, Tex., which they have closed down. And this was, to the best of my knowledge, and from the people calling me, they tell us that this was an 800-ton a day plant.

To cut 800 tons a day out of western Kansas or eastern Colorado, of course, would put the whole State in a bind.

We had another severe problem across the State in the fact that Agrico Chemical Co. was one of the worst offenders.

As was mentioned by Senator Dole, those of us that didn't have very much tonnage, less than 1,000 tons, were stricken off. We had no place to go. Other fertilizer companies could not take us on.

The only exceptions were those plants that had been built with Agrico money, that were mortgaged with Agrico money, and they were supplied.

Those that were independent businessmen were wiped out.

I understand that the same situation prevailed with Chevron Ortho Fertilizer.

We know that the co-ops in our area were only receiving 75 percent of their 1973 total purchases.

And of course, without the reciprocal tradeout agreements, then our section of the country is at the mercy of such companies as Agrico who divorced themselves of all dealers and tradeout agreements.

These tradeout agreements are real necessary in the fertilizer business, because it is not everyplace that you can put an anhydrous plant.

As a dealer, I have been appalled with the fact that I could obtain so-called black market fertilizer. Of course, no one knows where this fertilizer comes from. It seems that God leaves this necessary input of agriculture on doorsteps. Farmers, being astute businessmen, know the only way to combat so-called black market supplies is not to purchase them.

Even were they to consider these supplies, the cost is not economical.

The testimony today is not so much to impress the committee with the plight of the farmer, but to remind you, without top production from the farmer, foodstuffs are going to be in short supply. The agriculture-related society, farm-related industry is going to suffer first if there is any decline in the economy.

We must recognize the fact that, if the farmer has higher costs, less input, there is going to be less production, and a higher return needed to offset the costs.

We need the fertilizer. There is no doubt about it.

We are flirting with another disaster in the cattle-feeding business. Our feed lots are empty, and presently, it is being reflected in the number of animals being slaughtered.

This is the beginning, I truly believe, and we are going to see a red meat shortage that will make the previous shortage look infinitesimal.

You just think you have heard from the consumer last time. I think they are going to really rattle the phones this time.

Farmers, being independent businessmen as they are, are not going to recommend controls on exports. But neither should society recommend controls on the farmer, or import commodities that flood the market.

Jobs are going to be affected, taxes affected, and even votes.

We must eat; therefore, we need some fertilizer.

It is our understanding that some of the major companies are operating on allocations of 75 percent of the 1973 deliveries. This is fine, but something is wrong somewhere when major producers pull out of areas, but can still only give 75 percent of the 1973 allotment to the remaining serviced areas.

Our particular area of the High Plains is growing with the development of irrigation. And there is no fertilizer for this increased acreage. Maybe it is the major companies' desire to liquidate the independents, and take the spoils. It is certainly food for thought.

At this time, as has been mentioned, we have a drought prevailing in our area of the country. But should the farmer produce anything

like the Department of Agriculture guesstimates, it will be a result of fertilizer carry-over in the soil. Next year, there will not be any carry-over. And USDA had better start reducing their forecasts at this moment.

We need the fertilizer. Give us the fertilizer, and we will produce the crops and red meat. That we can promise you if you can promise us the fertilizer.

I think I would like to make one short comment. Mr. Dawson of USDA said yesterday in here that he hoped this situation was behind us.

I think he is a wishful thinker. I think we are right in the middle of it. We are in trouble. And we need a lot more fertilizer.

I know there seems to be little in the way of solutions and a big problem. But there has to be an answer. I don't know whether this is an answer or not. But possibly our balance of trade should be made with commodities rather than raw inputs, that we, the farmers, call raw inputs. Now, that might not be to another industry, but it is our raw inputs.

If this could be feasible, it would be nice.

Mr. Wheeler said yesterday that the farmer must begin to pay for EPA, at the tune of about $97 million, and pass it on to the consumer.

Well, I happen to be on both sides. I am a member of Mr. Wheeler's group, and yet, I am a farmer, too. And it is going to be awful hard for me to collect this $97 million from my products that I produce.

We need economical fertilizer. And this is not to say that the fertilizer industry is not entitled to their profit. They have got to operate at a profit.

I appreciate the opportunity of being here, Senator.

And if you have any questions, I would be glad to answer them.

The CHAIRMAN. Thank you very much.

Who is the next witness?

Senator DOLE. Carl Holmes.

STATEMENT OF CARL D. HOLMES, PLAINS, KANS., REPRESENTING THE KANSAS FARM BUREAU

Mr. HOLMES. I will lead off with touching a little on fertilizer, and more on natural gas.

I am from southwest Kansas. The economic development in my area is declining rapidly due to four important problems, the first of which is the drought which started last spring, and is affecting dry land as well as irrigated crops.

The second is the slowdown in the development of the new crop acreages that are being transferred from dry land to irrigation.

Of course, this requires considerable expenditures of money.

A third is the manmade energy problem, or shortages, that we have in our area, and I call it manmade for one reason.

We have a natural gas pipeline in our area that supplies the fuel to Jayhawk Pipeline Co., which transports oil to the refineries back in central Kansas.

Right in the height of this shortage that we had in January and February, Panhandle Eastern shut off the gas to Jayhawk. They

expected Jayhawk to get the oil back to the refineries to alleviate the fuel oil shortage, and other shortages we had.

The fourth is overall production costs of raising a crop over 1 year ago are up 60 percent, with some of the important input items, such as fertilizer and fuels, up as much as 300 percent.

The dry land crops in our area are primarily wheat and milo. In 1974, the dry land milo crop has dried up, and production will be very close to zero.

There is a possibility of salvaging some for cattle pasture, but as for the grain crop, it is about gone.

The fall planting of dry land wheat in 1974 for harvest in 1975 will be seriously affected if we do not receive adequate moisture in the next 2 months.

A lot of this ground out there, presently, especially that that had wheat taken off of it this spring, is dry all the way down, 8 to 10 feet.

In order to successfully raise a wheat crop, we have to have 6 feet of subsoil moisture, and we are starting out with zero.

Irrigated crops of corn and milo are looking fair, with some shortages of fertilizer showing up, and also some shortages of irrigation water.

We have an abundance of irrigation water, but this will not be developed, due to the energy not being available to pump the wells.

Also, shortages of fertilizer and chemicals are adding to the problems, as well as the high cost of irrigation development.

Today, my county has approximately 60,000 acres under irrigation, with a projection by the year 2000 of 125,000 acres.

We have an available underground water supply of 20 million acre-feet of water available for irrigation usage.

Due to the fact that natural gas or electricity are not available for pumping the wells, this water will remain underground, unavailable for crop production.

It will be several years before electricity is available, due to the shortage of transformer capacity, to take care of the load created by the natural gas pipeline companies not selling gas for irrigation usage.

Last summer, when people were able to hook on to natural gas for pumping, the electric companies, REA's, figured they had approximately 10 years transformer capacity.

One pipeline company after another came in and shut the gas off, so they could have no additional hook-ups for gas, which created a tremendous load on the electric companies.

As a result, when they thought they had, a 10-year projected transformer capacity it went to zero in about 2 months' time.

To date, over 10,000 acres that could be developed for irrigation immediately, and the farmers want to develop them, are idle, due to the lack of energy for pumping.

One company in my area, Panhandle Eastern Pipeline Co., stated in a letter, which I will submit to this committee*, to a potential irrigation gas customer:

> This system-wide policy was placed into effect October 1st, 1973, and limits the providing of future irrigation, grain drying, and domestic service with those parties whom Panhandle has a legal obligation to provide such service.

*See p. 209.

Which, they are stating, if you are hooked on, or if we have to hook you on, we will. But we will not sell any additional gas.

That customer had natural gas wells on his property with over 1 billion cubic feet of natural gas being produced in 1973.

However, he could not secure any natural gas for irrigation or grain drying usage.

We are sitting on the world's largest natural gas field in southwest Kansas. Yet, this gas is being taken to the East, and is not available for new development of crop production.

In our area, we have a number of feed lots. And because of the economic situation in the cattle market, these feed lots are less than one-half capacity. And the market for high moisture grain, specifically corn, is no longer available.

So we need natural gas to use to dry this crop. And this is a crop that is in the field now. It should be coming off in the next couple of months; and would normally go to the feed lots as high moisture grain.

The gas is not available due to the position taken by the natural gas companies. Therefore, we have an abundant supply of grain that is going to come off this irrigated acreage, and it is going to rot unless we can get fuel to dry it.

Nitrogen fertilizers are also being made directly from natural gas, first in the form of anhydrous ammonia, and then other forms of liquid and dry. Due to curtailment of natural gas in these plants, nitrogen fertilizer production is being cut back.

The 1974 spring planting saw a shortage in nitrogen fertilizers, and crop production which is critical.

In our area, some fertilizers are brought in from the Gulf at exceedingly high prices, to help alleviate the shortage.

Fertilization of wheat is not critical at this time because of the high price of fertilizer, and the drought, which has cut back on the use of nitrogen fertilizer for planting areas which moisture is available.

Actually, I know of fertilizer that is being put on where it is too dry to plant the wheat crops for 1975 in my particular area.

We normally have around 18 inches of annual rainfall. And we are looking at about 6 or 7 so far, since the first of the year.

I look for a very critical shortage of fertilizer for spring crops of 1975, due to the same reason of natural gas not being available to produce nitrogen fertilizer, plus, as Mr. Walker mentioned, no carry-over, or the carry-over being used up from past years, and lack of production capacity in the fertilizer industry, whether it is producing 100 percent of capacity or not.

Crop production increases in southwest Kansas will not take place due to fertilizer shortages, and, more important, due to lack of energy for pumping irrigation water.

This is brought about by gas companies exporting our needed gas to the eastern part of the United States for higher prices, at the expense of agriculture.

Our Government policy is for higher production of crops. However, we are severely limited in my area due to the fact that natural gas pipeline companies will not let us purchase the gas for development of irrigation acreages.

We have an abundant supply of water underground, and much of the ground has natural gas being taken from it.

When will Government react to these shortages of energy for agricultural production?

I would like to submit these two letters, one of them from Panhandle Eastern, in reply to a letter to Panhandle Eastern——

The CHAIRMAN. Without objection, they will be inserted, at this point, in the record.

[The above-mentioned letters follow:]

JANUARY 15, 1974.

Mr. R. L. MATHESON,
Panhandle Eastern Pipeline Co.,
Kansas City, Mo.

Re: Wendell B. Fox, SW/4 Sec. 31-33S-29W, NW/4 Sec. 6-34-29W, Meade County, Kans.

DEAR MR. MATHESON: Mr. Fox has asked me to write you requesting a tap on your line for irrigation. I understand from him that your company has approximately one mile of line across his land and he states that he owns an interest in three wells from which Anadarko produced approximately 1,039,495 m/cu ft of gas during the first eleven months of 1973.

I also understand that there is an old spur line and a meter house now on the SW/4 of Section 31. Mr. Fox is developing an irrigation well and system and it would be ideal for his plans if he could tie on at this meter house. He did say he could make his tie-on in either quarter section, above described, however he would prefer a tap or tie-on in the SW/4 Section 31 and preferably at this meterhouse.

I would appreciate your advising me as to whether you feel this can be done, and, if so, as to how he should proceed to obtain this tap and its location.

Yours very truly,

E. KEITH BEARD.

PANHANDLE EASTERN PIPE LINE CO.,
Kansas City, Mo., March 21, 1974.

WILSON AND BEARD,
Attorneys-at-Law,
Meade, Kans.

Re: Wendell B. Fox, SW/4 Sec. 31-33S-29W, NW/4 Sec. 6-34-29W, Meade County, Kans.

DEAR MR. BEARD: This is in reply to your letter of January 15, 1974 addressed to R. L. Matheson regarding your client, Wendell B. Fox, proposing to irrigate the referenced land in Meade County, Kansas. Mr. Matheson has directed your letter to this department for the appropriate reply.

According to our records, a 4" line crosses the SW/4 of Sec. 31-T33S-R29, Meade County, Kansas and was constructed under terms of a gas purchase contract with Emma Ballard. We also have a 4" line crossing the NW/4 of Sec. 6-T34-R29 by virtue of a Right-of-Way Grant taken by Henry M. Stringer and his wife on July 11, 1958. This particular instrument was filed for record April 15, 1959 in Book 13, Page 291 in the Register of Deeds Office.

As you may well be aware, the natural gas shortage has come into sharp focus and the request for gas has increased significantly. Panhandle has recently made changes on its irrigation, grain drying, and domestic farm tap policy. This system-wide policy was placed into effect October 1, 1973 and limits the providing of future irrigation, grain drying, and domestic service with those parties whom Panhandle has a legal obligation to provide such service. Routinely, these obligations appear in a form of "tap clause" in the Right-of-Way Grant.

Since these obligations form part of a consideration of a giving of a Grant, the Company believes it is obligated to honor these commitments. This particular Grant cited above, as well as the line constructed under the terms of this Gas Purchase Contract, did not provide for irrigation service. therefore, Panhandle regrets that gas will have to be denied.

Hopefully, future governmental and regulatory changes will be forthcoming to provide the necessary incentives to develop sufficient reserves to allow Panhandle to fully serve the future expansion of Kansas farming communities.

Yours truly,

E. C. ALFF.

Senator DOLE. The last witness, Charles Hamon, has a very brief statement.

The CHAIRMAN. You may proceed, sir.

STATEMENT OF CHARLES HAMON, VALLEY FALLS, KANS., REPRESENTING THE KANSAS FARM BUREAU

Mr. HAMON. Agriculture is willing to meet the challenge to produce an abundant and wholesome food supply for the United States and other parts of the world.

But for us to produce adequate food at a reasonable cost, we must be able to acquire production input.

I feel we are able to increase our yields of crops and grains twofold or threefold from the use of: one, better varieties, improved hybrids; two, more efficient machinery; three, increased use of fertilizer.

Gentlemen, I feel strongly that to slight any of these three areas will greatly affect our ability to produce.

Let me just quickly expand on my thoughts.

We must continue to fund and expand our research into development of improved varieties and hybrids; varieties that will require less water on nutrients for production; resistant strains for disease and insects, so as to lessen our need for limited and scarce insecticides and chemicals.

Our experiment stations are doing an excellent job, and need all our support.

We need to develop more efficient equipment so as to lessen our fuel requirement.

Many farmers are ready to purchase no-till equipment if the machinery were available.

We must have replacement parts, to keep planting and harvesting machinery running. It is of no avail to plant crop, and then, because of lack of parts and fuel, be unable to properly harvest and prepare for storage.

My point is that we are seeing the increased use of fertilizer and herbicides.

I am from an area of sufficient rainfall, so that we do and must fertilize grass for beef and dairy production. Grass acres are being grazed at full capacity. Herds have been increased greatly.

This spring, many acres of brome grass did not receive fertilizer, causing much less than normal growth.

We are now in the midst of a severe drought. Grass is going fast and hay prices are skyrocketing.

If we had the fertilizer, and do get the August rains, we could fertilize and obtain fall pasture.

Most corn and milo did not receive more than 85 percent of the needed fertilizer. Production is going to be limited, and if we con-

tinue on the short side next year, the crops will be reduced to a large extent.

So I will quickly just give you a summary. And I feel that we are going to have to continue with these three inputs. And to slack in any of them will greatly reduce our yielding capability.

Thank you.

The CHAIRMAN. Thank you very much, gentlemen.

Senator DOLE. Do you have a statement, Mr. Boyd? Or want to add anything?

Mr. BOYD. Just very briefly.

Senator DOLE. All right.

STATEMENT OF FRANK BOYD, MORAN, KANS., REPRESENTING THE KANSAS FARM BUREAU

Mr. BOYD. Mr. Chairman, I intended to have a prepared statement, but this area of baling wire and barbed wire, I thought, was covered real good. And you understand the problems already.

And the two gentlemen yesterday certainly covered the production end of it.

But I think we should look in perspective at the other angle of this thing.

Senator McGovern, yesterday, probably put his finger on what might be a very cruel, but effective answer to the shortage.

And that is, the deteriorating crop conditions in his State, which is fairly general.

If we look back at our past 3 years, you see, we had the Agriculture Act of 1970, which gave us a long-lost opportunity to make a profit. We have had 3 good years, good seasons.

And then, with the wheat sale to Russia as a catalyst, we have had good prices.

So we built up a cash position, and we built up a tax liability.

So perhaps, our purchases were much above normal last fall.

I think, with this committee continuing to watch the production, of wire, that we are going to work out of this shortage.

The CHAIRMAN. Thank you very much, gentlemen, for your excellent statements. We particularly like to hear from people that tell it like it is on the farm, and those that relate directly with the farmers. And you have presented that view.

We are grateful to you for your testimony. Thank you very much.

Senator DOLE. Mr. Chairman, I want to thank Mr. Nassikas for waiting since yesterday. And we appreciate very much their coming and his cooperation.

I agree with the Chairman. It is good to have some grass roots testimony. They have not only testified. They have been here to hear all the witnesses.

Probably, as Mr. Boyd has pointed out, there are two sides to every question. Sometimes, we only get the one side, when you cannot get the baling wire or fertilizer. At least, that is the only side I hear when I am home.

Thank you.

[The prepared statements of Messrs. Doyen and Walker follow:]

STATEMENT OF HON. ROSS DOYEN, ET AL., KANSAS STATE SENATOR, ON BEHALF OF KANSAS FARM BUREAU

Senator Doyen. We appreciate the opportunity to present our views and those we have been able to gather from other Farm Bureau members in Kansas concerning the shortages of fertilizer, fuels, agricultural chemicals, baling wire, twine, steel posts and other items. We won't even spend time with you today on our most critical shortage—moisture—because we doubt even the Congress can assist us in this area.

Kansas Farm Bureau is a general farm organization. There is a county Farm Bureau in each of our 105 counties. Our membership includes 65% of the farmers in Kansas. All of our farmer-members and other farmers and ranchers in our state have been confronted with problems of obtaining necessary supplies of fertilizer and fuels as previously listed in short supply.

Kansas is a major agricultural state. We are the breadbasket of the nation, the leading state in wheat production and near the top in production of corn and grain sorghums. The economy of our state depends largely on our crop and livestock production ability. As agriculture goes, so goes Kansas. Crop production goals in our state and in our nation are generally realistic goals which we can achieve and which provide adequate food and fiber for our people. We also contribute in large measure, through our Kansas products, to the bright side of our nation's total economy. For example, the United States last year, for the first time in three years, reached a favorable balance of trade. This came about because of a surplus in agricultural trade of $9.3 billion. This favorable balance created by agricultural trade was enough to offset a deficit in other U.S. trade of $7.6 billion, so that we as a nation had an overall favorable trade balance of $1.7 billion. This desirable position in balance of trade will be maintained only through continued agricultural production and export sales.

The critical shortage of fertilizer in Kansas was first felt in the fall of 1973. Many farmers planted their 1974 wheat crop with a minimum of fertilizer, and in some cases no fertilizer at all. During the winter the Kansas wheat crop did receive some fertilizer as a top dress. In certain areas of the state fertilizer was not available for this purpose. Where those shortages were most extreme yields were among the lowest in the state. And yet, Mother Nature has blessed us with a modest amount of moisture at the appropriate times so that our wheat crop for 1974 appears to be our third largest. This came about, of course, because of the increased acreages, not because of higher yields which we had been experiencing year after year.

As the 1974 spring planting season came around it was evident that all of Kansas would face a critical shortage of fertilizer material for the spring-planted crops of corn, milo and soybeans. These crops were planted with much less—sometimes little more than half—the fertilizer we would generally like to apply, and we would say here that shortages have been but one of our problems. Cost has been another. Nitrogen fertilizers which in the past have sold from $50-$70 per ton are now three times as high. An increase of $100 per ton of last year's price is quite common.

Our organization, Kansas Farm Bureau, through its bi-weekly Newsletter, asked for members to contact the Kansas Farm Bureau office in Manhattan, Kansas, to express their needs for fertilizer. We received many calls in the Spring of 1974, through March, April and May. All these calls indicated a serious shortage of fertilizer in Kansas and a critical shortage in some of our 105 counties. The critical situation was apparent where fertilizer manufacturers discontinued service and would no longer supply fertilizer to local dealers.

Recent contacts indicate that this shortage still exists. Much of the Kansas row crop was planted without fertilizer.

We know, as we are sure you know, the necessity of adequately supplying the nutrients for crop growth and production. The most important and beneficial of these nutrients is nitrogen. It is our estimate for the spring crop in Kansas we had less than 60% of the minimum required nitrogen for corn and milo. Some of our farmers in Kansas have paid outrageous prices for their nitrogen needs.

We are supplying to you, attached to this presentation, the names of but a representative few farmers whose actual needs and losses we have documented. We will tell you of others.

In addition to our survey a public meeting was called by Senator Robert Dole. It was held on the Kansas State University campus on March 29, 1974. At this meeting approximately 500 persons were present to express their concern

regarding the fertilizer situation and tell of their personal and community needs.

Again stating, to achieve crop production yields that result in reasonable income for the farmers of our state it is necessary that we have an adequate supply of fertilizer, nitrogen being important in all areas of our state.

STATEMENTS REGARDING FERTILIZER SITUATION

The following are brief statements and notes regarding the fertilizer situation which were included with information we presented at the March 29, 1974, meeting at Kansas State University. Senator Dole called that meeting. Attendance was over 500.

Mason Flora, Harveyville, buys fertilizer from Allied Chemical. He sells 32% liquid nitrogen at $100 per ton. Neighboring dealers' prices are $125-$135 per ton. An Iowa semi-tralier truck loaded with 45% urea was offered at $300 per ton. Mason Flora sent him on down the road. Flora is allotting fertilizer to regular customers at 70% of last year's purchases.

Dalquist Feed and Grain, Wilsey, 913-497-2223—average of last four year's fertilizer business was $100,000 per year with *Agrico Chemical Company*. This consisted of approximately 89 tons of anhydrous ammonia, 645 tons of liquid nitrogen and other mixed fertilizer and 235 tons of dry fertilizer. They served 104 customers. Wilsey Grain and Feed has not received any fertilizer since July, 1973. The address of his supplier is Agrico Chemical Company, Southwest Region, Box 9345, Tulsa, Oklahoma, 918-583-1711.

O. L. Corwine, Michigan Valley (Osage County), farmer—purchased fertilizer needs from Bulmer Elevator Company for the previous five years. Bulmer Elevator has sold their fertilizer equipment and are not handling fertilizer at present time. Bulmer Elevator's supplier was Ni-pak Fertilizer Company out of Texas. The elevator's story is that they are unable to secure fertilizer from Ni-pak. Mr. Corwine maintains that there is a strong rumor that the Lawrence, Kansas Co-op plant is full of fertilizer and has been all spring.

Fred Shields, Marion, Kansas, 913-983-4464, farmer—Two suppliers in Marion County have quit and gone out of business. From one supplier of whom he purchased 60 tons of 18–46–0 last year, he has been supplied with one tone. Co-op has been allotted 25 tons for March and 90 tons for April of anhydrous ammonia.

Innis Croft, Anthony—Dealer for Agrico besides being a farmer—Mr. Croft purchased tanks and equipment from Agrico, two years ago and has approximately $15,000 invested in storage equipment. He has received no fertilizer in the fall or this spring. Needs for him and customers approximately 1,200 tons of anhydrous ammonia, 300 tons of liquid nitrogen and 600 tons of liquid phosphate. He has been in contact with Howard Dorsey of the Agrico Tula office, but still no fertilizer.

John Griebel, Stockton, farmer—Mr. Snyder, a dealer of Phillips fertilizer has gone out of business and Co-op has been allotted 80% of last year's purchases. Agrico dealer received one tank of fertilizer. The Stockton area is very short of fertilizer.

Contacted July 23 and reported that he would receive no fertilizer this fall and only received in the Spring was black-market fertilizer that he secured for his customers by sending a truck to St. Paul in southeast Kansas.

Sam Caylor, Rantoul (Franklin County), 878-2133—Agrico dealer, also farms 2,000 acres—is unable to get any fertilizer from Agrico. Mr. Caylor received a strong rumor that Evans of Salina is offering Agrico fertilizer at $300 per ton and 32% urea also at $300 per ton.

Long Island Grain Company, Mike Hammond, 913–854–3615—dealer for Agrico—has received approximately 20% of their needs this year.

Bud Pierce, Marion, 316-382-3365—Agrico dealer—Supply from Agrico has been very limited for the past 8 months. Farmers that he has sold fertilizer to are without nitrogen for spring top-dress of wheat and are without fertilizer for 1974 row crop.

Contacted July 23: His allottment for fertilizer for fall of '74 will be 24%. He will receive 200 tons of fertilizer (20 tons—July, 20 tons—August, 160 tons—September).

Sold 1,250 tons fall '73 and has been notified that his allottment for the fall of '74 from Agrico is zero.

INFORMATION REGARDING 1974 FERTILIZER SHORTAGES

Name	Amounts used in 1973 crop production	Amounts needed for 1974 production	Fertilizer received to date	Amount needed between now and June 15	Comments
O. L. Corwine, Route 2, Quenemo, KS 66528.	17 tons mixed 16 tons anhydrous 8 tons nitrate 45	Same as for 1973	Have a little mixed No anhydrous No nitrate	5 tons mixed 16 tons anhydrous 8 tons nitrate 45	He would like to hear from you after the meeting.
Don James, Hoxie, KS 67740	40 tons anhydrous	Same as for 1973	No anhydrous	40 tons	Paid $90 a ton last year at C.G. & F. elevator. This year $360 a ton. Cannot pay $360 a ton.
Gale Collins, Route 2, Marysville, KS 66508.	4 tons anhydrous	14 tons, 4 tons for land farmed last year and 10 tons for additional land rented.	4 tons	10 tons	Co-op at Marietta (head office at Blue Rapids) won't sell him any more.
Edgar Von Swosten, Route 1, Girard, KS 66743.	25 tons nitrate 2 tons 10–20–10 14 tons nitrate 14 tons 12–24–12	50 tons	6 tons (3 nitrate and 3 10–20–10)	24 tons (nitrate and 12–24–12	
Shields Farms, Fred Shields, Lincolnville, 66858.	33 tons anhydrous 28 tons 10–40–10 15 tons to plant wheat	52 tons anhydrous 35 tons 10–40–10 11 tons urea 40 tons for wheat (expanded acreage).	40 tons for wheat 20 tons anhydrous 1900 lbs. urea 2 tons anhydrous	30 tons anhydrous 35 tons 10–40–10 10 tons urea	
Harold Rollf, Alta Vista 66834	18 tons	22 tons (increased crops)	None	15 tons for row crop	

STATEMENT OF RALPH D. WALKER, SHARON SPRINGS, KANS., REPRESENTING THE KANSAS FARM BUREAU

Mr. Chairman: Thank you for this opportunity to address this committee.

During this session of Congress this august body of which you gentlemen are members justifiably saw need to increase the minimum wage of all employees. Many dissertations of justification impressed the general populous of the need for the lower income families to have adequate income to feed themselves.

This same session has produced price controls on the food industry which in the final analysis resulted in shortages and high prices, the exact opposite of the original intent.

We have witnessed an energy crises which has caused definite shortages in other industries, and it has created something else, excuses. Excuses to escalate prices, annihilate small independent business men, and create a level of marketing calculated to please stockholders, preserve Vice Presidents, and, of course, to make money.

It is a matter of history the fertilizer industry overbuilt production plants during the 60's. To alleviate their over production, some companies started their own company stores, other companies started consignee programs. Consignee programs consisted of renting storage facilities to small independent business men, and placing fertilizer in these facilities, charging for it as it was sold to farmers.

Now in the 70's we find that supply supposedly is not keeping up with the demand. The fertilizer industry tells the farmer that not enough plants were built in the late 60's to offset the demand.

In the high plains of Kansas, Oklahoma and Texas, Phillip Petroleum has closed an Anhydrous Plant at Etter, Texas, and while this plant was only an 800 ton a day plant it seriously depleted the supply for our section of the country. I must interject that without Phillips as a supplier, I would not have had any fertilizer at all. They were as cooperative as tonnage would permit.

Agrico Chemical Co. of Tulsa, Oklahoma, was a supplier for the high plains and they have seen fit to shut off all supplies in this area. They are servicing only those plants which are mortgaged to Agrico.

Chevron, Ortho fertilizer, has done the same thing, thereby creating serious shortages for the high plains. Coops in our area are only receiving 75% of their 1973 total purchases. Without reciprocal tradeout agreements, our section of the country is at the mercy of such companies as Agrico who divorced themselves of all dealers and trade out agreements.

Many farmers of the high plains were only able to apply from 50% to 75% of their fertilizing need this season.

As a fertilizer dealer I have been appalled with the fact I could obtain "black market" fertilizer. Of course, no one knows where this fertilizer comes from. It seems that God leaves this necessary input of agriculture on doorsteps.

Farmers being astute businessmen know the only way to combat "black market" supplies is not to purchase them. Even were they to consider these supplies, the cost is not economical.

This testimony today is not so much to impress this committee with the plight of the farmer but remind you that without top production from the farmer, food stuffs are going to be in short supply. The agriculture related society, farm related industry, is going to suffer first if there is any decline in the economy. We must recognize the fact that if the farmer has higher costs and less inputs, there is going to be less production and a higher return needed to offset the costs.

Gentlemen, as a farmer and a fertilizer dealer, I can assure you we need fertilizer in the farm belt.

At the present we are flirting with disaster in the cattle feeding business. Feedlots are empty, and presently it is being reflected in the numbers of animals being slaughtered. This is the beginning, I truly believe. We are going to see a red meat shortage which will make the previous shortage look infinitesimal. You just think you heard the consumer last time.

Farmers being the independent business men they are, are not going to recommend controls on exports, but neither should society recommend controls on the farmer or import commodities that flood the market. Jobs are going to be affected, taxes affected, and even votes are going to be affected!

We must eat; therefore, we need fertilizer at economical prices.

Kansas is one of the great agricultural producing states. We rank #1 in wheat production and high in beef and feed grains. But our numbers are small and votes are few. We cannot coerce any legislative body or major fertilizer firm to reconsider their allocations.

It is our understanding that some of the major fertilizer companies are operating on allocations of 75% of 1973 deliveries. This is fine but something is wrong somewhere, when major producers pull out of areas but still can only give 75% of the 1973 allotment to the remaining serviced area. Our particular area of the high plains is growing with the development of irrigation and there is no fertilizer for this increased acreage. Maybe it is the major companies desire to liquidate the independents and take the spoils. It certainly is food for thought.

At this time, drought prevails in the farm belt but should the farmer produce anything like the Department of Agriculture guesstimates, it will be a result of fertilizer carryover in the soil. Next year, there will not be any carryover and the USDA better start reducing their forecast at this moment.

We need fertilizer! Give us fertilizer and we will produce crops and red meat. That we can promise you. Can you promise us fertilizer?

The CHAIRMAN. Thank you, gentlemen.

The next witness is Mr. John N. Nassikas, Chairman, Federal Power Commission.

And, Mr. Nassikas, I, too, desire to express my apologies in keeping you waiting. We thought we would get to you before now.

But these gentlemen had a plane schedule, and for that reason, we took them out of order.

You may proceed as you see fit, Mr. Nassikas.

STATEMENT OF HON. JOHN N. NASSIKAS, CHAIRMAN, FEDERAL POWER COMMISSION

Mr. NASSIKAS. Chairman Talmadge and Senator Dole, I am accompanied today by Emmett Gavin, to my far right, who is my assistant, and Joseph Solters, to my immediate right, who is Case Manager of the Bureau of Natural Gas, particularly with reference to curtailment priorities.

And we have, in the back of the room, a young lady, whose name is Marie Hogan, who is a legal intern.

I would like to offer my full statement.

The CHAIRMAN. Without objection, the full statement will be inserted at this point.

Mr. NASSIKAS. I will summarize to allow more time for questions.

The CHAIRMAN. Certainly. You may proceed.

Mr. NASSIKAS. Actually, I will try to summarize the current supply-demand outlook for natural gas, and the potential for its priority allocation for agricultural uses, including the ability of U.S. manufacturers to obtain additional supplies on a long-term basis.

The current supply projection is not good. It is deteriorating. But this is not unpredicted.

I warned the Senate about a deteriorating situation in November of 1969, and this is my 82d congressional hearing. Most of these have concerned the allocation of resources as related to the electric utility industry and the natural gas industry.

I want to emphasize at the outset that we have a very pervasive natural gas shortage in the United States. It is deepening. It is getting worse.

And there is very little that the Federal Power Commission can do about it which we have not already done.

It is up to the Congress, as I see it, to deregulate new supplies of natural gas, allow the price to rise consistent with sound economics, reduce demand thereby, and have some of the larger users utilize other alternate fuels, and also create the necessary incentives for further drilling and exploration on the Outer Continental Shelf.

On the current situation, there is one statistic that I will mention. The shortage of firm curtailments, that is, the gas deficiency, will rise from about 1.2 trillion cubic feet to about 1.8 trillion cubic feet, for the period April 1974 to March, 1975.

That is 55 percent higher than the preceding year. And 1.8 trillion cubic feet of gas is about 12 percent of the interstate gas supply which the Federal Power Commission regulates.

We had production last year of about 22 trillion cubic feet, of which 15 or 16 trillion was regulated by the Federal Power Commission.

The remainder, perhaps 7 trillion, is unregulated in the interstate market.

I think that statistic will become important as we go along here.

The referred demand, which is important to point out, at the bottom of page 2, as a result of the curtailments, in terms of barrels of oil equivalent, it is 330 million barrels.

And that is not a hypothetical statistic, because most of the referred demand, Senator Talmadge, is to oil. There is very little referred demand such that coal could take up the slack.

We do have about 3,200 megawatts of gas-fired generating capacity in the country for electricity, which is capable of being converted to oil. But that is a very token amount, when we consider that we have 250,000 megawatts of total electric generating capability in the country.

So oil is the swing fuel, and we are very fortunate that there is an improved situation in oil and oil products, not as the result of greater domestic supplies, which is where we should be, but rather as a result of the relaxation of the Arab embargo, and some other factors which have created an improved situation in oil, refinery capacity, and all that.

Court actions—we have issued a decision, in Opinion 699, which is summarized in my statement.

The price level of natural gas, for the new gas that we are talking about in Opinion 699, which prescribed a uniform national rate ceiling for interstate natural gas, is 43 cents currently, because we are in the year 1974.

It started with a base price of 42 cents in 1973, with 1 cent escalations over an 18-year period, if you have that kind of a contract.

When I became Chairman of this Commission about 5 years ago, the price for new gas at that time was 18 cents.

We did take some very substantial action to increase the price of gas by a third, in the year 1970–71, in litigated cases. All cases were appealed through the Federal Court system to the U.S. Supreme Court.

On June 14, this year, 3 years after we decided the cases, and 8 years after they commenced before the Federal Power Commission, the Supreme Court unanimously affirmed what we had done.

The difficulty is that the nation can no longer stand the regulatory lags, whether it is with the Judiciary, or whether it is with the Federal Power Commission, to get a certain nonappealable decision only after, let's say, 4 years of litigation.

That is why I go back again to the concept of some firmness in congressional action in deregulating new gas, so that the uncertainty and the appealable aspects of regulation will be out.

If Congress passes a very simple bill on that score, then it should not be litigated in the courts, because it will not be ambiguous.

And I want to emphasize that point once again.

Page 8, Senate resolution 289. As I previously informed the committee, Mr. Chairman, the Commission published this Senate resolution in the Federal Register of March 25, requesting comments from the natural gas industry, their customers, consumers, other Government agencies, and all interested parties concerning the recommendation that we, the FPC, should afford the highest priority of natural gas delivery to the fertilizer industry.

In reply to this publicly noticed rulemaking, 56 respondents filed comments in the proceeding, 44 of which generally supported the Senate's resolution.

However, after careful analysis of all submittals, the Commission concluded the proceeding on July 16, 1974, reaffirming, first, the propriety of maintaining our existing priorities of service; and, second, the suitability of current emergency relief procedures.

I might hasten to add, at least so far—that whether these priorities and procedures will be adequate a year or two from now, I don't know. I would like to see empirically whether it can work out this way—so far, it has.

It was our conclusion that we could not fashion a workable and suitable rule for granting relief to the fertilizer industry apart from the needs of other industrial consumers.

That is, a rule of general and specific application, setting up a selection between competing priorities of equal substance.

With our current national energy posture, any increase in industrial consumption due to a grant of relief from curtailment is accompanied by a corresponding reduction of consumption in some other sector of the economy.

Therefore, when an industry falls short of adequate supplies of feedstock, such as natural gas in the manufacture of nitrogen fertilizer, the shortfall must either be equitably shared on a priority basis by the affected industries, or a hard and critical choice must be made to grant a higher priority to the industry determined to be most important to the national welfare.

I testified, on the basis of this principle, on February 19 before this committee, and I have cited this in a footnote.

The Commission, in our order, cited this as the guiding principle.

Our decision to maintain current priorities and emergency relief procedures was made with full recognition of Senate Resolution 289's

emphasis on the immediacy of the fertilizer problem, and its potential impact on agricultural production in the near future.

Were we to attempt, however, to alleviate those problems by designing a rule that would define the priorities of service of all priority two manufacturers and users, including fertilizer manufacturers, on a just and equitable basis, the procedural obligations of the Natural Gas Act and Administrative Procedure Act would necessarily result in substantial delay in arriving at a decision.

When I say, in arriving at a decision, I mean not only the Federal Power Commission's arriving at a decision, but also the same kind of nonappealable final decision by either a circuit court, or probably the U.S. Supreme Court, that I referred to earlier, in terms of natural gas producer regulation.

As we noted in our order—at the middle of page 11, "any rulemaking proceeding sufficient to adjudicate the full panoply of interests represented by all customers of all jurisdictional pipelines experiencing curtailment would be cumbersome and could take years to complete, if it could be completed at all."

Based upon commentary from all sectors of the industry, we believe that they are entitled to an equal choice as to the priority of natural gas.

Inevitably, by trying to fashion a rule of general application throughout the industry as a whole, individual hardship and injustice would result.

The extraordinary relief procedure, on the other hand, is designed to avoid unjust results.

And I might add parenthetically, to grant immediate relief.

We believe, therefore, that our current priorities and emergency procedures provide us not only with a more equitable basis for affording relief, but a much more timely mechanism for acting in emergency situations than we could hope to achieve by prolonged rulemaking or adjudicatory proceedings to ration natural gas between competing priorities of equal public concern.

In this regard, there is an almost total lack of criticism of our existing procedures of granting extraordinary relief from curtailment.

This does not necessarily mean that our existing procedures do not warrant criticism. I am sure they do.

Any time anyone rations a shortage, there is bound to be criticism, because somebody is not going to get the gas.

Page 13, Order No. 467 and its companion orders, establishing priorities of service in periods of curtailment, and the procedures for affording emergency relief were sustained as valid Commission policy statements, and as such, nonreviewable, under section 19(b) of the Natural Gas Act, in a June 26, 1974 decision by the U.S. Court of Appeals for the District of Columbia.

I have cited the case.

As I indicated at my last appearance before the committee—and I won't repeat these current procedures provide the priorities which I list in my prepared statement.

I have inserted, solely for the convenience of the committee, the various definitions of the somewhat technical words that we use here.

As I also noted in my February 19 testimony, customers of jurisdictional pipeline companies may seek relief from curtailment, first from the pipeline, and, upon denial of that relief, from the Commission.

The Commission has authorized pipeline companies to grant relief unilaterally in response to emergency situations, including environmental emergencies, during periods where supplemental deliveries are required to forestall irreparable injury to life or property.

If the pipeline denies relief to its customer, say, a distribution company, a petition outlining the circumstances warranting extraordinary relief may then be filed with the Commission.

The Commission will grant relief upon proof of irreparable injury to the applicant.

The irreparable injury language is basically the same test that would be utilized under the Federal rules of procedure as to whether or not an injunction would be issued by a court to grant relief.

We use the same kind of test on irreparable injury.

In order 467–C, issued on April 4, 1974, we set forth the basic minimal data that an applicant for emergency relief must supply the Commission.

And again, for convenience, I have this here as appendix B. I won't bother referring to it at this time.

Also attached as appendix C is a compilation of all petitions for emergency relief from curtailment filed in fiscal 1974, by petitioners with legal standing before the Commission indicating the supplier, the industry, or community seeking relief, the end-use of the gas supply sought, and the status of the application.

An examination of this data will indicate that relief or temporary relief, pending the outcome of an evidentiary proceeding, was afforded in most cases.

Ten out of the total of 64 petitions to the Commission for extraordinary relief from curtailment have been filed directly by fertilizer manufacturers, or by local natural gas distribution companies on behalf of fertilizer manufacturers.

Six of these petitions have been granted immediate interim relief equivalent to the total volume requested, pending hearing on the merits of the petition.

These matters are still awaiting final decision on the request for permanent relief.

In addition, partial interim relief has been granted to Gardiner, Inc. for its east Tampa, Fla. plant, limited to natural gas volumes needed for its requirements where a substitute fuel cannot be utilized. That is probably for processed gas; not feedstock.

Partial interim relief has also been granted to Mississippi Chemical Corp., at its Pascagoula, Miss. plant, pending rehearing, for volumes of natural gas up to its base volume entitlement.

Interim relief has been denied to Mississippi Chemical Corp. at its Yazoo, Miss. plant, without prejudice to its resubmission, on the basis that relief was not warranted since the company made no claim as to present irreparable injury, but merely asserted the possibility of future injury.

All I mean by that is that they are not prejudiced; they can file. If they can create a prima facie case of irreparable injury, we will grant the temporary relief.

They are on notice of it, and I am sure that they understand it.

The petition for relief filed by Kaiser Aluminum and Chemical Corp. is curently pending before the Commission. We have not acted on this one yet. Well, it is imminent.

In conclusion, Mr. Chairman, I would like to address myself to the final point in your letter of July 19, 1974, concerning "the ability of U.S. manufacturers to obtain additional supplies of natural gas on a long-term basis."

Here again, I have stressed in statements to committees of Congress, and elsewhere, to the administration, to public forums, wherever I have an opportunity to talk, I have repeatedly stressed that substantial long-term dedications of new natural gas supplies are ultimately contingent on significant changes in government policy.

Specifically, in order to realize a sustained and meaningful improvement in gas supply, we require: first, the monitored deregulation of new gas supplies. I don't need to explain, unless you interrogate me later, what I mean by monitored deregulation. But it is a term protective of the public interest, in my opinion, to avoid skyrocketing prices and windfall profits; but get more gas at a reasonable price to consumers.

Second, an expanded Federal leasing program to enable the discovery and development of our remaining oil and gas reserves in the prolific offshore areas of the Federal domain.

Here again, parenthetically, while there was a period of 2 years in 1970 to 1971 where there were virtually no lease sales in the United States, the Department of the Interior, has, over the course of the past 19 or 20 months, leased about one-fourth of all lands that were ever leased in the Federal domain. Only a little over 9 million acres, total, had been leased since 1954.

These lease sales are composed of largely Outer Continental Shelf of Louisiana and Texas, and also other areas of the gulf and are equivalent to about 1.8 million acres of land.

The expenditures for that leasing privilege have approached somewhere around $5 billion to $6 billion.

I did not compute the dollars going back to 1954. But I dare say that the percentage is even higher than the 25 percent as to acreage. Much higher.

This offers some hope where we have large lease sales. And if we can open up our Atlantic Ocean, also, to lease sales, the Pacific coast beyond Santa Barbara, the Alaskan gulf coast, and open these up to continuous and repeated lease sales, perhaps 5 to 10 years from now, we may start getting out of the morass that the Nation has found itself in regarding the natural gas shortage.

The third point is that we need a signficant increase in alternate fuel availability in order to free clean burning gas supplies for superior end uses.

I mentioned earlier that we are receiving more imports, which is helpful for the short term.

But we should have all of the fuel availability, whether it is coal, to be utilized in place of oil in the generation of electric power, or whether it is having no plants with generating boilers manufactured or fabricated for the period starting around 1980 that can utilize anything except coal. There is another point that I would like to make here. We have the additional options of expanding our gasification of coal prospects, or the processing of low-Btu coal, which is the Lurgi process—they are working on a methanation process now—or expanding our nuclear program again so that we won't burn any gas under boilers for the generation of electric power, and thus release about 3.8 trillion cubic feet per year. Remember, I said the shortage this year is 1.8 trillion short of demand.

Well, about double that was just burned under electric boilers last year.

If we could establish alternate fuel capability for the future to displace that gas, then we can divert our gas to higher and better uses, such as for fertilizer, or for feedstock for the petrochemical industry, or for other purposes.

Fourth, I suggest, is a very important point. The strip and deep mining regulations and clean air requirements should be balanced, so we can use our coal resources.

It is quite idle to state, I believe, that we have a 300-year supply of coal if you cannot burn it. We only have as much coal as government policy will enable us to mine, transport, and burn. And I guess that point is made.

Five, realization of our nuclear potential, I have mentioned.

Six, completion of the necessary transportation systems to bring Alaskan oil and gas resources to the lower 48 States. We are going ahead on that; that is, for oil.

On gas, we are in process of working out with the Department of the Interior impact statements for the proposed transportation through Canada to the Midwest.

And also, because we expect a competing application, to transport gas to the west coast of Alaska, we are working on an impact statement there. It would be liquefied in western Alaska, and then transported by cryogenic ship to the west coast of the United States.

We are working on both of these. I cannot prejudge as to which one is better. I don't know.

Seventh, intensive and continuous conservation of resources, so as to utilize more energy efficiently at the points of production, transmission, and consumption.

Conservation, like oil imports, immediately increases our supply. They are about the only two immediate sources of additional supply we have: conservation and imports.

Finally, an expedited effort to achieve the goals of Project Independence, which the Congress itself has articulated also. I am not putting this in terms of the administration. But simply, that is what the administration has called it.

The goals of Project Independence have also been articulated by the Congress in various committees. And I think they are sound.

My final point relates to a research and development program that will release us from reliance way in the future. When I say, way in

the future, I mean by the year 2000 or beyond; not 1980, we need to be released from reliance on finite nonrenewable energy resources.

This is my statement, basically.

I will be happy to respond to any of your questions.

The CHAIRMAN. Thank you, Mr. Chairman. I want to congratulate you on a very comprehensive analysis of the in-depth problem that confronts our Nation at this time.

Mr. NASSIKAS. Thank you, Mr. Chairman.

The CHAIRMAN. If sufficient emergency exists to permit curtailment plans to go into effect without full evidentiary hearings, might not it be justified, in emergency shortage of fertilizer, to permit companies to proceed with the construction of needed nitrogen facilities?

Mr. NASSIKAS. It seems to me that, inherent in that question, is to construct the needed nitrogen facilities, but then to commit a gas supply in advance to them?

The CHIARMAN. I understood you to say in your testimony that you permit the curtailment of pipelines, which necessarily reduces some customers, without an evidentiary proceeding.

Mr. NASSIKAS. Yes, sir.

The CHAIRMAN. Under those conditions, wouldn't it also be in order to permit an emergency shortage of fertilizer, to permit companies to proceed with construction of needed nitrogen facilities, without an evidentiary proceeding?

Mr. NASSIKAS. I don't think so.

The CHAIRMAN. It looks like, to me, that one would be corollary to the other.

Mr. NASSIKAS. I don't believe so, Mr. Chairman.

In the first place, while we may grant emergency relief on a temporary basis, we still grant that relief on the basis of proof of irreparable injury, or injury to life or property.

This is evidence. It is an evidentiary proceeding, even though it is limited.

On our broad curtailment plan orders, we set up a policy, as we did in 467-B. On any curtailment plan, these have been subjected to evidentiary proceedings.

At least five of these proceedings are on appeal to the courts. Two or three of them have been remanded back to us, or our order has been stayed, pending the completion of the evidence.

In direct answer to your question, I don't think it would be desirable, or prudent, for fertilizer manufacturers to start building facilities, and expect that they can get an advance commitment of the amount of gas that is necessary to build those plants in the absence of a full evidentiary proceeding.

The CHAIRMAN. Now, in your order, in RM 74-14, it apparently fails to address the issue of additional gas for expansion of fertilizer production facilities, even though the Senate resolution 289 requests action.

Does the Federal Power Commission plan action in that regard?

Mr. NASSIKAS. As to the commitment of a firm gas supply, prospectively, for the construction of fertilizer plants, I will not preclude, as Chairman of this Commission, the concept of an appropriate

petition being filed with us, with an appropriate request for a tariff provision, supported by evidence, trying to justify the need for an advance commitment of gas to the construction of that plant.

A pipeline company that would be the supplier for that plant, a jurisdictional pipeline company, would be required to file an application for a section 7 certificate of public convenience and necessity to transport and sell a volume of gas under a contract to a particular facility to be built by a manufacturer, and then present evidence in support of that application.

We would review it, we would analyze it.

So, when you ask, do we plan actions, if someone wishes to file applications with us, we certainly will honor them, we will review them, and we will determine whether or not any possible exceptions can be made to our curtailment policy.

This would be an exception, it would be an extraordinary exception, and it may not be warranted, but I am not going to prejudge it.

The CHAIRMAN. How long would it take?

Mr. NASSIKAS. Before we determine the situation?

The CHAIRMAN. Yes.

Mr. NASSIKAS. As for the Federal Power Commission—I would say perhaps 6 months, depending upon the number of interventions, would be required for us to act. Perhaps 2 to 3 years would pass before the litigation is over, if a case goes to the Supreme Court.

By the way, I didn't pass the statute, either, the Administrative Procedures Act. I simply honor it.

The CHAIRMAN. What efforts have been made to coordinate energy allocations and policies with the Federal Energy Administration?

Mr. NASSIKAS. Considerable efforts—actually, not just efforts—I think we have done quite a bit. Probably, we could have done more. No matter what we do here in our regulatory responsibilities, I know we could do more, but there are limitations.

Specifically, in the mandatory allocation program, which the Congress delegated to the Federal Energy Administration, one of those delegations was to determine the requirements for mandatory fuel allocations, largely residual fuel oil, No. 6, and middle distillates for the electric utility industry, although currently they also have allocating authority for coal, too.

We at the Federal Power Commission had issued, over the course of the past 2 years, various orders directing the utilities to file with us what their burn was of various kinds of fuel, what their inventories were, what their ultimate capabilities were, et cetera.

We expanded these forms, collected information which was absolutely essential to the Federal Energy Administration's allocation of mandatory fuels. We have this computerized. We have shown the FEA how to create a redundant system, a duplicate system to what we have so that they can analyze as they may wish without using our computers and our programs.

That is one very major program.

As the deviations from our estimations of requirements, and we make the estimate in the first instance, was very fractional, FEA proceeded to allocate fuel this past winter.

A second program that we undertook with them in this area was the initial conversion of some 46 coal-fired plants—actually, it turned out to be about 22, from oil to coal, so that the northeastern part of the United States, which generates 90 percent of its electric power north of New York by oil, could burn coal, as a result of the Arab embargo.

That was another program.

A third one was the transportation of coal by wire to the Northeast from the southeastern power pools as far west as Wisconsin, and we succeeded in transporting considerable kilowatt hours to the Northeast, off peak, when your demand was less in these other areas, and transported that to the northeastern part of the United States.

In the area of the specific subject matter of this hearing—that is, in curtailments and what is the availability of all of the fuels to meet the requirements where we cut off gas—that is, we say your priority does not permit us to grant you any favorable priority for gas out of all of the fuels available.

We are in process of working out a three-pronged approach to this, to assist the FEA and also to assist the Federal Power Commission in carrying out our responsibilities.

First, I have sent a letter, a comprehensive letter, to the future requirements committee, so-called. This is an industry committee on which the Federal Power Commission has staff observers, and it is sponsored by the University of Colorado.

They are going to conduct a study behind distributor use as to the end use of gas and what alternate supplies are available to meet the curtailment of natural gas for those end uses.

Remember that we do not have jurisdiction delegated to us by the Congress to compel distributors who are nonjurisdictional to supply this information to us. But we believe that through this future requirements committee that we will be able to secure some reliable information which we would audit, and that is approach number one.

The second simultaneous thing that we are doing is the issuance of a letter to 42, I believe the figure is, jurisdictional pipelines. They are the major pipelines in the country; and the letter, that either went out today or yesterday, requests these pipelines, over the short term, that is, this coming winter, to give us a complete assessment of these points: end-use, what types of alternate fuels are available, where, et cetera.

Then, the final one—we are awaiting clearance, by the way, from the Comptroller General's office, and I don't say this critically in any way, because they have their responsibilities; we are trying to get an exception from their 4-day publication rule, so that we can issue our letter and get this project going, and still comply with the Federal Reports Act.

The final one is a rulemaking, which will be very expedited, that will give us this same information, but on a continuous basis, 12 months back, by month, in each region of the country, as to precisely how much gas shortfall there has been by end-uses, what are the alternate supplies available; then, going forward 12 months from the reporting period assigned, as to where the shortfall is going to be.

We believe that, when we get these three programs together, that the Federal Energy Administration will benefit from these researches.

And we will work very closely with them, and try to assist as best we can within the limitations of our resources.

The CHAIRMAN. Speaking of alternate sources of fuel, is it not a fact that the ammonia plants cannot even use alternate fuels for feedstocks in their form of furnaces?

Mr. NASSIKAS. In most instances, yes.

In process heat, so-called, process fuels, there is substitutability. And we have determined that in evidentiary records.

As to the feedstock itself, sure, you could have feedstock from coal, or feedstock from oil, but you don't have the feedstock.

So that is for the future, and really not for the present.

The CHAIRMAN. I believe that the information that our staff has is that all but 2 of the 80 U.S. plants were designed exclusively for natural gas.

Mr. NASSIKAS. Well, I don't know as to the convertibility, however.

When they say, exclusively for natural gas, while I respect the staff, I would like to look at the 80 cases.

The CHAIRMAN. I wish you would coordinate that information.

Mr. NASSIKAS. I would be very happy to.

The CHAIRMAN. In your statemnet, you discuss your July 16, 1974 order, docket No. RM 74–14, related to the priority of fertilizer, first, I would like to commend your responsiveness to this committee's resolution S. Res. 289, and the expeditious approval of the eight emergency requests by the ammonia producers.

I am troubled, however, by several points. First, why do you continue to give priority number two to ammonia plants with firm gas contracts, and a lesser priority number three to those with interruptible, at a time when our farmers need every pound of nitrogen that can be produced?

Mr. NASSIKAS. Well, we believe that, under the structure that we have set up here, to be fair to all sectors of the industry, that a person who acquired gas on an interruptible contract should not receive the same priority as somebody with a firm contract.

I think it is the principle of equity here. Even though the output of the plants may be equally needed, I don't believe that an interruptible customer, or an interruptible contract should be entitled to the same priority as a firm contract.

Now, as it is, we have upped the requirement, that is, the priority for interruptibles. We could have set these far lower.

We upped these interruptibles, trying to consider the importance of the end-use.

And we thought that the fertilizer manufacturer, anhydrous ammonia manufacturer, was entitled to that kind of a priority for interruptibles.

In other words, rather than putting it down to seven or eight, we put it up to three.

And in some instances, of course, we may end up—I don't know—we may end up having to review, reassess our priorities as we go along.

If there is anything I want to emphasize to you, Mr. Chairman, and you, Senator Dole, it is that we have not inscribed policies here for all time.

No agency can do it, nor can the Congress. This has to be done on an empirical basis, and with fairness, and improvement as we go along.

The CHAIRMAN. I would agree with that.

But it seems to me that the highest priority ought to be given preferential treatment.

Mr. NASSIKAS. I am in sympathy with that view. Theoretically, anhydrous ammonia and the use of natural gas in the process, as feedstock or as process heat, could be priority one, rather than human needs customers.

But we made our choice, and it is a very hard choice. We have made the choice that human needs, that is, residences, and obviously, hospitals, or where public health and safety is involved—everybody would want to serve them first, and then industry next.

On the other hand, if we find that alternate sources of fuel cannot fill the gap, speaking here of situations where alternate sources can be used for other priorities, we may have to change some of this, also, and adopt the approach that the FEA did, even though there are difficult technical problems in that approach.

That is, let's cut down on human needs customers, to be sure that the economy is functioning.

Of course, with natural gas, you cannot do it, because you have some safety problems with reductions of pressure, which FEA recognizes, by the way.

The CHAIRMAN. What liaison or leadership does the Commission use with the State regulatory agencies to get uniform priorities, vis-a-vis so that ammonia plants not only have a very high priority on interstate gas lines, but also have equally high priority on intrastate lines?

Mr. NASSIKAS. Very little.

In the nonregulated sector, which is the intrastate gas supply, we have done very little with the State agencies in order to try to acquire uniformity.

Of course, one reason is that we do not have the power to impose anything on them, except the power of persuasion.

We do meet with the State regulatory agencies on a systematic and methodical basis. And we have visits from them. And we visit with them quite frequently.

Yesterday, and just by way of interest, the vice chairman of the Mississippi Commission came in to see me with members of his staff. They had an assistant attorney general and another gentleman with them.

I serve on the executive committee of NARUC. I do this not because I like to serve, but I think we ought to have close relationships.

The CHAIRMAN. I agree with that.

What can be done by your agency at once to assure producers of ammonia that they will be able to get gas, where the producer is to begin construction on the new plant?

Mr. NASSIKAS. That is another facet of the question that you asked a little earlier.

I would say that on an appropriate petition, I would like to see the facts presented to us as to how their need is more compelling than other unique applications of feedstock, such as for the petrochemical industry, and other applications, which another witness has already testified to, and with which we are well acquainted.

I would like to analyze it and examine it, and have the Commission do so, and the staff, on that basis, and then make a determination.

In other words, in all candor, I can give you no assurance, Mr. Chairman, that we will grant that kind of application.

The CHAIRMAN. Now, in your statement you say that you cannot establish a priority for one class of customer without taking natural gas away from other users.

Mr. NASSIKAS. Yes, sir.

The CHAIRMAN. Isn't that exactly what the Federal Power Commission has already done in its priority of service orders?

Doesn't a priority for residential or commercial customers, for example, have the effect of denying gas to other customers?

Doesn't the priority based on volume of gas used have a similar effect?

Mr. NASSIKAS. Yes.

The CHAIRMAN. How can the Commission establish a kind of priority system favoring some classes of customers over others, but you say that you cannot do this for agriculture?

Mr. NASSIKAS. Well, I would say that that question is largely accurate. Let me see if I can answer it.

In establishing any priority, and we have nine priorities that we have established, certainly someone is going to be deprived of gas.

We have a shortage. So by definition, someone is going to be deprived of gas.

So that, when we set up a priority—I agree with that aspect of the question—that one classification of customers is going to receive less benefit than another class of customers.

Now, what I mean by this statement is simply that, under a priority two classification, where we have a firm contract by a fertilizer manufacturer, if we were to decide that they were to have a higher priority than the petrochemical industry, that is, if their needs within priority two were to be satisfied in full, not only as to present demand, but as to future demand, then I say that, on equal equities, that this would be unfair to the other industry.

Of course, I recognize that food, as you pointed out earlier, is essential. It is essential to survival.

At the same time, I don't think that our priorities are going to affect us. I believe that our priorities, as has been tested out over the course of the past year, have proved to be rather sound.

The CHAIRMAN. As you know, Mr. Chairman, our committee does not have legislative jurisdiction over the Federal Power Commission.

We can report to the Senate bills that would probably accomplish the objectives that we would desire, to give agriculture the highest priority.

Would you work with the staff of our committee, and suggest some legislation that we might consider offering, and might consult with the Committee on Commerce, that, I believe, has legislative jurisdiction to accomplish that objective?

And here is the reason why. Even if natural gas were deregulated today, it would be 3, or 4, or 5, 6, or 7, or 8 years before we would have adequate supply.

Mr. NASSIKAS. That is correct.

The CHAIRMAN. Also, if we had sufficient nitrogen plants start construction today, it would be 3, or 4, or 5 years before we could get the needs of nitrogen that agriculture needs today.

So we are confronted with a problem here that may be years of acute short supply. And I would hate for us to have to go through a series of situations such as we had in agriculture throughout the country this year.

There is probably a decline in harvest. We have already had that, the Department revise its estimates on the production of wheat, soybeans, feed grains.

And now, with the drought in the Midwest and the High Plains, it may even be worse.

But this situation is critical indeed. And I would hope to have the benefit of your advice and suggestions further in that regard.

Mr. NASSIKAS. Well, could I state for the record that I will be happy to have our staff work with your staff, lend technical assistance, policy assistance.

And I know that there is one bill before the Senate Commerce Committee, at least one bill, that states this, that states that there shall be a priority granted for anhydrous ammonia manufacture.

It is the Stevenson bill. I cannot give you the number of it.

The CHAIRMAN. Would you also take a copy of Mr. White's testimony—you have heard it; you were here today; he was the first witness—and submit your response thereto?

Mr. NASSIKAS. I shall, although—is Mr. White representing some company that is before us?

The CHAIRMAN. Yes, sir. He is.

Mr. NASSIKAS. Well, our final response to it—I have a staff response filed—there are certain ethics that are involved in being chairman of a commission, or being a regulator.

The CHAIRMAN. We would not want you to get into the area of affected jurisdiction there.

Mr. NASSIKAS. Well, I cannot get involved in answering litigants.

The CHAIRMAN. I agree with that. We just want a general response on recommendations he has made.

Mr. NASSIKAS. All right. I will supply that in the appropriate fashion, Mr. Chairman.

The CHAIRMAN. Senator Dole.

Senator DOLE. Well, I think that the Chairman has covered most of the questions.

I want to go back to a subject in which you didn't want to go into too much detail. But I am not quite certain what you mean by monitored deregulation.

You indicated earlier you would touch on it.

Mr. NASSIKAS. All I mean by that is that——

Senator DOLE. You are trying to protect the consumer, I assume.

Mr. NASSIKAS. First, there would be very strict enforcement of the antitrust laws by the Federal Trade Commission, carrying out their responsibilities.

Second, the Federal Power Commission would be compelled by the legislation to report to the Congress at least annually, or more frequently if necessary, as to how it is operating.

That is—what type of supplies are we getting. Are we receiving additional incremental supplies, and at what price.

The most important part of monitored deregulation is, and this is a suggestion that I made some time ago, and I think it is sound, that we should be granted the authority to reimpose ceilings on natural gas, by standards to be established in the legislation, in the event that the price exceeds just and reasonable rate lines.

The trouble with that last suggestion is that it does, in a way, partially defeat the concept of deregulation in getting further incentives for exploration and development.

But I also believe that the public interest requires, at this time of a seller's market, authority by the Federal Power Commission to reimpose ceilings by economic tests, not by cost or utility standards.

The trouble is, under the statute as drafted—and after all, it was drafted in 1937 or 1936, passed in 1938—that it doesn't work in today's society.

We are bound to set our prices by cost concepts, public utility concepts, and our latest Supreme Court decision says this. Whereas, we should be setting prices in accordance with the economics of the marketplace.

As regulators, we are not as good as the marketplace, or an economic system.

So therefore, I say, let the economic system operate. Let's protect the public, however, against aberrations, by giving this authority to reimpose ceilings.

Senatore DOLE. Is it true that, under FPC regulation, that the natural gas producer has a guaranteed return of 15 percent?

Mr. NASSIKAS. It is not quite that. Well, your question is very well taken, Senator Dole.

Under our methodology that we set up, we use averages in establishing a just and reasonable rate. Under our costing methodology, the answer is yes.

We have a computation which is supposed to grant to the producers a 15 percent rate of return. Some may make more. Some may make less.

And maybe the 15 percent, under our methodology, is not accurate.

However, I want to say that this is one of the big issues on rehearing that I addressed in the decision which I wrote for a majority of the Commission. And I intend to readdress it on rehearing.

Senator DOLE. Is that higher than the average rate of return for most other industry?

Mr. NASSIKAS. It is higher than the rate of return for most other industries.

At the same time, the industry, in some of their filings, have indicated their returns should be higher, really most of their complaints

have been—and I am not saying they are wrong—their complaints have been that they are not making the 15 percent return that the Commission said they are entitled to make.

That is basically what it is.

Senator DOLE. Certainly respectfully, if there is this, even the monitored, deregulation, do you have any projections on how high the price of gas will be?

Mr. NASSIKAS. I have projections in my own mind. Can I give you a range?

Certainly, if the price of gas is deregulated so that we do not have a price established by a central agency based on cost concepts, and you take, broadly speaking, what the economics are of inter-fuel competition, certainly, the price that we may have established in our latest case—and this may be changed on rehearing; I don't know—let's say—45 cents, would be a floor.

How high would it go? It could approach, some economists believe, on a Btu basis, the price of oil in the world market—the price of oil in the world market today may be approaching $10 a barrel.

Let's take a round figure. I can compute it a little better at $9 a barrel. At $9 a barrel in the world market, that would mean $1.50 gas on a million-Btu basis. That would be the equivalent of a barrel of oil at $9.

So some economists say that the price of gas, being competitive with oil, would go to $1.50.

I don't happen to agree that that would be so, because I don't think you can really compare natural gas, on a Btu equivalent basis, with crude oil at the wellhead, so to speak.

You have to compare the price of natural gas delivered to specific competitive markets, and determine where the price will go on that basis.

Another point would be, the high side would still be $1.5, somewhere around there, if it approached the price of liquefied natural gas that is imported from other nations.

The latest Algerian import that we cleared was rather low, compared to the applications we have pending before us. That is at about 90 cents a million Btu, delivered to Cove Point, Md.

Well, if you would compare that price with the delivered price of gas—let's say, to Cove Point, Md. or to Washington, D.C., to the city gate—that delivered price ranges about 45 to 50 cents. So that, you are not quite double on that one.

However, there are imports that we have before us at $1.50, $1.75, $1.25 for imported liquefied natural gas. Again, some economists and people that have studied this matter believe that, under deregulation, that the price of domestic supplies of gas would start approaching the alternate supply of that particular fuel.

Others compare it to the price of coal. Well, coal today, on a Btu basis, is running $1 a million Btu, $25 a ton for good quality coal.

So my range, to conclude. I would say, the range could run anywhere from 45 cents to $1.50 plus.

Senator DOLE. Now, is it correct that most of the industrial and agricultural users of natural gas are on interruptible supply contracts?

Mr. NASSIKAS. I would say, that is correct. Most of them are. I would say, the majority of them.

Senator DOLE. Is it true that they are going to be faced, in this coming fall and winter season, with 2, 3, 4, or 5 months of interruption, or not?

Mr. NASSIKAS. I don't believe we can generalize on that, Senator Dole.

Senator DOLE. I know it depends on hard factors.

Mr. NASSIKAS. The test of the priority would be—let's assume they had no alternate fuel whatsoever. Let's say there is no alternate fuel to the gas, available to a manufacturer.

I don't believe that our Commission could simply cut them off, and state, well, all right, just close your shop.

We would have to get into some kind of a modified priority to meet the short-term requirement.

If there are alternate supplies, however——

Senator DOLE. Is there a priority system in the works?

Mr. NASSIKAS. Well, if there are not alternate supplies, we have set up our procedure for extraordinary relief. They can come in and prove this, and then we can grant them another priority.

On that score, the question is going to be, this coming winter—and I don't want anybody to think that I am at all optimistic about what will happen this winter——

Senator DOLE. What about up through November 10th?

Mr. NASSIKAS. Through November 10th, that is another kind of an energy crisis.

Senator DOLE. I just wanted, specifically, the sources of ammonia that you plan to have if they are on interruptible contracts?

Mr. NASSIKAS. Well, as I said earlier, they probably have no alternative, from the feedstock standpoint, to natural gas.

So when I state that, in the event that we find—and I think our record demonstrates that we realize the importance of this—that they have no alternate, they have a priority two, I believe that they are going to get substantially their full requirements and their entitlements.

It is going to depend on an evidentiary record.

Other industries have alternate fuels which they can utilize, such as electric utilities, for instance—part of the problem with them, and some other industries, is, and I don't blame them at all, is that they are talking of price and economics, not whether there is an alternate supply available.

They qualify it by saying, where there is an equally cheap alternate supply available. Well, that is not the test.

Regrettably, the test is whether there is an alternate supply available, and not whether, on a Btu basis, it is as cheap as gas.

Senator DOLE. Thank you, Mr. Chairman.

Thank you very much, Mr. Chairman.

The CHAIRMAN. Thank you, Mr. Chairman. We are grateful for your cooperation.

Mr. NASSIKAS. My pleasure, Mr. Chairman, Senator Dole. Good luck to you.

[The prepared statement of Mr. Nassikas follows:]

STATEMENT OF HON. JOHN N. NASSIKAS, CHAIRMAN, FEDERAL POWER COMMISSION

Mr. Chairman and Members of the Committee, as requested in your invitation to testify at these hearings, I will provide the current supply-demand outlook for natural gas and the potential for its priority allocation for agricultural uses, including the ability of U.S. manufacturers to obtain additional supplies on a long-term basis.

CURRENT SUPPLY PROJECTIONS

On February 19, 1974, in my earlier testimony to this Committee on the natural gas supply situation, I indicated that "the imbalance on a nationwide basis between natural gas supply and demand had steadily widened at an alarming rate and that there would be no slowing or reversal of this trend within the next few years." Our staff's studies have confirmed this trend. In a June 11, 1974 gas curtailment report, the Bureau of Natural Gas indicated that natural gas supply deficiencies for the major interstate natural gas pipelines for the April 1974 through March 1975 period will be nearly 55 percent higher than they were a year earlier—rising from 1,191,132 MMcf to 1,845,770 MMcf. Firm curtailments for the 12-month period ending March 31, 1975, are equivalent to about 9.6 percent of the total demand requirements of the reporting companies for firm gas. The referred demand as the result of curtailments of this magnitude in terms of barrels of oil equivalent is 330 million barrels.

The report also shows that for the winter period, November, 1974 through March, 1975, curtailment of firm natural gas requirements is anticipated to increase by 80.91% over the previous winter. Thus curtailment of firm natural gas requirements which equaled 0.425 trillion cubic feet for the 1973–74 winter period is estimated to increase to 0.768 trillion cubic feet for the on-coming winter period. I have attached this report as Appendix A of my statement.

In view of the intensity of the anticipated shortfall it is incumbent upon the industrial natural gas consumers to develop alternate fuel capability to the extent feasible before the onset of the winter heating season and to maximize alternate fuel storage inventories.

COMMISSION AND COURT ACTIONS

My previous testimony also outlined the principal actions taken by the Commission to improve overall gas supply as well as our specific efforts to provide emergency relief from natural gas supply inadequacies. These efforts are continuing and I will bring the Committee up to date on recent Commission and Court actions that should help mitigate the supply shortage.

The Commission issued a landmark decision (rehearing pending) on June 21, 1974, when in Opinion No. 699 we established a single uniform national base rate of 42 cents per Mcf with one cent annual escalations over the life of the contract (subject to Btu adjustments and exclusive of state and federal production taxes), a gathering allowance from 1 cent to 2½ cents, and an additional 1 cent a thousand cubic feet for transporting at the sole cost of the producer natural gas produced in an offshore area to an onshore delivery point. The price applies to both gas-well gas and gas associated with the production of oil. This new rate is applicable in all gas producing areas in the lower 48 states and will govern:

a. Sales from wells commenced on or after January 1, 1973.

b. Sales made under contracts executed on or after January 1, 1973, for gas which has not previously been sold in interstate commerce, except under short-term and emergency sale procedures of the Commission's regulations.[1]

c. Sales made pursuant to contracts executed on or after January 1, 1973, where the sales formerly were made pursuant to permanent certificates of unlimited duration under contracts which have expired by their own terms since that date.

Prices in excess of the national rate will be granted through petitions for special relief under the following circumstances:

a. Where the producer can demonstrate that out-of-pocket expenses incurred in well operations are greater than revenues from sale of the gas.

b. To recover Federal income taxes where a producer demonstrates that a Federal income tax liability has been incurred with respect to the producer's jurisdictional natural gas operations.

c. Where reduced pressures, need for reconditioning, deeper drilling, or other factors make further production uneconomical at existing prices (Order 481, April 12, 1973).

d. To avoid flaring and venting of natural gas (Order 482, April 12, 1973).

e. Where the producer has not already committed gas supply to the interstate market, he may seek certification of the sale under the Commission's optional procedure, including proof of project costs (Order 455, August 3, 1972 and Order 455-A, September 8, 1972).

f. Relief on a cost basis to compensate for deeper drilling (well depths greater than 15,000 feet) and deeper offshore water depths (over 250 feet).

It is the belief of the Commission that the new national rate will improve gas supply by encouraging the requisite level of investment in gas exploration and development for increased commitments of natural gas to the interstate market. The rate set in Opinion No. 699 is subject to biennial review by the Commission which should enable us to set just and reasonable rates without the delays and the problem of stale data which have characterized the area rate proceedings and their adjudicatory procedures, despite the best efforts of all involved.

Recent court actions have also brought greater certainty to the regulation of natural gas producers and should help stimulate natural gas production efforts.

On June 10, 1974, the Supreme Court of the United States rendered two important decisions affirming and delineating the Commission's powers to regulate producer rates. *Mobil Oil Corp.* v. *F.P.C.*, Nos. 73-437, *et al.*, and *F.P.C.* v. *Texaco Inc., et al.*, Nos. 72-1490 and 72-1491.

In the *Mobil* case the Supreme Court affirmed in its entirety the Commissions Opinion No. 598 (46 *F.P.C.* 86 (1971)) establishing rates for the Southern Louisiana Area which had been affirmed by the Court of Appeals (*Placid Oil Company, et al.* v. *F.P.C.*, 483 F.2d 880 (5th Cir. 1973)). Among the major issues in this proceeding resolved in favor of the Commission by the Supreme Court were the Commission's use of refund credits and contingent escalations as incentives to encourage the exploration for and development of new natural gas reserves for the interstate markets and the adoption of a settlement proposal which has not been unanimously agreed to by the parties to the proceeding.

The Court's decision in the *Texaco* case affirmed the Commission's authority to indirectly regulate the rates charged for interstate sales of natural gas by small producers. (A small producer is defined as a producer who has interstate sales of less than 10,000,000 Mcf per annum.) The Supreme Court vacated the judgment of the Court of Appeals which had reversed the Commission's orders and remanded the case to that court with instructions that the proceedings were

[1] Opinion No. 699, terminated existing procedures provided by the Commission's regulations for limited-term and emergency sales, effective immediately. The Commission's regulations permitted 60-day emergency sales at above-ceiling rates to interstate pipelines which were in curtailment, and issuance of limited-term certificates, also at above-ceiling rates, with pregranted abandonment. Certificates already issued under those procedures will not be affected, but new certificates will not be issued.

to be remanded to the Commission for further clarification of the procedures by which the Commission will determine the justness and reasonableness of small producer rates.

SENATE RESOLUTION 289

As I previously informed the Committee, Mr. Chairman, the Commission published Senate Resolution 289 in the Federal Register on March 25, 1974 (39 F.R. 11137) requesting comments from the natural gas industry, their customers, consumers, other Government agencies and all interested parties concerning the Senate's recommendation that we afford the highest priority of natural gas delivery to the fertilizer industry. In reply, fifty-six respondents filed comments in the proceeding, forty-four of which generally supported the Senate's suggestions.

However, after careful analysis of all submittals we concluded the proceeding on July 16, 1974 by the issuance in Docket No. RM74-14 of an order reaffirming (1) the propriety of maintaining our existing priorities of service and (2) the suitability of current emergency relief procedures. It was our conclusion that we could not fashion a workable and suitable rule for granting relief to the fertilizer industry apart from the needs of other industrial consumers. With our current national energy posture, any increase in industrial consumption due to a grant of relief from curtailment is accompanied by a corresponding reduction of consumption in some other sector of the economy. Therefore, when an industry falls short of adequate supplies of feedstock—such as natural gas in the manufacture of nitrogen fertilizer—the shortfall must either be equitably shared on a priority basis by the affected industries or a hard and critical choice must be made to grant a higher priority to the industry determined to be most important to the national welfare.[2]

Our decision to maintain current priorities and emergency relief procedures was made with full recognition of S. Res. 289's emphasis on the immediacy of the fertilizer problem and its potential impact on agricultural production in the near future.

Were we to attempt, however, to alleviate those problems by designing a rule that would define the priorities of service of all priority 2 manufacturers and users, including fertilizer manufacturers, on a just and equitable basis the procedural obligations of the Natural Gas Act and Administrative Procedure Act would necessarily result in substantial delay in arriving at a decision. As we noted in our order, "any rule-making proceeding sufficient to adjudicate the full panoply of interests represented by all customers of all jurisdictional pipelines experiencing curtailment would be cumbersome and could take years to complete, if it could be completed at all." Inevitably by trying to fashion a rule of general application throughout the industry as a whole individual hardship and injustice would result. The extraordinary relief procedure, on the other hand, is designed to avoid unjust results. We believe, therefore, that our current priorities and emergency procedures provide us not only with a more equitable basis for affording relief but a much more timely mechanism for acting in emergency situations than we could hope to achieve by prolonged rule-making or adjudicatory proceedings to ration natural gas between competing priorities of equal public concern. I would like to point out in this regard that the fifty-six comments received in response to our request for comments on S. Res. 289 indicated "an almost total lack of criticism of our existing procedures for granting extraordinary relief from curtailment."

EXTRAORDINARY RELIEF

Order No. 467 and its companion orders establishing priorities of service in periods of curtailment and the procedures for affording emergency relief were sustained as valid Commission policy statements and as such nonreviewable

[2] See pages 19–21 of my February 19, 1974 statement before this committee.

under §19(b)of the Natural Gas Act in a June 26, 1974 decision by the U. S. Court of Appeals for the District of Columbia. *Pacific Gas and Electric* v. *F.P.C.* No. 73-1358 *et al.*[3]

As I indicated at my last appearance before the Committee current procedures provide the following:

a. The initial priority accorded natural gas used by the fertilizer industry could vary depending upon the end-use (whether the gas is used as feedstock or as fuel) and whether the gas contract is firm or interruptible.

b. If the industrial[4] contract is firm,[5] the portion of natural gas requirements for use as a feedstock[6] would be placed in priority (2), subordinate only to gas needed for residential[7] and small commercial[8] requirements.

c. If the contract is firm, the portion used as fuel would generally fall into priority (3) unless the natural gas is used as boiler fuel,[9] which would qualify its inclusion into priorities (4) or (5) depending upon the relative size of the requirement.

d. If the manufacturer can demonstrate upon a proper showing that its firm fuel requirements can qualify for process gas use,[10] those requirements would be placed into priority (2).

e. If the fertilizer manufacturer holds an interruptible[11] natural gas purchase contract, its requirements for feedstock would be placed in priority (3).[12]

f. If the fertilizer manufacturer has an interruptible contract for its fuel requirements it would be placed into priorities (6) through (9), unless it can demonstrate that such fuel is process fuel which may then be included in priority (3).

As I also noted in my February 19th testimony, customers of jursidictional pipeline companies may seek relief from curtailment, first from the pipeline and, upon denial of that relief, from the Commission. The Commission has authorized pipeline companies to grant relief unilaterally in response to emergency situations, including environmental emergencies, during periods where supplemental deliveries are required to forestall irreparable injury to life or property. If the pipeline denies relief to its customer, a petition outlining the circumstances warranting extraordinary relief, may be filed with the Commis-

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[3] Excluding Order No. 467–C which was issued April 4, 1974 after the appeal was filed with the Court.

[4] "*Industrial*: Service to customers engaged primarily in a process which creates or changes raw or unfinished materials into another form or product including the generation of electric power." Order No. 493–A, issued October 29, 1973.

[5] "*Firm Service*: Service from schedules or contracts under which seller is expressly obligated to deliver specific volumes within a given time period and which anticipates no interruptions, but which may permit unexpected interruption in case the supply to higher priority customers is threatened." *Ibid.*

[6] "*Feedstock Gas*: Is defined as natural gas used as raw material for its chemical properties in creating an end product." *Ibid.*

[7] "*Residential*: Service to customers which consists of direct natural gas usage in a residential dwelling for space heating, air conditioning, cooking, water heating, and other residential uses." *Ibid.*

[8] "*Commercial*: Service to customers engaged primarily in the sale of goods or services including institutions and local, state, and federal government agencies for uses other than those involving manufacturing or electric power generation." *Ibid.*

[9] "*Boiler Fuel*: Is considered to be natural gas used as a fuel for the generation of steam or electricity, including the utilization of gas turbines for the generation of electricity." *Ibid.*

[10] "*Process Gas*: Is defined as gas use for which alternate fuels are not technically feasible such as in applications requiring precise temperature controls and precise flame characteristics. For the purposes of this definition propane and other gaseous fuels shall not be considered alternate fuels." *Ibid.*

[11] "*Interruptible Service*: Service from schedules or contracts under which seller is not expressly obligated to deliver specific volumes within a given time period, and which anticipates and permits interruption on short notice, or service under schedules or contracts which expressly or impliedly require installation of alternate fuel capability." *Ibid.*

[12] On October 29, 1973, in Order No. 493–A, the definition of "alternate fuel capability" was defined to exclude propane and other gaseous fuels. The Commission said: "The clarification made here is specifically intended to permit interruptible industrial consumers to qualify an appropriate portion of their requirements for Priority 3 usage under, Order No. 467–B, where the use is for plant protection, feedstock, or process as those definitions are defined in this proceeding."

sion. The Commission will grant relief upon proof of irreparable injury to the applicant.[13] In Order No. 467-C, issued on April 4, 1974, we set forth the basic minimal data that an applicant for emergency relief must supply the Commission. Order No. 467-C is attached as Appendix B.

Also attached as Appendix C is a compilation of all petitions for emergency relief from curtailment filed in fiscal 1974, indicating the supplier, the industry or community seeking relief, the end-use of the gas supply sought and the status of the application. An examination of these data will indicate that relief or temporary relief pending the outcome of an evidentiary proceeding was afforded in most cases.

Ten out of the total of 64 petitions to the Commission for extraordinary relief from curtailment have been filed directly by fertilizer manufacturers or by local natural gas distribution companies on behalf of fertilizer manufacturers. Six of these petitions have been granted immediate interim relief equivalent to the total volume requested pending hearing on the merits of the petition. These matters are still awaiting final decision on the request for permanent relief.

In addition, partial interim relief has been granted to Gardiner, Inc.[14] for it East Tampa, Florida, plant, limited to natural gas volumes needed for its requirements where a substitute fuel cannot be utilized. Partial interim relief has also been granted to Mississippi Chemical Corporation,[15] at its Pascagoula, Mississippi plant, pending rehearing, for volumes of natural gas up to its base volume entitlement.

Interim relief has been denied to Mississippi Chemical Corporation[16] at its Yazoo, Mississippi plant, without prejudice to its resubmission, on the basis that relief was not warranted since the company made no claim as to present irreparable injury, but merely asserted the possibility of future injury. The petition for relief filed by Kaiser Aluminum and Chemical Corporation is currently pending before the Commission.

In conclusion, Mr. Chairman, I would like to address myself to the final point in your letter of July 19, 1974 concerning "the ability of U. S. manufacturers to obtain additional supplies of natural gas on a long-term basis." As I have repeatedly stressed in my statements to Committees of Congress, substantial long-term dedications of new natural gas supplies are ultimately contingent on significant changes in Government policy. Specifically, in order to realize a sustained and meaningful improvement in gas supply we require (1) the monitored deregulation of new gas supplies;[17] (2) an expanded Federal leasing program to enable the discovery and development of our remaining oil and gas reserves in the prolific offshore areas of the Federal domain; (3) a significant increase in alternate fuel availability in order to free clean burning gas supplies for superior end-uses; (4) balanced implementation of strip and deep mining regulations and clean air requirements to permit the use of our vast coal resources; (5) realization of our nuclear potential for the generation of electric power; (6) completion of the necessary transportation systems to bring Alaskan

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[13] *Federal Power Commission Staff Report of Curtailment Priorities and Procedures for Seeking Extraordinary Relief*, which was attached to my February 19th statement, provides information on this general subject in more detail.

[14] Florida Gas Transmission Company, Docket No. RP 74–50–4, Order Issued April 4, 1974.

[15] United Gas Line Company, Docket No. RP–37–11. Order Issued June 17, 1974.

[16] Southern Natural Gas Company, Docket No. RP 74–6, *et al.*, Order Issued February 4, 1974.

[17] The FPC's Annual Report for Fiscal Year 1973 presented the Commission's position on the decontrol of wellhead prices of new gas with strict monitoring of the results in terms as follows:

Deliverable gas supplies are now inadequate, and are projected to continue in short supply over the short term, with demand increasing. The price of natural gas at the wellhead has lagged behind the price changes in other fuels and the present price relationship to the energy market, on a Btu basis, presents a clear economic contradiction. After careful analysis we have concluded that workable competition exists in the natural gas production industry. Therefore we believe that controlled deregulation of the producer segment of this industry is the most important measure the Congress can take to alleviate present natural gas shortages.

oil and gas resources to lower 48 markets; (7) intensive and continuous conservation of resources so as to utilize more energy efficiently at the points of production transmission and consumption; and (8) an expedited effort to achieve the goals of Project Independence, particularly a research and development program that will release us from our reliance on finite non-renewable energy resources.

I appreciate this opportunity to meet again with this Committee on this vital subject. I will be pleased to respond to questions.

APPENDIX A—FEDERAL POWER COMMISSION,

(NEWS RELEASE)

FPC RELEASES STAFF REPORT ON INTERSTATE NATURAL GAS PIPELINE CURTAILMENTS

The Federal Power Commission today released a staff report which indicates that natural gas supply deficiencies for the major interstate natural gas pipeline companies for the April 1974 through March 1975 period will be nearly 55 percent higher than they were a year earlier.

The report, by the FPC's Bureau of Natural Gas, based on responses to the Commission's Form 16, shows that actual or projected curtailments were reported by 17 out of 42 major interstate piepline companies. Net curtailments totaled 1,191,132,000,000 cubic feet for the year April 1973 through March 1974. Net supply deficiencies totaling 1,845,770,000,000 cubic feet are projected for the year April 1974 through March 1975.

Thus supply deficiencies for the year ending in March of 1975 are expected to exceed the preceding year's curtailments by 654,638,000,000 cubic feet.

The complete text of the staff report accompanies this news release.

FEDERAL POWER COMMISSION—REQUIREMENTS AND CURTAILMENTS OF MAJOR INTERSTATE PIPELINE COMPANIES BASED ON FORM 16 REPORTS

BUREAU OF NATURAL GAS
STAFF REPORT

Memorandum to: The Commission (For Information)
From: Bureau of Natural Gas
Subject: FPC Form No. 16 Report of Gas Supply and Requirements, April 30, 1974 Filing, Docket No. R-472

On August 24, 1973, the Commission issued Order No. 489 in Docket No. R-472 establishing Form No. 16, Report of Gas Supply and Requirements. The report is to be filed twice each year on April 30 and September 30 by pipeline companies making sales of natural gas for resale in interstate commerce. The April 30 filings will present supply and requirements data on a monthly basis for the past year, April through March, and projected data for the following one year period, April through March. The September 30 filings will present actual data for the past year, September through August, and projected data for the following year, September through August.

This report summarizes the data in the second Form 16 filings, which were due on April 30, 1974, filed by 41 major pipelines (Class A and B)and one small pipeline company, Western Gas Interstate Company (Class C).[1]

To date 42 pipeline companies have filed Form 16 reports as compared to 37 pipeline companies who filed in September 30, 1973.

Based on the filings made by the 42 pipelines, this report provides requirements and curtailment data for the period April 1973 through March 1974, and projected requirements and supply deficiency data for the period April 1974

[1] In addition, 24 companies were exempted from filing Form 16 by Commission Orders issued November 7, 1973, February 20, 1974, and April 15, 1974.

through March 1975. It is noted that requirements less curtailments constitute the available supply.

Curtailment of Firm Requirements

Schedule I, attached, shows the actual firm requirements and percent of such requirements curtailed for the year April 1973 through March 1974 for each of the 42 companies listed in the schedule. For comparison, their projected firm requirements, projected supply deficiency, and percent deficiency for the following year (April 1974–March 1975) are also shown. After elimination of the curtailments of reporting pipelines to other reporting pipelines, a net actual total curtailment of 1,191,132,000 Mcf of firm requirements is shown for the year April 1973 through March 1974. For the following year, net supply deficiencies totalling 1,845,770,000 Mcf were projected. Thus, the anticipated supply deficiencies for April 1974 through March 1975 exceed the curtailments for the preceding year by 654,638,000 Mcf or 54.96%. Curtailments, actual and projected, were reported by 17 of the 42 companies. The largest actual curtailment (506,682,000 Mcf or 32.36% of its firm requirements) was reported by United Gas Pipe Line Company. This company expects still larger curtailment (40.95%) during the next year.

Schedule II shows the requirements and curtailment information for the heating seasons, November 1973 through March 1974, and projections for November 1974 through March 1975. Anticipated net supply deficiencies for November 1974 through March 1975 total 768,012,000 Mcf. Actual net curtailments for the preceding heating season 1973–1974 were 424,520,000 Mcf. The projected increase in net curtailments from 1973–1974 to 1974–1975 is 343,492,000 Mcf or 80.91%. Here, also, the largest curtailments and anticipated supply deficiencies were reported by United Gas Pipe Line Company.

Schedule III shows peak day firm requirements and curtailments and projected supply deficiencies. As with the annual and heating season data, it shows anticipated deficiencies increasing during the November 1974–March 1975 seasons from those encountered during the preceding heating season. It also shows United Gas Pipe Line Company having the largest actual peak day curtailment for 1973–1974 (1,284,000 Mcf, about 25% of its firm requirement) and projected peak day deficiency for 1974–1975 (1,988,000 Mcf, about 36% of its firm requirement).

Curtailment of Interruptible Sales

Schedule IV shows data on interruptible sales as reported by twenty pipelines. Fourteen companies reported that interruptible curtailments[2] were made for the period April 1973–March 1974 and are anticipated for April 1974–March 1975. The twenty pipelines had total curtailments of 37.36% of their interruptible load for the year ended March 1974 and anticipated increases to 47.85% for the following year. For the heating seasons, the curtailment of interruptible sales was 46.02% for November 1973 through March 1974 and 59.54% anticipated for the following season, November 1974 through March 1975.

Schedule V shows the comparison of projected and actual curtailments for firm requirements, supply deficiency and percent deficiency for the heating season and peak day–heating season of November 1973 through March 1974. The projected net supply deficiency for the heating season was 583,882,000 Mcf, but the actual net supply deficiency was 424,520,000 Mcf.

Areas Affected by Curtailments

Schedules VI and VII show the areas serviced by the reporting pipelines and provide an indication of the regions affected by the curtailments.

LEON H. FRIEDLANDER,
Head, Data Management Section.

Approved:
GORDON K. ZAREESKI,
Chief, Planning and Development Division

[2] Form 16 requires reporting of curtailment of interruptible sales "based on reduction in normal deliveries to the attached interruptible load of the reporting pipelines."

COMPARISON OF ACTUAL FIRM REQUIREMENTS AND FIRM CURTAILMENTS FOR YEAR APRIL 1973 THROUGH MARCH 1974 WITH PROJECTIONS FOR YEAR APRIL 1974 THROUGH MARCH 1975

[In thousand cubic feet]

	Total for year April 1973–March 1974			Total for year April 1974–March 1975		
	Firm requirements	Actual volume curtailed	Percent curtailed	Firm requirements	Projected deficiency	Percent deficient
Alabama-Tennessee Natural Gas Co	26, 540, 000	0	0	31, 678, 000	0	0
Algonquin Gas Transmission Co	153, 746, 000	9, 882, 000	6. 42	166, 956, 000	12, 454, 000	7. 45
Arkansas Louisiana Gas Co	556, 958, 000	164, 200, 000	29. 48	547, 725, 000	175, 092, 000	31. 96
Cities Service Gas Co	557, 176, 000	38, 610, 000	6. 92	583, 192, 000	95, 203, 000	16. 32
Colorado Interstate Gas Co	389, 174, 000	0	0	370, 738, 000	0	0
Columbia Gas Transmission Corp.[1]	1, 357, 586, 000			1, 465, 366, 000	84, 253, 000	5. 74
Consolidated Gas Supply Corp.[2]	700, 691, 000	0	0	776, 782, 000	7, 965, 000	1. 02
East Tennessee Natural Gas Co	98, 826, 000	0	0	109, 106, 000	0	0
Eastern Shore Natural Gas Co	11, 153, 000	42, 000	0. 37	10, 848, 000	0	0
El Paso Natural Gas Co.[3]	1, 801, 829, 000	113, 109, 000	6. 27	1, 461, 897, 000	248, 268, 000	16. 98
Florida Gas Transmission Co	28, 090, 000	0	0	39, 288, 000	0	0
Great Lakes Gas Transmission Co	424, 844, 000	0	0	419, 066, 000	0	0
Kansas-Nebraska Natural Gas Co	82, 822, 000	0	0	81, 153, 000	0	0
Kentucky-West Virginia Gas Co	23, 238, 000	0	0	25, 292, 000	0	0
Lawrenceburg Gas Transmission Corp	5, 322, 000	0	0	5, 419, 000	0	0
Louisiana-Nevada Transit Co	4, 846, 000	107, 000	2. 20	4, 873, 000	705, 000	14. 46
McCulloch Interstate Gas Corp	17, 740, 000	0	0	14, 319, 000	0	0
Michigan Wisconsin Pipe Line Co	922, 267, 000	0	0	939, 514, 000	0	0
Mid Louisiana Gas Co	32, 042, 000	0	0	33, 752, 000	0	0
Midwestern Gas Transmission Co	349, 004, 000	0	0	351, 056, 000	0	0
Mississippi River Transmission Corp	203, 916, 000	2, 601, 000	1. 27	222, 582, 000	0	0

Montana-Dakota Utilities Co	35, 669, 000	0	0	38, 242, 000	0	0
Natural Gas Pipeline Co. of America	1, 193, 911, 000	221, 823, 000	18. 57	1, 200, 971, 000	208, 792, 000	17. 38
North Penn Gas Co	28, 084, 000	0	0	29, 818, 000	0	0
Northern Natural Gas Co	884, 834, 000	9, 446, 000	1. 06	834, 795, 000	6, 375, 000	0. 76
Northwest Pipe Line Corp.[3]	84, 468, 000	10, 807, 000	12. 79	428, 922, 000	37, 758, 000	8. 80
Pacific Gas Transmission Co	423, 279, 000	0	0	415, 845, 000	0	0
Panhandle Eastern Pipeline Co	827, 568, 000	37, 514, 000	4. 53	817, 162, 000	70, 791, 000	8. 66
South Georgia Natural Gas Co	10, 694, 000	0	0	10, 908, 000	0	0
Southern Natural Gas Co	597, 284, 000	53, 000	. 01	631, 733, 000	0	0
Tennessee Gas Pipeline Co., a division of Tenneco, Inc	1, 353, 094, 000	0	0	1, 383, 990, 000	0	0
Tennessee Natural Gas Lines, Inc	34, 725, 000	0	0	24, 817, 000	0	0
Texas Eastern Transmission Corp	1, 069, 704, 000	133, 212, 000	12. 45	1, 098, 682, 000	204, 022, 000	18. 56
Texas Gas Pipe Line Corp	4, 747, 000	0	0	2, 432, 000	0	0
Texas Gas Transmission Corp	742, 677, 000	0	0	737, 118, 000	34, 123, 000	4. 62
Transcontinental Gas Pipe Line Corp	1, 085, 833, 000	160, 557, 000	14. 78	1, 103, 725, 000	246, 497, 000	22. 33
Transwestern Pipeline Co	358, 355, 000	5, 116, 000	1. 42	366, 290, 000	63, 653, 000	1. 73
Trunkline Gas Co	587, 077, 000	157, 019, 000	26. 74	592, 855, 000	204, 344, 000	34. 46
United Gas Pipe Line Co	1, 565, 442, 000	506, 682, 000	32. 36	1, 608, 438, 000	658, 738, 000	40. 95
United Natural Gas Co	97, 259, 000	0	0	101, 971, 000	0	0
West Texas Gathering Co	96, 666, 000	0	0	90, 114, 000	0	0
Western Gas Interstate Co	7, 613, 000	0	0	8, 421, 000	0	0
Total	18, 836, 799, 000	1, 570, 780, 000	8. 34	19, 187, 851, 000	2, 359, 033, 000	12. 29
Less: Pipeline to pipeline curtailments		379, 446, 000			513, 263, 000	
Net curtailments		1, 191, 132, 000			1, 845, 770, 000	

[1] Columbia Gas Transmission Corporation states that during the period November 1973 through March 1974, imposed a 2 percent curtailment on all CD, WS, and G customers; however, due to warmer then normal weather, energy conservation, etc., actual curtailment cannot be ascertained.

[2] Consolidated Gas Supply Corporation data is on an "as measured" basis.

[3] On Jan. 31, 1974, El Paso divested its Northwest Division System properties to Northwest Pipeline Corp. Northwest has filed actual data for February and March 1974, as well as projected data for the period Apr. 1, 1974, through Mar. 31, 1975.

COMPARISON OF ACTUAL FIRM REQUIREMENTS AND CURTAILMENTS FOR HEATING SEASON NOVEMBER 1973–MARCH 1974 WITH PROJECTIONS FOR HEATING SEASON NOVEMBER 1974–MARCH 1975

[In thousand cubic feet]

Pipeline	Heating season—November 1973–March 1974			Heating season—November 1974–March 1975		
	Actual			Projected		
	Firm requirements	Volume curtailed	Percent curtailed	Firm requirements	Deficiency	Percent deficient
Alabama-Tennessee Natural Gas Co	13, 508, 000	0	0	16, 551, 000	0	0
Algonquin Gas Transmission Co	90, 657, 000	90, 882, 000	10. 90	96, 539, 000	6, 873, 000	7. 11
Arkansas Louisiana Gas Co	249, 259, 000	75, 257, 000	30. 19	254, 647, 000	84, 428, 000	33. 15
Cities Service Gas Co	279, 695, 000	30, 108, 000	10. 76	296, 408, 000	66, 715, 000	22. 50
Colorado Interstate Gas Co	193, 484, 000	0	0	191, 864, 000	0	0
Columbia Gas Transmission Corp.[1]	766, 769, 000			855, 435, 000	84, 253, 000	9. 84
Consolidated Gas Supply Corp.[2]	379, 281, 000	0	0	432, 364, 000	0	0
East Tennessee Natural Gas Co	45, 055, 000	0	0	49, 222, 000	0	0
Eastern Shore Natural Gas Co	4, 990, 000	42, 000	. 84	5, 059, 000	0	0
El Paso Natural Gas Co.[3]	735, 139, 000	63, 098, 000	8. 58	612, 308, 000	133, 638, 000	21. 82
Florida Gas Transmission Co	14, 245, 000	0	0	23, 546, 000	0	0
Great Lakes Gas Transmission Co	175, 823, 000	0	0	173, 530, 000	0	0
Kansas-Nebraska Natural Gas Co	39, 521, 000	0	0	38, 922, 000	0	0
Kentucky-West Virginia Gas Co	9, 700, 000	0	0	10, 156, 000	0	0
Lawrenceburg Gas Transmission Corp	2, 289, 000	0	0	2, 194, 000	0	0
Lousiana-Nevada Transit Co	2, 150, 000	30, 000	1. 39	2, 253, 000	610, 000	27. 07
McCulloch Interstate Gas Corp	6, 214, 000	0	0	5, 499, 000	0	0
Michigan Wisconsin Pipe Line Co	488, 965, 000	0	0	505, 467, 000	0	0
Mid Louisiana Gas Co	16, 046, 000	0	0	16, 722, 000	0	0

Midwestern Gas Transmission Co	150,841,000	0	0	150,841,000	0	0
Mississippi River Transmission Corp	117,968,000	2,466,000	2.09	104,729,000	0	0
Montana-Dakota Utilities Co	24,096,000	0	0	26,112,000	0	0
Natural Gas Pipeline Co. of America	501,807,000	0	0	505,479,000	0	0
North Penn Gas Co	16,223,000	0	0	17,289,000	0	0
Northern Natural Gas Co	406,306,000	8,240,000	2.02	390,296,000	3,689,000	.94
Northwest Pipe Line Corp.[3]				219,976,000	31,805,000	14.48
Pacific Gas Transmission Co	181,344,000	0	0	176,791,000	0	0
Panhandle Eastern Pipeline Co	388,135,000	33,447,000	8.61	389,390,000	46,219,000	11.86
South Georgia Natural Gas	5,670,000	0	0	5,783,000	0	0
Southern Natural Gas Co	277,676,000	0	0	293,177,000	0	0
Tennessee Gas Pipeline Co., a division of Tenneco, Inc	601,854,000	0	0	616,965,000	0	0
Tennessee Natural Gas Lines, Inc	13,277,000	0	0	15,005,000	0	0
Texas Eastern Transmission Corp	480,222,000	53,579,000	11.15	493,975,000	75,984,000	15.38
Texas Gas Pipe Line Corp	1,933,000	0	0	877,000	0	0
Texas Gas Transmission Corp	338,747,000	0	0	353,912,000	14,179,000	4.00
Transcontinental Gas Pipe Line Corp	498,823,000	66,463,000	13.32	501,131,000	102,386,000	20.43
Transwestern Pipeline Co	150,704,000	4,237,000	2.81	151,416,000	63.817 000	2.23
Trunkline Gas Co	247,247,000	74,790,000	30.24	246,818 000	85,512,000	34.64
United Gas Pipe Line Co	671,626,000	206,895,000	30.80	706,174,000	283,687,000	40.17
United Natural Gas Co	60,737,000	0	0	63,340,000	0	0
West Texas Gathering Co	40,722,000	0	0	38,360,000	0	0
Western Gas Interstate Co	2,833,000	0	0	3,111,000	0	0
Totals	8,691,581,000	628,534,000	7.23	9,059,642,000	1,053,845,000	11.63
Less: Pipeline to pipeline curtailments		204,014,000			285,833,000	
Net curtailments		424,520,000			768,012,000	

[1] Columbia Gas Transmission Corp. states that during the period November 1973 through March 1974, imposed a 2 percent curtailment on all CD, SW and G customers; however, due to warmer than normal weather, energy conservation, etc., actual curtailment cannot be ascertained.

[2] Consolidated Gas Supply Corp. data is on an "as measured" basis.

[3] On Jan. 31. 1974, El Paso divested its Northwest Division System properties to Northwest Pipeline Corp. Northwest has filed actual data for February and March 1974, as well as projected data for the period Apr. 1, 1974, through Mar. 31, 1974.

COMPARISON OF ACTUAL FIRM REQUIREMENTS AND CURTAILMENTS FOR PEAK-DAY-NOVEMBER 1973–MARCH 1974 HEATING SEASON WITH PROJECTIONS FOR NOVEMBER 1974–MARCH 1975 HEATING SEASON

[In thousand cubic feet]

Pipeline	Actual-peak day-heating season			Projected-peak day-heating season		
	November 1973–March 1974			November 1974–March 1975		
	Firm requirements	Volume curtailed	Percent curtailed	Firm requirements	Volume deficiency	Percent deficient
Alabama-Tennessee Natural Gas Co	120,000	0	0	129,000	0	0
Algonquin Gas Trasnmission Co	850,000	75,000	8.82	859,000	54,000	6.28
Arkansas Louisiana Gas Co	2,193,000	816,000	37.20	2,260,000	757,000	33.49
Cities Service Gas Co	2,799,000	855,000	30.54	3,128,000	817,000	26.11
Colorado Interstate Gas Co	1,625,000	0	0	1,711,000	0	0
Columbia Gas Transmission Corp.[1]	7,097,000	0	0	7,473,000	0	0
Consolidated Gas Supply Corp.[2]	3,820,000	0	0	4,786,000	0	0
East Tennessee Natural Gas Co	348,000	0	0	348,000	0	0
Eastern Shore Natural Gas Co	(4)			(4)		
El Paso Natural Gas Co.[3]	4,296,000	738,000	17.17	4,083,000	895,000	21.92
Florida Gas Transmission Co	229,000	0	0	390,000	0	0
Great Lakes Gas Transmission Co	1,227,000	0	0	1,149,000	0	0
Kansas-Nebraska Natural Gas Co	419,000	0	0	427,000	0	0
Kentucky-West Virginia Gas Co	77,000	0	0	77,000	0	0
Lawrenceburg Gas Transmission Corp	16,000	0	0	15,000	0	0
Louisiana-Nevada Transit Co	(4)			20,000	6,000	30.00
McCulloch Interstate Gas Corp	62,000	0	0	46,000	0	0
Michigan Wisconsin Pipe Line Co	4,066,000	0	0	4,303,000	0	0
Mid Louisiana Gas Co	157,000	0	0	190,000	0	0
Midwestern Gas Transmission Co	1,034,000	0	0	1,025,000	0	0
Mississippi River Transmission Corp	861,000	0	0	967,000	0	0
Montana-Dakota Utilities Co	255,000	0	0	260,000	0	0
Natural Gas Pipeline Co. of America	3,353,000	0	0	3,367,000	0	0
North Penn Gas Co	157,000	0	0	211,000	0	0
Northern Natural Gas Co	3,036,000	0	0	2,931,000	0	0
Northwest Pipe Line Corp.[3]	(4)			1,525,000	247,000	16.19
Pacific Gas Transmission Co	1,350,000	0	0	1,256,000	0	0
Panhandle Eastern Pipeline Co	2,856,000	232,000	8.12	2,924,000	327,000	11.18
South Georgia Natural Gas Co	67,000	0	0	68,000	0	0
Southern Natural Gas Co	2,073,000	0	0	2,226,000	0	0
Tennessee Gas Pipeline Co., a division of Tenneco, Inc	4,210,000	0	0	4,315,000	0	0
Tennessee Natural Gas Line, Inc	(4)			(4)		
Texas Eastern Transmission Corp	3,579,000	0	0	3,929,000	540,000	13.74
Texas Gas Pipe Line Corp	15,000	0	0	7,000	0	0
Texas Gas Transmission Corp	2,471,000	0	0	2,609,000	0	0
Transcontinental Gas Pipe Line Corp	3,861,000	263,000	6.81	4,472,000	0	0
Transwestern Pipeline Co	1,018,000	5,000	.049	1,006,000	144,000	14.31
Trunkline Gas Co	1,675,000	0	0	1,675,000	0	0
United Gas Pipe Line Co	5,060,000	1,284,000	25.37	5,594,000	1,988,000	35.53
United Natural Gas Co	532,000	0	0	602,000	0	0
West Texas Gathering Co	300,000	0	0	300,000	0	0
Western Gas Interstate Co	(4)			(4)		
Totals	67,164,000	4,268,000	6.35	72,663,000	5,775,000	7.94
Less: Pipeline to pipeline curtailments		442,000			1,020,000	
Net curtailments		3,826,000			4,755,000	

[1] Columbia Gas Transmission Corporation states that during the period November 1973 through March 1974, imposed a 2 percent curtailment on all CD, WS, and G customers; however, due to warmer than normal weather, energy conservation, etc., actual curtailment cannot be ascertained.

[2] Consolidated Gas Supply Corporation data is on an "as measured" basis.

[3] On Jan. 31, 1974, El Paso divested its Northwest Division System properties to Northwest Pipeline Corporation. Northwest has filed actual data for February and March 1974, as well as projected data for the period Apr. 1, 1974, through Mar. 31, 1975.

[4] Not available.

COMPARISION OF ACTUAL INTERRUPTIBLE SALES AND CURTAILMENTS FOR YEAR APRIL 1973–MARCH 1974 WITH PROJECTED REQUIREMENTS AND DEFICIENCIES FOR YEAR APRIL 1974–MARCH 1975

	Actual—year April 1973–March 1974			Projected—year April 1974–March 1975		
	Interruptible requirement (thousand cubic feet)	Volume curtailed (thousand cubic feet)	Percent curtailed	Interruptible requirement (thousand cubic feet)	Volume deficiency	Percent deficient
Alabama-Tennessee Natural Gas Co	15, 349, 000	3, 467, 000	22. 59	16, 069, 000	4, 903, 000	30. 51
Algonquin Gas Transmission Co	10, 652, 000	10, 652, 000	100. 00	12, 366, 000	12, 366, 000	100. 00
Arkansas Louisiana Gas Co	6, 525, 000	6, 525, 000	100. 00	19, 533, 000	19, 533, 000	100. 00
Colorado Interstate Gas Co	26, 994, 000	0	0	37, 910, 000	10, 447, 000	27. 55
East Tennessee Natural Gas Co	23, 683, 000	0	0	26, 154, 000	0	0
Eastern Shore Natural Gas Co	1, 792, 000	1, 241, 000	69. 25	2, 284, 000	2, 006, 000	87. 83
El Paso Natural Gas Co.[1]	44, 301, 000	33, 861, 000	76. 43	0	0	0
Florida Gas Transmission Co	129, 031, 000	28, 908, 000	22. 40	142, 741, 000	66, 649, 000	46. 69
Kansas-Nebraska Natural Gas Co	33, 034, 000	0	0	29, 657, 000	0	0
Louisiana-Nevada Transit Co	1, 989, 000	17, 000	. 85	5, 585, 000	2, 174, 000	38. 93
Mississippi River Transmission Corp	35, 292, 000	29, 304, 000	83. 03	35, 285, 000	35, 285, 000	100. 00
Montana-Dakota Utilities Co	20, 970, 000	256, 000	1. 22	21, 742, 000	330, 000	1. 52
Northern Natural Gas Co	3, 777, 000	0	0	16, 247, 000	0	0
Northwest Pipeline Corp.[1]	4, 155, 000	4, 155, 000	100. 00	11, 902, 000	9, 484, 000	79. 68
Panhandle Eastern Pipeline Co	73, 725, 000	12, 057, 000	16. 35	72, 129, 000	20, 959, 000	29. 06
South Georgia Natural Gas Co	16, 499, 000	8, 357, 000	50. 65	16, 285, 000	8, 357, 000	51. 32
Southern Natural Gas Co	168, 041, 000	97, 023, 000	57. 74	135, 325, 000	97, 729, 000	72. 22
Tennessee Natural Gas Lines, Inc	15, 479, 000	1, 909, 000	12. 33	15, 949, 000	4, 415, 000	27. 68
Texas Gas Transmission Corp	4, 020, 000	0	0	4, 080, 000	3, 107, 000	76. 15
Transwestern Pipeline Co	1, 038, 000	0	0	1, 029, 000	0	0
Totals	636, 346, 000	237, 732, 000	37. 36	622, 272, 000	297, 744, 000	47. 85
Less: Pipeline to pipeline curtailments		29, 420, 000			46, 380, 000	
Net curtailments		208, 312, 000			251, 364, 000	

[1] On Jan. 31, 1974, El Paso divested its Northwest Division System properties to Northwest Pipeline Corporation. Northwest has filed actual data for February and March 1974, as well as projected data for the period Apr. 1, 1974, through Mar. 31, 1975.

COMPARISON OF ACTUAL INTERRUPTIBLE SALES AND CURTAILMENTS FOR NOVEMBER 1973–MARCH 1974 HEATING SEASON WITH PROJECTED REQUIREMENTS AND DEFICIENCIES FOR NOVEMBER 1974–MARCH 1975 HEATING SEASON

[In thousand cubic feet]

	Actual—heating season—November 1973–March 74			Projected—heating season—November 1974–March 75		
	Interruptible requirement	Volume curtailed	Percent curtailed	Interruptible requirement	Volume curtailed	Percent deficient
Alabama-Tennessee Natural Gas Co	6, 352, 000	2, 643, 000	41. 61	6, 453, 000	4, 136, 000	64. 09
Algonquin Gas Transmission Co	0	0	0	0	0	0
Arkansas Louisiana Gas Co	3, 985, 000	3, 985, 000	100. 00	9, 966, 000	9, 966, 000	100. 00
Colorado Interstate Gas Co	3, 753, 000	0	0	13, 591, 000	10, 447, 000	76. 87
East Tennessee Natural Gas Co	8, 882, 000	0	0	9, 764, 000	0	0
Eastern Shore Natural Gas Co	578, 000	485, 000	83. 91	822, 000	822, 000	100. 00
El Paso Natural Gas Co.[1]	32, 459, 000	32, 192, 000	99. 18	0	0	0
Florida Gas Transmission Co	56, 004, 000	18, 766, 000	33. 51	60, 070, 000	37, 578, 000	62. 56
Kansas-Nebraska Natural Gas Co	14, 329, 000	0	0	11, 237, 000	0	0
Louisiana-Nevada Transit Co	584, 000	3, 000	. 51	2, 856, 000	1, 428, 000	50. 00
Mississippi River Transmission Corp	12, 366, 000	10, 658, 000	86. 19	12, 382, 000	12, 382, 000	100. 00
Montana-Dakota Utilities Co	11, 179, 000	256, 000	2. 29	11, 193, 000	330, 000	2. 95
Northern Natural Gas Co	3, 499, 000	0	0	1, 449, 000	0	0
Northwest Pipeline Corp.[1]	4, 155, 000	4, 155, 000	100. 00	2, 800, 000	2, 800, 000	100. 0
Panhandle Eastern Pipeline Co	29, 017, 000	10, 025, 000	34. 55	28, 755, 000	14, 181, 000	49. 32
South Georgia Natural Gas Co	11, 282, 000	4, 080, 000	45. 03	11, 169, 000	5, 080, 000	45. 48
Southern Natural Gas Co	47, 293, 000	26, 980, 000	57. 05	41, 259, 000	35, 388, 000	85. 77
Tennessee Natural Gas Lines, Inc	6, 790, 000	1, 713, 000	25. 23	6, 901, 000	2, 550, 000	36. 95
Texas Gas Transmission Corp	1, 187, 000	0	0	1, 223, 000	1, 223, 000	100. 00
Transwestern Pipeline Co	399, 000	0	0	399, 000	0	0
Totals	254, 093, 000	116, 941, 000	46. 02	232, 289, 000	138, 311, 000	59. 44
Less: Pipeline to pipeline curtailments		64, 523, 000			104, 790, 000	
Net Curtailments		52, 418, 000			33, 521, 000	

[1] On Jan. 31, 1974, El Paso divested its Northwest Division System properties to Northwest Pipeline Corporation. Northwest has filed actual data for February and March 1974, as well as projected data for the period Apr. 1, 1974 through Mar. 31, 1975.

COMPARISON OF PROJECTED AND ACTUAL FIRM REQUIREMENTS AND CURTAILMENTS FOR THE HEATING SEASON

	Heating season—November 1973–March 1974 projected			Heating season—November 1973–March 1974 actual		
Totals	9,079,137,000	752,928,000	8.29	8,691,581,000	628,534,000	7.28
Less: Pipeline to pipeline curtailments		169,046,000			204,014,000	
Net curtailments		583,882,000			424,520,000	

COMPARISON OF PROJECTED AND ACTUAL PEAK-DAY FIRM REQUIREMENTS AND CURTAILMENTS

	Peak day—November 1973–March 1974			Peak day—November 1973–March 1974		
	Projected			Actual		
Totals	71,246,000	5,125,000	7.19	67,164,000	4,268,000	6.35
Less: Pipeline to pipeline curtailments		884,000			442,000	
Net curtailments		4,241,000			3,826,000	

PIPELINE COMPANIES SERVICING FUTURE REQUIREMENTS REGIONS

	1	2	3	4	5	6	7	8	9	10
Alabama-Tennessee Natural Gas Co			X				X			
Algonquin Gas Transmission Co	X	X								
Arkansas Louisiana Gas Co						X	X			
Cities Service Gas Co					X	X	X			
Colorado Interstate Gas Co., a division of Colorado Interstate Corp						X	X	X		
Columbia Gas Transmission Corp		X								
Consolidated Gas Supply Corp		X					X			
Eastern Shore Natural Gas Co		X								
East Tennessee Natural Gas Co		X	X							
El Paso Natural Gas Co						X	X	X	X	X
Florida Gas Transmission Co			X				X			
Great Lakes Gas Transmission Co				X	X					
Kansas-Nebraska Natural Gas Co					X	X	X	X		
Kentucky-West Virginia Gas Co		X								
Lawrenceburg Gas Transmission Co		X		X						
Louisiana-Nevada Transit Co							X			
McCulloch Interstate Gas Corp								X		
Michigan Wisconsin Pipe Line Co		X	X	X	X	X	X			
Mid Louisiana Gas Co							X			
Midwestern Gas Transmission Co				X	X	X				
Mississippi River Transmission Corp				X		X	X			
Montana-Dakota Utilities Co					X			X		
Natural Gas Pipeline Co. of America				X	X	X	X		X	
North Penn Gas Co		X								
Northern Natural Gas Co				X	X	X	X	X	X	
Pacific Gas Transmission Co									X	X
Northwest Pipe Line Corp								X		X
Panhandle Eastern Pipe Line Co		X		X		X	X			
South Georgia Natural Gas Co			X							
Southern Natural Gas Co			X				X			
Tennessee Gas Pipeline Co	X	X	X				X			
Tennessee Natural Gas Lines, Inc			X							
Texas Eastern Transmission Corp		X	X		X		X			
Texas Gas Pipe Line Corp							X			
Texas Gas Transmission Corp		X	X				X			
Transcontinental Gas Pipe Line Corp		X	X				X			
Transwestern Pipeline Co						X	X		X	
Trunkline Gas Co		X	X				X			
United Gas Pipe Line Co			X				X			
United Natural Gas Co		X								
West Texas Gathering Co							X			
Western Gas Interstate Co						X	X		X	

Note: Some companies may have minor service in some areas not designated in this schedule. Future Requirements Regions are those defined by the Future Requirements Committee of the gas industry as shown on Schedule VI.

Regions by FRC

Schedule VII

REGION 1
Massachusetts, Vermont, Connecticut, Maine, New Hampshire, Rhode Island

REGION 2
Delaware, West Virginia, Kentucky, New Jersey, Maryland, New York, Ohio, Virginia, Pennsylvannia

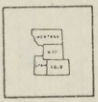
REGION 3
Alabama, North Carolina, Georgia, South Carolina, Florida, Tennessee

REGION 4
Wisconsin, Indiana, Illinois, Michigan

REGION 5
North Dakota, Nebraska, South Dakota, Iowa, Minnesota

REGION 6
Kansas, Missouri, Oklahoma

REGION 7
Arkansas, Louisiana, Mississippi, Texas



REGION 8
Colorado, Montana, Utah, Wyoming

REGION 9
Arizona, New Mexico, California, Nevada

REGION 10
Idaho, Oregon, Washington

PETITIONS FOR EXTRAORDINARY RELIEF

[*Fiscal 1974]

Docket No.	Pipeline	Applicant	End use	Status
*RP74-37-1	United Gas	American Sugar Cane League	Sugar cane [2]	Rejected.
*RP74-37-2	do	Vicksburg Chemical Co	Military chemicals	Temporary relief granted.
*RP74-37-3	do	United Gas Inc. for city of Opelausas, La	Powerplant	Denied.
*RP74-37-4	do	United Gas Inc. for village of Franklin, La	do	Do.
*RP74-37-5	do	United Gas Inc. for city of Payne, La	do	Do.
*RP74-37-6	do	Colonial Pipeline Co	Compressor fuel	Temporary relief granted.
*RP74-37-7	do	Lou Anas Foods Inc	Food processing [2]	Denied.
*RP74-37-8	do	Sewer & Water Board of New Orleans	Public service	Do.
*RP74-37-9	do	Norco Gas & Fuel Corp	Soy bean processing [2]	Do.
*RP74-37-10	do	United Gas Inc. for B. C. Rogers	Chicken processing [2]	Do.
*RP74-37-11	do	Mississippi Chemical	Fertilizer [1]	Temporary relief granted.
*RP74-39-1	Texas Eastern	City of Cairo, Ill	Priority I	Dismissed as not necessary.
*RP74-39-2	do	Town of Utica, Miss	Lumber	Permanent relief granted.
*RP74-39-3	do	Carnegie Natural Gas	Fertilizer and steel [1]	Do.
*RP74-39-4	do	Lawrenceburg, Tenn	Paint drying, space heating	Do.
*RP74-39-5	do	Smyrna, Tenn	Space heating, priorities 1, 2, and 3	Do.
*RP74-39-7	do	Penn Fuel for Standard Steel	Steel	Dismissed as not necessary.
*RP74-39-8	do	Alabama Gas District	Fertilizer [1]	Temporary relief granted.
*RP74-39-9	do	Somerset Gas Kentucky	General manufacturing	Do.
*RP74-39-10	do	Smyrna, Tenn	Furniture	Do.
RP71-128	Florida Gas	Edger Plastics	Ceramic processing	Pending on request of applicant.
*RP74-50-1	do	Basic Magnesia	Fertilizer, refractories pollution control [1]	Temporary relief granted.
*RP74-50-2	do	Wengzel Tile	Ceramic tile manufacturer	Do.
*RP74-50-3	do	Borden	Feed grade phosphate and fertilizer [1]	Do.
*RP74-50-4	do	Gardiner	Fertilizer [1]	Do.
*RP74-64-1	Mississippi River	Georgia Pacific	Plant protection	Do.
*RP74-64-2	do	American Smelting & Refining Co	Refine lead	Do.
*RP74-65-1	South Georgia	Occidental Chemical	Animal feed supplement [1] and fertilizer	Do.
*RP74-94-1	Arkansas-Louisiana	Arkansas Electric Cooperative	Powerplant	Do.
RP72-2	El Paso	Wilcox, Ariz	do	Denied.
RP72-6	do	Mesa, Ariz	Priorities 1, 2, and 3	Permanent relief granted.
*RP72-64	Texas Gas	City of Benton, Ky	Residential and small commercial	Temporary relief granted.

*RP72-64	do	Los Angeles Gas Service, Inc	Agricultural [2]	Do.
*RP74-6	Southern Natural	Nipro & Columbia Nitrogen	Fertilizer [1]	Do.
*RP74-6	do	Mississippi Chemical	Fertilizer and blasting power [1]	Denied.
*RP74-6	do	Petition for Exemption by Penzoil Producing	Crude oil pumping	Temporary relief granted.
*RP74-71-1	do	Amax Nickel	Refine nickel ore	Do.
*RP74-71-2	do	Atlanta Gas	Boiler fuel	Denied.
*RP74-71-3	do	Kaiser Aluminum	Fertilizer [1]	Pending.
RP71-119	Panhandle	Michigan Seamless	Steel tubing	Temporary relief granted.
*RP74-31-1	do	Southeastern Michigan Gas Co	Residential and commercial	Do.
*RP74-31-2	do	Bowling Green Gas Co	do	Moot.
*RP74-31-4	do	Missouri Refractors	Refractories	Temporary relief granted.
*RP74-31-5	do	Central Illinois Public Service Co	Grain drying [2]	Do.
*RP74-31-6	do	Westfield Gas Corp	Residential and commercial	Moot.
*RP74-31-8	do	City of Bushnell, Ill	do	Do.
*RP74-31-9	do	City of Pitsfield, Ill	do	Do.
*RP74-31-10	do	Village of Morton, Ill	do	Temporary relief granted.
*RP74-31-11	do	Mueller Brass Co	Plant protection process	Do.
*RP74-31-12	do	Shelbing, Mo	Priority 1	Moot.
*RP74-31-13	do	Battle Creek Gas Co. and city of Battle Creek	Priorities 1, 2, and 3	Temporary relief granted.
*RP74-31-14	do	City of Clarence, Mo	Priority 1	Moot.
*RP74-31-15	do	Anderson Clayton & Co	Food production [2]	Temporary relief granted.
*RP74-31-16	do	Monroe, Mo	E. G. standby fuel	Do.
*RP74-31-17	do	Hayes-Allison Corp	Iron castings	Do.
*RP74-31-18	do	Michigan Seamless	Steel tubing	Moot.
*RP74-31-20	do	Anchor-Hocking	Glass containers for food industry [2]	Temporary relief granted.
*RP74-31-3	do	E. I. Dupont for Modification	Operate pollution abatement equipment	Do.
RP74-31-21	do	Jaxhawk Pipeline Corp	Compressor fuel	Pending.
*RP74-91-1	Tennessee Pipeline	City of Ripley, Miss	None—Waiver of overrun penalty	Relief granted.
*RP74-91-2	do	City of Senatobia, Miss	Small manufacturing (general)	Pending.
*RP74-91-3	do	City of Springfield, Tenn	do	Do.
			Tire manufacture	
RP74-91-4	do	City of Batesville, Miss	Small manufacturing (general)	Do.
RP74-91-5	do	Pennsylvania & Southern Gas Co	Waiver of overrun penalty	Do.
			Small manufacturing (general)	

[1] Fertilizer and/or defluorinated phosphates.
[2] Food related.

UNITED STATES OF AMERICA
FEDERAL POWER COMMISSION

(18 C.F.R. 2.78)

By Commissioners: John N. Nassikas, Chairman; Albert B. Brooke, Jr., Rush Moody, Jr., William L. Springer, and Don S. Smith.
(Utilization and Conservation of Natural Resources—Natural Gas Act)

(Docket No. R–469)

ORDER DEFINING PROCEDURES FOR FILING REQUESTS FOR RELIEF FROM CURTAILMENT

(Issued April 4, 1974)

Order No. 467-C

On March 2, 1973, we issued Order No. 467-B, 49 FPC——, as our Statement of Policy applicable to interstate natural gas pipeline companies relating to the order of priorities of delivery to be followed, absent evidence to the contrary, during periods of supply shortage. We also stated therein that exceptions to the priorities-of-deliveries may be granted upon a finding of extraordinary circumstances after hearing initiated by a petition filed under Section 1.7(b) of the Commission's Rules of Practice and Procedure, 18 C.F.R. 1.7(b). Additionally, we provided for emergency relief to be granted to forestall irreparable injury to life or property. By orders issued in the *United*[1] and *Panhandle*[2] curtailment proceedings, we further elaborated on the procedures for filing requests for relief and the factual information to be included in those requests. From experience acquired in processing numerous such requests, we conclude that certain supportive data should be presented in all future petitions for relief from curtailment. One purpose of this order is to define areas of inquiry which are common to requests for relief, and to require, as part of the initial request, presentation of pertinent facts accompanied by attestation of a responsible company official.

Another objective of this order is to express our policy regarding conditions which will attach to grants of interim relief from curtailment pending final action after hearing.[3] These conditions will be established on the basis of the pleadings in each individual petition. However, we will attach a specific payback obligation to each grant of such interim relief hereafter issued.[4] Such a payback obligation will be required of any petitioner, including distribution companies seeking relief on behalf of their customers, and will include a payback of any volumes received by virtue of relief granted by the Commission, whether on an interim basis pending hearing or after hearing, utilized in any manner other than that specified in the grant. Further, it is our intention to attach conditions, when applicable, requiring draw-down of alternate fuel reserves before petitioner can utilize any volumes of natural gas available under the relief granted. The period over which the granted relief shall extend will be determined on the basis of the individual facts in each instance.

The Commission finds:

(1) Since the amendment adopted herein concerns a matter of general policy, the notice and effective date provisions of 5 U.S.C. 553 are not applicable.

(2) It is appropriate and necessary in the public interest in administering the Natural Gas Act to adopt the procedures hereinafter ordered.

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[1] *United Gas Pipe Line Company*, Docket Nos. RP71–29 and RP71–120, Order on Clarification issued November 30, 1973, 50 FPC ——, as modified by Order on Rehearing issued January 11, 1974, 51 FPC ——.

[2] *Panhandle Easter Pipe Line Company*, Docket No. RP71–119, Order on Clarification issued December 13, 1973, 50 FPC ——.

[3] Suggestions for certain conditions to attach to temporary grants of relief from curtailment were presented by General Motors Corporation in motions filed February 15, 1974, in *Panhandle Eastern Pipe Line Company*, Docket Nos. RP71–119, *et al.*, and in *Mississippi River Transmission Corporation*, Docket Nos. RP74–62–1, *et al.*

[4] This action is without prejudice to the Commission's requiring a payback of deliveries made under prior grants of interim relief where no payback condition was specifically attached.

The Commission, acting pursuant to the provisions of the Natural Gas Act, as amended, particularly Sections 4, 5, 7, 10, 14, 15 and 16 (52 Stat. 822, 823, 824, 825, 826, 828, 829, 830; 56 Stat. 83, 84; 61 Stat. 459; 76 Stat. 72; 15 U.S.C. §§717c, 717d, 717f, 717i, 717m, 717n, 717o), and in accordance with 5 U.S.C. 553 *orders:*

(A) Part 2 of the Commission's General Rules—General Policy and Interpretations, Subchapter A, Chapter I, Title 18 of the Code of Federal Regulations is amended by redesignating the existing paragraph 2.78(a) as subparagraph 2.78(a)(i) and by adding a new subparagraph 2.78(a)(ii), so that paragraph 2.78(a) shall read as follows:

"2.78 Utilization and Conservation of Natural Resources—Natural Gas

(a)(i) The national interests in the development and utilization of natural gas resources throughout the United States will be served by recognition and implementation of the following priority-of-service categories for use during periods of curtailed deliveries by jurisdictional pipeline companies:

(1) Residential, small commercial (less than 50 Mcf on a peak day).

(2) Large commercial requirements (50 Mcf or more on a peak day), firm industrial requirements for plant protection, feedstock and process needs, and pipeline customer storage injection requirements.

(3) All industrial requirements not specified in (2), (4), (5), (6), (7), (8), or (9).

(4)Firm industrial requirements for boiler fuel use at less than 3,000 Mcf per day, but more than 1,500 Mcf per day, where alternate fuel capabilities can meet such requirements.

(5) Firm industrial requirements for large volume (3,000 Mcf or more per day) boiler fuel use where alternate fuel capabilities can meet such requirements.

(6) Interruptible requirements of more than 300 Mcf per day, but less than 1,500 Mcf per day, where alternate fuel capabilities can meet such requirements.

(7) Interruptible requirements of intermediate volumes (from 1,500 Mcf per day through 3,000 Mcf per day), where alternate fuel capabilities can meet such requirements.

(8) Interruptible requirements of more than 3,000 Mcf per day, but less than 10,000 Mcf per day, where alternate fuel capabilities can meet such requirements.

(9) Interruptible requirements of more than 10,000 Mcf per day, where alternate fuel capabilities can meet such requirements.

The priorities-of-deliveries set forth above will be applied to the deliveries of all jurisdictional pipeline companies during periods of curtailment on each company's system; except, however, that, upon a finding of extraordinary circumstances after hearing initiated by a petition filed under Section 1.7(b) of the Commission's Rules of Practice and Procedure, exceptions to those priorities may be permitted.

The above list of priorities requires the full curtailment of the lower priority category volumes to be accomplished before curtailment of any higher priority volumes is commenced. Additionally, the above list requires both the direct and indirect customers of the pipeline that use gas for similar purposes to be placed in the same category of priority.

The tariffs filed with this Commission should contain provisions that will reflect sufficient flexibility to permit pipeline companies to respond to emergency situations (including environmental emergencies) during periods of curtailment where supplemental deliveries are required to forestall irreparable injury to life or property.

(ii) Requests for relief from curtailment shall be filed under Section 1.7(b) of this chapter and shall conform to the requirements of §§1.15 and 1.16 of this chapter. Those petitions shall use the priorities set forth in (i) above, the definitions contained in paragraph (c) of this section and shall contain the following minimal information:

(a) The specific amount of natural gas deliveries requested on peak day and monthly basis, and the type of contract under which the deliveries would be made.

(b) The estimated duration of the relief requested.

(c) A breakdown of all natural gas requirements on peak day and monthly bases at the plant site by specific end-uses.

(d) The specific end-uses to which the natural gas requested will be utilized and should also reflect the scheduling within each particular end-use with and without the relief requested.

(e) The estimated peak day and monthly volumes of natural gas which would be available with and without the relief requested from all sources of supply for the period specified in the request.

(f) A description of existing alternate fuel capabilities on peak day and monthly bases broken down by end-uses as shown in (c) above.

(g) For the alternate fuels shown in (f) above, provide a description of the existing storage facilities and the amount of present fuel inventory, names and addresses of existing alternate fuel suppliers, and anticipated delivery schedules for the period for which relief is sought.

(h) The current price per million Btu for natural gas supplies and alternate fuels supplies.

(i) A description of efforts to secure natural gas and alternate fuels, including documentation of contacts with the Federal Energy Office and any state or local fuel allocation agencies or public utility commission.

(j) A description of all fuel conservation activities undertaken in the facility for which relief is sought.

(k) If petitioner is a local natural gas distributor, a description of the currently effective curtailment program and details regarding any flexibility which may be available by effectuating additional curtailment to its existing industrial customers. The distributor should also provide a breakdown of the estimated disposition of its natural gas estimated to be available by end-use priorities established in (a) (i) above for the period for which relief is sought.

(Sec. 4, 52 Stat. 822, 76 Stat. 72, 15 U.S.C. §717c; Sec. 5, 52 Stat. 823, 15 U.S.C. §717d; Sec. 7, 52 Stat. 824, 825, 56 Stat. 83, 84, 61 Stat. 459, 15 U.S.C. §717f; Sec. 10, 52 Stat. 826, 15 U.S.C. §717i; Sec. 14, 52 Stat. 828, 15 U.S.C. §717m; Sec. 15, 52 Stat 829, 15 U.S.C. §717n; Sec. 16 52 Stat. 830, 15 U.S.C. §717o)

(B)The amendment provided for herein shall be effective as of the date of issuance of this order.

(C) The Secretary shall cause prompt publication of this order to be made in the Federal Register.

By the Commission.

(SEAL)

KENNETH F. PLUMB,
Secretary.

The CHAIRMAN. The next three witnesses will appear together: Mr. Thomas H. Allen, executive vice president of Sterling Sugars, Franklin, La., representing the American Sugar Cane League; Mr. Harold Nolin, vice president, DeKalb Agricultural Research, DeKalb, Ill.; Mr. Bruce Corey, vice president, Byron Crippin, general counsel, of George A. Hormel and Co., Austin, Minn.

Gentlemen, we are delighted to have you with us.

You may insert your full statements in the record, and summarize them as you see fit.

You may proceed, Mr. Allen.

STATEMENT OF THOMAS H. ALLEN, EXECUTIVE VICE PRESIDENT, STERLING SUGARS, FRANKLIN, LA., REPRESENTING THE AMERICAN SUGAR CANE LEAGUE

Mr. ALLEN. Mr. Chairman and members of the committee, I am Thomas H. Allen of Franklin, La. I am executive vice president of Sterling Sugars, Inc., a producer of sugar cane and a processor of sugar cane into sugar and molasses.

I am also chairman of the interstate natural gas committee of the American Sugar Cane League. The league is a nonprofit organization

whose membership includes more than 95 percent of the sugar cane farmers of Louisiana and all of the processors of sugar cane.

The address of the league is 416 Whitney Building, New Orleans, La.

We appreciate this opportunity to discuss a natural gas problem which affects not only producers and processors of sugar cane, but also the consumers of the sugar and molasses we produce.

We have repeatedly presented this problem to the Federal Power Commission, but to our dismay, FPC has repeatedly failed to take corrective action which is obviously necessary.

We have petitioned the U.S. Court of Appeals for the Fifth Circuit, asking the court to overrule FPC, and grant us the relief so desperately needed. Before the court acts, we may be out of business.

Louisiana has 38 sugar cane factories. They must have natural gas to process the cane during a short season of about 60 to 80 days.

Sugar cane is a perishable food crop that must be harvested and processed, when mature, in the months of October, November, and December.

During the harvest season, sugar cane factories must operate continuously, night and day, 7 days a week.

Freezes which occur during the processing season hasten the deterioration of sugar cane, and make it imperative that freeze-damaged cane be harvested and processed promptly.

Louisiana sugar cane factories have historically used natural gas. They are not equipped to use fuel oil.

For most cane factories, it would be economically prohibitive to invest in new equipment needed to convert from natural gas to fuel oil.

This is primarily because the new facilities would be idle more than 9 months of the year, in view of our short processing season.

Actually, the amount of natural gas used is relatively small. The 38 Louisiana sugar cane processors use less than 1 percent of the natural gas used by all industrial users of natural gas in Louisiana.

The amount is small because natural gas is a supplementary fuel. The primary fuel for most of the cane factories is sugar cane bagasse.

Bagasse is the wet fibrous residue of the processed sugar cane, and fulfills about 75 percent of our fuel requirements.

Unfortunately, bagasse cannot be the sole fuel. A highly flammable supplementary fuel is essential to ignite and make the bagasse burn.

A sugar cane factory must have fuel to generate steam needed for power to operate the mills which crush the cane and extract the juice, and for processing of cane juice into sugar and molasses.

If a cane factory has no fuel, it must cease operations, farmers must stop harvesting, and the cane rots in the field.

There is a strong economic need to avoid a suspension or curtailment of natural gas supplies for Louisiana sugar cane factories. There is a worldwide scarcity of sugar and molasses, and Louisiana is no important supplier of these products to U.S. consumers.

Any suspension or curtailment of natural gas to our cane factories would result in the irreparable loss of all or a part of an entire year's crop.

Such crop loss could put sugar cane farmers and factories out of business, and leave their employees without jobs.

It would seriously affect the economy of the entire sugar producing area; and most important, would intensify the present scarcity of sugar.

Of the 38 Louisiana sugar cane factories, 18 use interstate natural gas, and 20 use intrastate gas.

The interstate gas is supplied by United Gas Pipeline Co., and its distribution is under the jurisdiction of the Federal Power Commission.

The solution to our problem, which we recommended to FPC, is obvious and reasonable. We proposed that FPC, in allocating natural gas, establish a high priority for seasonal processors of perishable agricultural crops.

This would benefit not only processors and farmers; it would be a wise public policy and would serve the best interest of consumers.

Also, it would be consistent with the policy established by the Federal Energy Administration in recognizing the importance of agriculture, in according to it priority treatment in the allocation of diesel, gasoline, and other petroleum products.

Mr. Chairman, that completes my prepared statement.

The CHAIRMAN. That is an excellent statement. I have only one question, Mr. Allen.

Don't you have an abundance of intrastate gas in Louisiana?

Mr. ALLEN. Yes, sir. We do.

The CHAIRMAN. Is that available?

Mr. ALLEN. Senator, it is available. It is very difficult, though, to buy the gas and have it transported by a pipeline company to our factories.

For example, in my factory, we use gas supplied by the United Gas Pipeline Co. The pipeline is already in existence.

It would depend on where we could buy natural gas as to whether another pipeline could be laid to the factory. In most instances it would be economically prohibitive.

The CHAIRMAN. The problem is, the pipeline is not available.

Mr. ALLEN. The pipeline is not available.

The CHAIRMAN. I get your point.

Mr. ALLEN. Now, the FPC will not permit United Gas Pipeline to transport gas acquired by us from another supplier.

If that could be done, then intrastate gas could be obtained.

The CHAIRMAN. The problem would be solved.

Mr. ALLEN. Yes.

The CHAIRMAN. Thank you, sir.

Who is the next witness?

STATEMENT OF HAROLD E. NOLIN, VICE PRESIDENT FOR SEED OPERATIONS, DeKALB AgRESEARCH, DeKALB, ILL.

Mr. NOLIN. Mr. Chairman, members of the committee, the seed industry I represent appreciates the opportunity to discuss with you the very urgent matter which has direct effect upon the food supply and price of food in this country.

My name is Harold Nolin. I am vice president of DeKalb AgResearch, DeKalb, Ill.

However, today, I am here representing the American Seed Trade Association, for which I served as president during the past year.

I have submitted a written statement. I really think we can save time if I depart from that.

The CHAIRMAN. Yes. The statement will be inserted in the record. You may summarize it, Mr. Nolin.

Mr. NOLIN. Thank you, Mr. Chairman.

The American Seed Trade Association represents some 500 seed companies. And within the membership is represented well over 95 percent of the total hybrid seed corn production.

I shall address myself to the need and the logic of providing an uninterrupted supply of natural gas for the drying of special agricultural seeds.

I will focus especially on the drying needs for hybrid seed corn for two reasons.

The hybrid seed corn producers, collectively, would be the segment of the seed trade with the largest total need of natural gas for drying seed. And it also happens to be the segment of the industry with which I, personally, have firsthand knowledge.

However, I would like to emphasize that, apart from hybrid seed corn, essentially the same points could be made for seed drying of other field crops.

And certainly, the need is extremely critical for many vegetable seeds.

The need for drying hybrid seed corn is very simple. If it is not taken from the field in early autumn, it is left exposed to freezing temperatures, which kill the seed embryo, and reduce the germination viability to a point of being unsuitable for planting.

On the other hand, the storage of high moisture seed without immediate drying also would cause total ruin of the viability of the seed.

I would like to stress two main points. First, it does seem clear that the logical, economical, common sense approach to drying seed corn is with the best energy conservation and the best regard for the public interest, through uninterrupted use of natural gas for that purpose.

The second point that I would like to emphasize is that, for 17 months, the American Seed Trade Association and individual seed companies have been unsuccessful in obtaining extraordinary relief from the Federal Power Commission.

The rationale supporting the use of natural gas for seed drying seems very simple.

Collectively, the hybrid seed corn companies produce about 20 million bushels of seed annually. But the drying of those 20 million bushels, totally, would require only about 32 million therms of natural gas, or a little over 3 million Mcf.

This is only about one-hundredth of 1 percent of the total natural gas consumption of the Nation.

This fact may be a part of our problem, that our particular need, and special need, is, in total, so small that we fail to get attention.

A second practical argument, I believe, is that the special use for natural gas for seed drying does not compete with home heating during the peak heating season.

The seed corn drying period is usually September 15 to no later than November 15.

I will also comment on alternate fuels. Coal, for example, never has been used. And the operations, individually, are so small for seed drying plants—there are something like 100 separate plants for the seed corn industry.

And each individual location would need only something like 12 tons of coal, totally, for one season of operation for this short drying period.

Well, obviously, costs would be prohibitive for gearing up for coal use, to meet ecological standards for that kind of small volume per year.

Fuel oil might be considered. But according to last winter's heating experience, I believe fuel oil was even in more critical supply of shortage than natural gas was, as far as home heating was concerned.

It would be inconvenient to be used as a conversion for seed drying. There would need to be an extra-heat exchanger. There would be a tendency to expose the workers to more toxic atmospheres than they have with the natural gas for the drying operation.

Propane functionally is acceptable. But my question is, does it make sense as an alternate fuel to natural gas for this special use?

These seed plants presently, all are connected to a natural gas line.

It is my understanding that 70 percent of the propane comes directly from natural gas anyway. So it does seem unreasonable to go through that exercise, and triple expense, then, for the propane.

After something like a $50,000 installation of special equipment to use propane at each seed plant, all that we would accomplish really would be diverting propane from homeowners and other customers who are not on natural gas lines, but need a portable supply.

And I reemphasize, my understanding is that 70 percent of the propane does come from natural gas.

Now, I would like to commend this committee for expressing concern relative to natural gas as an integrated segment of the total energy supply of this Nation.

It would seem to us that Senate Resolution S. 289 can serve a worthwhile purpose.

And I will move to my comments on the denial of extraordinary relief for seed drying purposes.

We were glad, and I would like to emphasize that we were glad, to learn that all aid to the fertilizer petitions were granted. We fully concur with that special treatment.

But seed people were not that fortunate. I will trace briefly the events.

In February of 1973, Mr. David Behrent, who at that time was president of the American Seed Trade Association, wrote a letter to the Federal Power Commission, pointing out the critical need for natural gas.

On August 14, 1973, I was the new president of ASTA, and I wrote a second letter to the Federal Power Commission, urging special attention to the problem.

On two different occasions at least, representatives of the seed trade met in Washington with staff members of the Federal Power Commission.

These were friendly meetings, but relief was declined. The advice we received was to have individual corporations, utility companies, or State commissions file for the extraordinary relief.

I would like to note that Northern Natural Gas Co. applied for emergency relief. And the temporary relief was granted for a part of the area needed in the drying of the seed corn operation.

However, recently, we have been notified that even Northern Natural has projected what they expect to be the declining availability of natural gas for uses of this kind.

And in their projection, they would indicate that there would be no natural gas from them available for this purpose beyond 1977.

In addition to that particular case of Northern Natural Gas Co., at least three of the private seed corporations did file for extraordinary relief: my own company, DeKalb AgResearch; Northrup, King, and Co.; and Pioneer Hi-Bred Corn Co. of Illinois.

All three filed in September of 1973. And all petitions were denied.

Now, in the quick glance I have had, the recap of petitions that was attached to the report given by the Chairman of the Commission, I fail, in a quick glance, to even find a listing of those petitions.

Maybe we are so small that we have been ignored.

At least, petitions were filed. And they were all denied, by November 21, 1973.

In addition to those requests and those petitions, on September 12, 1973, Hon. Earl Butz, Secretary of Agriculture, sent a letter to the Chairman of the Federal Power Commission, pleading for adequate supply of natural gas for seed producers.

Again, on April 5, 1974, Hon. Clayton Yuetter, at that time, Acting Secretary of Agriculture, requested in a letter to the Chairman of the Power Commission that all agricultural production be placed in a higher priority for the use of natural gas.

So gentlemen, in closing, I must say that we have no promise of any relief on natural gas for seed drying.

With this committee, I do not need to reemphasize to you gentlemen the importance of seed to a crop. In a very real sense, seed is the crop.

I would simply point out that, in any given year, we do not get a second chance for a seed crop. We must harvest, and protect the crop which we have this year, or we must go without seed until the next year.

And to emphasize the point, our seed drying season is about 6 weeks from today. That is when it starts.

Because of the importance of seed to the total chain of food production, it seems reasonable to ask and expect that measures be provided to insure an adequate supply of natural gas for agriculture.

As I have already pointed out, the total needs of the seed industry are almost infinitesimal; about one-hundredth of 1 percent of our annual natural gas used.

Yet, without seed, the Nation's food production would be in jeopardy.

To provide for such a priority is reasonable and in the public interest. Specifically, we recommend that natural gas priority of service categories be changed to reflect the needs of agriculture. There have already been comments on that here.

That natural gas used for seed drying be placed in priority of service category two.

And the type of gas purchase contract, whether interruptible or noninterruptible, firm, be recognized only when curtailment does reach priority two.

The seed industry thanks you, Mr. Chairman, and your committee for the privilege of presenting this information.

The CHAIRMAN. Thank you, Mr. Nolin.

Mr. Corey, I believe.

STATEMENT OF BRUCE COREY, VICE PRESIDENT ENGINEERING, GEO. A. HORMEL & CO., AUSTIN, MINN., ALSO REPRESENTING THE AMERICAN MEAT INSTITUTE

Mr. COREY. Yes, sir; Mr. Chairman.

My name is Bruce Corey. I am vice president in charge of engineering for the Geo. A. Hormel and Co., with corporate offices in Austin, Minn.

And I am appearing here today on behalf of the American Meat Institute.

Also, our company has been very heavily involved in the meat industry and the food processing industry.

Also, we have been a minor competitor of Talmadge Meats, at one time.

The CHAIRMAN. I am well aware of that fact, sir.

Mr. COREY. I understand you are getting back in the business. Is this correct?

The CHAIRMAN. Actually, we merged our operations with Kagel, a vertically integrated poultry operator, about 5 years ago.

And we are no longer directly involved in the management. My wife has gone into business as a meat broker.

Mr. COREY. I thought your wife had gone back into the business again.

The CHAIRMAN. Not the same line. She is in the brokerage business now.

Incidentally, you sent us an excellent product. We appreciate it very much.

Mr. COREY. Yes, I hope we have.

I would like to make a couple of commentaries, and then let our corporate general counsel finish up with this.

Our company does approximately $850,000,000 worth of business per year in the meat and food processing business.

Our principal plants are located in the Midwest at the following points: Austin, Minn.; Fort Dodge, Iowa; Mitchell, S. Dak.; Algona, Iowa; Fremont, Nebr.; and Beloit, Wis.

We just opened this plant in Beloit last fall. It is strictly a canning plant, but a very excellent one.

We have numerous other small processing and distribution plants throughout the United States.

Now, Byron here will take on the further commentary on these.

STATEMENT OF BYRON M. CRIPPIN, GENERAL COUNSEL, GEO. A. HORMEL & CO., AUSTIN, MINN.

Mr. CRIPPIN. Mr. Chairman, it is a pleasure to be able to continue on in this presentation.

Our Austin, Minn. plant was one of the first industrial customers in the State of Minnesota to use natural gas in the early 1930's.

Our principal supplier was and is People's Natural Gas, which is supplied by Northern Natural Gas.

Our experience has been that we have been cut off interruptible gas supplies earlier each fall, and regain them later each spring.

We have been informed by our gas suppliers that we would be completely cut off interruptible gas supplies by 1978.

As a result, we have been using increasing amounts of fuel oil the past few years, and have paid as much as 37½ cents per gallon this past winter in all our Midwest locations.

We are currently paying 30 cents per gallon. This price of fuel oil has increased from 6¼ cents per gallon in 1969 to the 37½ cents per gallon, which approximates a 500 percent increase.

And of course, increased costs have to be passed on to the consumer in the form of increased cost of food.

Our fuel oil supplies have been erratic. Even though we had no serious problems this past winter, due to a relatively mild winter, the increased cost and increased usage during the past few years has boosted our operating costs in our Midwest plants substantially.

And it will get worse. Without natural gas for boiler fuel, fuel costs would escalate from a $1½ million to a $4½ million figure if only oil were burned at current prices.

In addition to high fuel oil prices making it extremely costly to operate our plants, there is also the question of adequate supplies of fuel oil for our Midwest plant, because our suppliers are dependent on crude oil from Canada.

As you know, Canada is trying to reduce their supply of crude oil to the United States, which could create a critical problem for our plants.

We are presently studying alternate fuel sources. And although we hesitate to consider going to coal as a fuel source, we are taking a serious look at it.

The anticipated cost of going to coal-fired boilers for our three largest plants in the Midwest is approximately $8 million. That is the capital investment.

In addition to the expense of converting to coal, we have been advised that there is a 3-year wait for delivery of boilers and coal handling equipment.

Also, there is a serious problem concerning the source of coal supplies. This is particularly true in regard to low sulphur coal from the Western States because of the existing restrictions on strip mining.

The Senator, of course, is familiar with the present bills under consideration in Congress concerning this.

We have been greatly involved in conservation measures at all of our plants, with individual operating committees working on these problems with a mutual exchange of ideas that can benefit all of our operations.

Also, we have cooperated with several business associations, including the Upper Midwest Council, and the Minnesota Association of Commerce and Industry.

We participated in an extensive study for the Development, Planning, and Research Associates of Manhattan, Kans., which was also commissioned by the Federal Energy Office and the U.S. Department of Commerce to do this study for the meat and food processing industry.

We cooperated with these groups, and supplied them with current and historical data with projected energy requirements.

We realize that we will ultimately lose the gas for boiler fuel. Nearly all of our Midwest plants are on interruptible gas supplies, and depend on fuel oil throughout the winter to operate our plants.

Since we are in an essential business, supplying food to the consuming public, we consider it a serious problem to be completely cut off an interruptible gas supply, even though we realize that this appears inevitable.

For example, even if we were to opt today for an alternate fuel supply, such as coal, we would not be ready to operate our Midwest plants by the 1978 cutoff, which our natural gas suppliers have advised us of, because of the long delivery delay of boiler and coal handling equipment.

We are providing this information to this committee to illustrate the problem faced by us and by other meat and food processors in the Midwest.

We have not, as of yet, arrived at a definite decision as to which way we should turn to continue to operate our Midwest plants.

We believe that it is essential for our gas suppliers to be allowed and encouraged to continue us on interruptible gas supply long enough for us to arrive at and implement the type of well-reasoned decision which will permit us to operate our plants in the most economic fashion.

In addition to the dilemma of which way to turn caused by high fuel oil costs, and the prospect of losing interruptible service, we are very concerned about getting firm gas for our process operations.

This is of an absolute necessity for two specific operations. One is for hog singeing operations in our slaughtering lines, in order to remove hog hair from carcasses.

The other is natural gas to operate our processing ovens for smoked meats and other processed items.

There is no alternative for these two processes. If oil were to be used, it would impart a totally unacceptable flavor to the meat product.

Propane, as an alternative to natural gas, does not make such sense either, since it is a derivative of natural gas.

We have been unable to get a definite commitment from our gas suppliers for firm gas to operate these processes. We are willing to pay a somewhat higher gas price for operating these processes because of their necessity.

Since there is no available substitute for natural gas, the level of production of many of our meat food products is tied directly to the availability of natural gas.

And a consistently high level of production is essential to enable us to transform the farmers' livestock into food for the consumer. And we, of course, submit that is very much in the public interest.

We believe that agricultural production and the processing of consumer foodstuffs has an impact on health, employment, and productivity of sufficient magnitude to warrant the hard and critical choice to grant a top priority to the meat food processing industry for uses where alternative fuels are not available.

Also, to keep the cost of food and processed meats at as low a level as possible for the consumer; which we, again, submit is in the best national interest.

This is the choice which has already been made in the Federal Energy Administration's fuel allocation program, and the choice implicit in Senate resolution 289, declaring that highest priority should be given the fertilizer industry.

Surely, the utilization of the farm's end product and production of the consumer's food merits at least as high a priority as fertilizer production, where no viable alternatives are available.

In conclusion, let me just repeat that we need more time to reach viable alternative solutions to interruptible natural gas for boiler fuel, and we must have a firm commitment for natural gas supplies adequate for special processes, such as process ovens and hog singeing, for the reasons that we indicated.

We do appreciate the privilege, Senator, of appearing here. And again, we will try to answer any questions which you might have.

The CHAIRMAN. Thank you very much, gentlemen, for very good statements.

This committee, for about a year now, has been trying to impress upon every facet of the administration the importance of allocating short fuel supplies to the highest priority.

And we believe that the highest priority is agriculture and food, because that is elementary in our economy. We have to eat to survive.

I take it that some legislation may be proposed before the Congress. And if it is, I judge that we can count on your respective organizations to help in that matter.

Mr. CRIPPIN. We surely would.
Mr. COREY. We surely would.
Mr. ALLEN. We certainly would.
The CHAIRMAN. We appreciate it so much. And we appreciate your appearance.
[The prepared statements of Messrs. Nolin and Corey follow:]

STATEMENT OF HAROLD E. NOLIN, VICE PRESIDENT FOR SEED OPERATIONS, DEKALB AGRESEARCH, DEKALB, ILL.

Mr. Chairman and Members of this Committee, the industry I represent appreciates the opportunity to discuss with you a very urgent matter which has direct effect upon the food supply and price of food in this country.

My name is Harold E. Nolin and I am the Vice President for Seed Operations for DeKalb AgResearch, DeKalb, Illinois. I am here today representing the American Seed Trade Association for which I served as President during the past year.

The American Seed Trade Association represents some 500 seed companies with seed distribution in all 50 states and in most agricultural areas of the world. Notably, the American Seed Trade Association includes in its membership production in excess of 95% of the total hybrid seed corn produced annually in this country. The principal place of business of the American Seed Trade Association is 1030 15th Street, N.W., Washington, D.C. 20005.

I shall address myself to the need and the logic of providing an uninterrupted supply of natural gas for drying of special agricultural seeds. I will focus especially on the drying needs for hybrid seed corn for two reasons. The hybrid seed corn producers would be the segment of the seed trade with the largest total need of natural gas for drying, and it also happens to be the segment of the industry with which I personally have first hand knowledge. It is the crop in which interruption in an adequate seed supply, real or imaginary, will be immediately reflected in increased commodity and food prices; this was evidenced by the interruption in corn seed supplies for planting the 1971 crop and as demonstrated by current increase in grain prices due to anxiety about a reduced corn crop. However, I would like to emphasize that essentially the same points could be made for seed of other field crops, and the need is extremely critical for many vegetable seeds.

In the case of hybrid seed corn, all producers harvest their ears of seed early in the fall when the seed typically has 25% to 35% moisture, and the ear corn is placed in bins where forced circulation of heated air gradually reduces the moisture content to a 12% level. The reason for this drying is simple. If corn with high moisture is left in the field in freezing weather the seed embryo will be damaged, and this loss of viable germination would make the crop useless as seed for planting. On the other hand, if high moisture corn is stored directly without drying, a sweating reaction occurs with excess seed respiration and/or fermentation, which also will ruin subsequent germination. Consequently, to avoid the risk of freeze damage in the field and to eliminate the hazard of damage from excess enzyme action in storage, the seed must be harvested early in the fall and immediately dried with heated air.

Approximately 20 million bushels of hybrid seed corn are harvested each year, and 1.6 therms of gas per bushel is suggested as a reasonable estimate of gas required for drying this seed, which would amount to an industry total for seed corn of 32 million therms (3,200,000 MCF). We understand the annual national consumption of natural gas to be about 23 trillion cubic feet so this very vital and very specialized use would represent only slightly over one one-hundredth of one percent of the total natural gas used. Over the past weekend, we quickly surveyed seed corn companies representing at least 75% of the total volume of hybrid seed corn produced, and we find these companies have a total of 57 seed plants, at separate locations, with every one of those plants connected with a natural gas supply line. These hybrid seed corn producers did experience curtailment on their natural gas last year, and they only were able to save their crop with improvised temporary propane installations and the food fortune of very mild temperatures during October.

Of prime importance, as I shall explain later, natural gas has been and continues to be the logical energy source to provide heat for this special drying operation. The rationale is as follows:

1. With extremely small energy demand (only .014% of the nation's total natural gas consumption), it certainly seems vital to provide the necessary fuel to assure an adequate supply of top quality seed to produce the entire nation's corn crop.

2. This special use for natural gas does not compete with home heating during the peak heating season. The seed corn drying period is usually September 15 to no later than November 15.

3. Alternate fuels seem very questionable.

a. Coal never has been used, and the many scattered small operations which is characteristic of seed corn drying facilities, with seasonal use of only 30 to 60 days each year, would make installation of equipment with acceptable ecological standards virtually prohibitive in cost. I personally do not know the cost of such equipment, but I do know that only about twelve tons of coal would be needed each year at each seed plant, and certainly the cost of special equipment could not be justified for that small quantity.

b. According to last year's experience, fuel oil shortage would seem to be even more critical than natural gas for home heating, and is less efficient for seed drying, since it would require an extra heat exchanger, and it tends to expose workers to more toxic atmospheric conditions.

c. Functionally, propane is acceptable, but does it make sense? When virtually all seed plants are now connected to natural gas, if 70 per cent of the propane normally is converted directly from natural gas anyway, it seems irrational to go through this exercise and triple expense for the special propane fuel, which incidentally adds a cost of something like $50,000 for special propane installation at each seed plant, when we would be diverting propane from home owners and other customers, who are not on natural gas lines but need a portable supply.

(As a brief aside from the seed drying problem, I would like to make a passing comment on the related problem of drying the grain crops produced from this seed. Except for the need of protecting seed vitality, the problem of drying the grain crop is similar to that for seed. I believe it is currently estimated by the National Grain and Feed Association that approximately one-half of the grain drying presently is done with natural gas. The difficulties of attempting to switch this operation to alternate fuels would be essentially the same as those which I have just described relative to alternate fuel for seed drying.)

We commend this committee for expressing concern relative to natural gas as an integrated segment of the total energy supply of this nation. It would seem to us that Senate Resolution S289 can serve a worthwhile purpose.

We have studied the News Release No. 20488, dated July 16, which stated the views of the Federal Power Commission relative to extraordinary relief for fertilizer and agriculture related activities. For your information, it may be helpful to report to you the difficulties experienced by the seed trade in our efforts to obtain special relief on natural gas for seed drying. Our experience is the opposite from the granting of relief for the fertilizer industry, as described in the News Release No. 20488, and reported to this Committee in testimony from the fertilizer industry.

I will trace briefly the events. On February 23, 1973, Mr. David Behrent, as President of American Seed Trade Association, wrote a letter to the Federal Power Commission describing the nature of seed drying operations and pointing out the critical need for natural gas. On August 14, 1973, I was the new president of ASTA, and I wrote a second letter to the Federal Power Commission urging special attention to this problem, and I received a reply indicating that it was not feasible to take this kind of preferential action for an industry or a special group. On two different occasions, representatives of the seed trade met in Washington with staff members of the Federal Power Commission. These were friendly meetings, but relif was declined, and the advice we received was to have individual corporations, utility companies, or state commissions, file for extraordinary relief. Northern Natural Gas Company applied for emergency relief, and a temporary relief was granted for certain installations served by

this particular supplier. However, we found no help from utility companies and state commissions.

At least three of the private seed corporations did file for extraordinary relief. DeKalb AgResearch filed on September 7, 1973. Northrup, King and Co. filed on September 24, 1973, and Pioneer Hi-Bred Corn Company of Illinois filed on September 27, 1973. On September 28 the DeKalb petition was denied, and on November 21, 1973, Northrup King and Pioneer petitions were denied. These denials seem to be inconsistent with the favorable and commendable treatment given petitions filed by other agricultural interests.

In addition to this effort by seed trade members, Honorable Earl Butz, Secretary of Agriculture, sent a letter on September 12, 1973, to the Chairman of the Federal Power Commission pleading for adequate supply of natural gas for seed producers. Again, on April 5, 1974, Honorable Clayton Yuetter, Acting Secretary of Agriculture, requested in a letter to the Chairman that all agricultural production be placed in a higher priority for the use of natural gas.

In closing, I must say that we have no promise of any relief on natural gas for seed drying. I do not need to emphasize to you gentlemen the importance of seed to a crop. In a very real sense, seed is the crop. I would simply point out, that, in any given year, we do not get a second chance for a seed crop. We must harvest and protect the one crop which we have, or we must go without until the next year, and seed drying is about six weeks from today.

Because of the importance of seed to the total chain of agricultural production we do not think it unreasonable to ask, and expect, that provisions be provided to insure an adequate supply of natural gas for agriculture. As I have already pointed out, the total needs of the seed industry are almost infintesimal, less than one hundredth of one percent of annual natural gas used, yet without seed the nation's food production would be in jeopardy. To provide for such a priority is reasonable and in the public interest. Specifically, we recommend that (1) natural gas priority-of-service categories be changed to reflect the needs of agriculture (2) that natural gas used for seed drying be placed in priority-of-service category 2 and (3) type of gas purchase contract be recognized only when curtailment reached priority 2.

The seed industry thanks you Senator McGovern and your committee for the privilege of presenting this information.

STATEMENT OF BRUCE COREY, VICE PRESIDENT ENGINEERING, GEO. A. HORMEL AND CO., AUSTIN, MINN., ALSO REPRESENTING THE AMERICAN MEAT INSTITUTE

My name is Bruce Corey. I am Vice-President in charge of Engineering for Geo. A. Hormel & Company with Corporate Offices in Austin, Minnesota, and am appearing today to testify on behalf of the American Meat Institute. I have been accompanied here today by Hormel's General Counsel, Byron M. Crippin, Jr.

Our company does approximately $850,000,000 worth of business per year in the Meat and Food Processing business. Our principal plants are located in the Midwest at the following points: Austin, Minnesota; Fort Dodge, Iowa; Mitchell, South Dakota; Algona, Iowa; Fremont, Nebraska; and Beloit, Wisconsin (this plant was opened just last fall).

We have numerous other small processing and distribution plants throughout the United States.

Our Austin, Minnesota plant was one of the first industrial customers in the State of Minnesota to use natural gas in the early 1930's. Our principal supplier was and is People's Natural Gas, which is supplied by Northern Natural Gas.

We have been cut off interruptible gas supplies earlier each fall, and regain them later each spring. We have been informed by our gas suppliers that we would be completely cut off interruptible gas supplies by 1978. As a result, we have been using increasing amounts of fuel oil the past few years, and have paid as much as 37½ cents per gallon this past winter in all our Midwest locations. We are currently paying 30 cents per gallon. This price of fuel oil has increased from 6¼ cents per gallon in 1969 to the 37½ cents per gallon, which approximates a 500 percent increase.

Our fuel oil supplies have been erratic. Even though we had no serious problems this past winter, due to a relatively mild winter, the increased cost and increased usage during the past few years has boosted our operating costs in

our Midwest plants substantially, and it will get worse. Without natural gas for boiler fuel, fuel costs would escalate from a 1½ million to a 4½ million dollar figure if only oil were burned at current prices.

In addition to high fuel oil prices making it extremely costly to operate our plants, there is also the question of adequate supplies of fuel oil for our Midwest plants because our suppliers are dependent on crude oil from Canada. As you know, Canada is trying to reduce their supply of crude oil to the United States, which could create a critical problem for our plants.

We are presently studying alternate fuel sources, and although we hesitate to consider going to coal as a fuel source, we are taking a serious look at it. The anticipated cost of going to coal-fired boilers for our three largest plants in the Midwest is approximately $8,000,000.

In addition to the expense of converting to coal, we have been advised that there is a three-year wait for delivery of boilers and coal handling equipment. Also, there is a serious problem concerning the source of coal supplies. This is particularly true in regard to low sulphur coal from the Western states because of the existing restrictions on strip mining. You are no doubt familiar with the present bills under consideration in Congress concerning this.

We have been greatly involved in conservation measures at all of our plants with individual operating committees working on these problems with a mutual exchange of ideas that can benefit all of our operations. Also, we have cooperated with several business associations including the Upper Midwest Council, and the Minnesota Association of Commerce and Industry. We did extensive study for the Development, Planning and Research of Manhattan, Kansas, which was also commissioned by the Federal Energy Office and the United States Department of Commerce to do this study for the Meat and Food Processing Industry. We cooperated with these groups and supplied them with current and historical data with projected energy requirements.

We realize that we will ultimately lose the gas for boiler fuel. Nearly all of our Midwest plants are on interruptible gas supplies and depend on fuel oil throughout the winter to operate our plants.

Since we are in an essential business supplying food to the consuming public, we consider it a serious problem to be completely cut off an interruptible gas supply, even though we realize that this appears inevitable. For example, even if we were to opt today for an alternate fuel supply such as coal, we would not be ready to operate our Midwest plants by the 1978 cut-off which our suppliers have advised us of because of the long delivery delay of boiler and coal handling equipment.

We are providing this information to you to illustrate the problem faced by us and by other meat and food processors in the Midwest.

We have not as of yet arrived at a definite decision as to which way we should turn to continue to operate our Midwest plants. We believe that it is essential for our gas suppliers to be allowed and encouraged to continue us on interruptible gas supply long enough for us to arrive at and implement the type of well-reasoned decision which will permit us to operate our plants in the most economic fashion.

In addition to the dilemma of which way to turn caused by high fuel oil costs and the prospect of losing interruptible service, we are very concerned about getting firm gas for our process operations. This is of an absolute necessity for two specific operations. One is for hog singeing operations in our slaughtering lines in order to remove hog hair from carcasses. The other is natural gas to operate our processing ovens for smoked meats and other processed items. There is no alternative for these two processes since, if oil were to be used, it would impart a totally inacceptable flavor. Propane as an alternative does not make sense either since this is a derivative of natural gas.

We have been unable to get a definite commitment from our gas suppliers for firm gas to operate these processes. We are willing to pay a somewhat higher gas price for operating these processes because of their necessity.

Since there is no available substitute for natural gas, the level of production of many of our meat food products is tied directly to the availability of natural gas. And, a consistently high level of production is essential to enable us to transform the farmers livestock into food for the consumer.

We believe that agricultural production, and the processing of consumer foodstuffs, has an impact on health, employment and productivity of sufficient

magnitude to warrant the hard and critical choice to grant a top priority to the Meat Food Processing Industry for uses where alternative fuels are not available. This is the choice which has already been made in the Federal Energy Administration's Fuel Allocation Program, and the choice implicit in Senate Resolution 289 declaring that highest priority should be given the fertilizer industry. Surely, the utilization of the farm's end product and production of the consumer's food merits at least as high a priority as fertilizer production, where no viable alternatives are available.

In conclusion, let me just repeat that we need more time to reach viable alternative solutions to interruptible natural gas for boiler fuel, and we must have a firm commitment for natural gas supplies adequate for special processes such as process ovens and hog singeing.

Thank you for the privilege of appearing here today.

The CHAIRMAN. The last and final witness is Mr. Frank N. Ikard, president of American Petroleum Institute.

Frank, we are delighted to have you with us.

STATEMENT OF FRANK N. IKARD, PRESIDENT, AMERICAN PETROLEUM INSTITUTE

Mr. IKARD. If I may, I will very briefly make some points.

The CHAIRMAN. You may insert your statement in full in the record, and summarize it as you see fit, sir.

Mr. IKARD. Mr. Chairman, our position here is certainly in sympathy generally with the problem of supplying the kind of energy that is needed to produce the food and fiber we need, which, we certainly agree with you, is pretty basic.

It is very basic, not only in the fact that we have to live on it, but it is one of the things we do best. And it is very significant in our international operations.

We feel, as has been pointed out here so many times, that the whole basis of the fertilizer business is natural gas.

We feel that there are two problems here: one, the short-range one, the lead times that you have indicated we certainly agree are valid; and about the ranges that you have mentioned.

During that period, there certainly will have to be priorities established, as has already been indicated here.

We think, longer-range, there has to be some serious consideration being given to the decontrol of the price, so that it may fluctuate and work in a free market.

Natural gas today, on a million Btu unit basis, is selling for about 25 cents. A barrel of oil—on 1 million Btu of oil—is about $1.28.

And gas is a much more desirable fuel. That, plus the price differential, is just unrealistic.

The final point we try to make, then, is about the general supply of energy sources. And we wanted to just review it with your committee briefly.

One is, we, at this time, have something over a 2-months' supply of propane, which is, taken historically, a good supply.

Our gasoline stocks are up about 1 percent, which is good. Because normally, at this time of year, our gasoline stocks are going down.

But we have had a gasoline demand that is somewhat less than average, probably as much as 5½ to 6 percent less than was projected,

which is good, and indicates that people are aware of conservation, which we think is very important.

Distillates are—if I recall the figure, it is in my statement—I think 13 percent over last year, which is good for this time of year.

And so, for the immediate short-range, unless we have weather problems, we feel that our supply is considerably better, than it was last year.

That, Mr. Chairman, is all I would like to say for the record.

I would be glad to try to respond to any questions you might have.

The CHAIRMAN. Our committee has been gravely concerned about many shortages that are vital to agriculture, particularly that are derived from the petroleum base.

As you know, at one time, there was an acute shortage of fuel oil for agriculture.

Our committee interceded with the Federal Energy Office, and they raised the allocation to 100 percent of need, rather than 90 percent of 1972 use, when we had put some 50 million more acres of land under cultivation.

Of course, 90 percent of use in 1972, plus 50 million acres, was totally inadequate. And the Federal Energy Office responded.

We have now fairly acute shortages in insecticides, and herbicides, and pesticides, most of them derived from a petroleum base.

As chairman of this committee, I have sent questionnaires to 83 members of your association. I have received responses, to date, from 51 of those 83 members. And we are grateful for their cooperation.

Our staff will propose a summary of the responses received. And that summary will be placed in this hearing record.

We are not placing the individual responses in the record, in order to protect the confidentiality of each individual company that responds.

We are grateful for that cooperation.

Is it your impression that the industry is making every effort to provide the vital feedstocks for the necessary herbicides, and pesticides, and insecticides?

Mr. IKARD. Yes, sir. I am aware of the letter. But I have not seen the responses, quite properly. I have talked to a number of the companies. I can assure you, they are concerned.

Most of them that I have talked to, either directly or some of our people have, have assured us that they are doing everything that they can.

The CHAIRMAN. As you know, in the agricultural areas, propane is extremely essential.

For heating in the homes, in some instances, cooking, poultry houses, drying tobacco, and things of that nature, is there an adequate supply of propane?

Mr. IKARD. As I indicated, I think our current stocks are about 2 months, a little over 2 months of average supply.

I wish I could answer your question, yes or no. The best I can say is I think we are in better shape than we were a year ago. I think the price situation, which got completely out of hand last year——

The CHAIRMAN. It did. It was abnormally high.

Mr. IKARD. And there is no excuse for some of the things that went on.

The CHAIRMAN. I think it went up as high as 500 percent, in some instances.

Mr. IKARD. I think that has now been taken care of.

So, about as definite as I can be, Senator, I think we are in better shape. I don't think we are going to have the kind of price escalations we had last year.

And I think we will have adequate supplies, yes, sir.

The CHAIRMAN. What caused that enormous escalation? The acute shortages?

Mr. IKARD. Well, I think it was a combination of many things.

In the first place, the price, as you know from all of us that have lived where it is used in the ways you mentioned, we know that the price fluctuates, seasonally, considerably.

I mean, even before any of this crisis came on.

So it was frozen at a summer price which was at the lower end of the curve, the normal curve. And then, the price of crude went up about 400 percent, rather quickly.

And under the FEA regulations, or FEO then, the companies that were not allowed to pass through—I mean, the cost passthroughs, were not on the gasoline and distillate side as much as they should have been, because of the regulations on gasoline and distillate.

So that forced, then, an abnormal allocation of this added cost onto propane.

Now, the 23 companies that are the largest distributors had their prices frozen. So this immediately took them out of the market. Because their price was so high, they could no longer be competitive.

And this opened the door for a lot of broker speculation. And unhappily, the thing got completely out of hand. And there was speculation in the propane market that drove prices unreasonably high.

And as I say, there is just no excuse for it.

Now, since then, the FEA, as you well know, has adjusted their regulations to where there can be an even passthrough. And that is the reason I think we will not have the escalation we had last year.

And then, our supply situation is better.

So that is rather rambling; I have tried to answer your question, sir.

The CHAIRMAN. I hope, in your conferences that you may have with the people you represent, that you will impress on them the necessity for having an adequate supply of herbicides, and pesticides, and insecticides.

I know, when any commodity is in acute short supply, the trend is to apply the assets into the highest return per dollar.

It may not be the highest return per dollar, for all I know, in pesticides, and herbicides, and insecticides.

It is imperative, if we are going to provide the food that the country needs, plus the commodities that we need to export to try to offset some of our huge trade deficits and balances of payments, we have to have an abundance of agriculture in this country. It is a matter of public necessity.

Mr. IKARD. I agree completely, Senator.

And I would certainly personally deliver that message to all of them, and urge them——

The CHAIRMAN. I appreciate that very much. We have found them, to date, very cooperative.

Mr. IKARD. Well, we want to be. And I hope that—well, anyway, we will certainly see that they get that message.

The CHAIRMAN. We appreciate very much your appearing before us.

[The prepared statement of Mr. Ikard follows:]

STATEMENT OF FRANK N. IKARD, PRESIDENT, AMERICAN PETROLEUM INSTITUTE

I am Frank N. Ikard, president of the American Petroleum Institute, a national trade association representing all branches of the industry. I am pleased to appear before this committee to discuss factors affecting the outlook for petroleum product supplies for agriculture.

Attached to the letter inviting us to appear was a list of specific questions from Senator Talmadge which were addressed to some of our member companies. Their responses, as well as the detailed testimony of the many other expert witnesses you have invited, have already discussed the demand/supply outlook for the petroleum derivatives so crucial to agriculture.

Therefore, I would first like to address the necessary proposals which this committee should consider in its stated goal of trying to insure that the needs of food and agriculture are fully met.

Natural gas is a major raw material for making ammonia, the basic input of nitrogen-based fertilizer. If prices are administered below the free-market clearing level, shortages develop, spurred by consumer reaction to what is obviously a disproportionately higher value in product than the artificially set price. If the basic ingredients for making nitrogen fertilizer are in short supply, then this must adversely impact fertilizer supplies.

Natural gas processing plants produce about 73% of the total LPG produced in this country, the remaining 27% coming from refineries. Propane, the most popular LPG for agricultural use, represents roughly 67% of total LPG production in the U.S.

The biggest portion of propane sales (24.6%) is for rural, non-farm, residential space heating, water heating and cooking. The second largest use of propane (24.5%) is as a chemical raw material. Farm-related sales for crop drying, chicken breeding, etc., including farm residential use, rank third (20.3%) in total propane sales.

Because natural gas has been in short supply for residential and commercial consumers, it has not been available in adequate amounts for fertilizer and petrochemical manufacture. As a result, LPG has been in demand as a substitute. This has left traditional users, such as commercial farmers, to share supplies with those fertilizer and petrochemical manufacturers who have switched to LPG.

But the availability of liquified petroleum gas itself is intricately tied to the production of other major petroleum products such as gasoline. In 1972, for example, *more than 37% of the total supply of natural gas liquids and liquid refinery gases which comprise LPG was used in refineries for gasoline and blended in other products.* The next largest user of LPG is the chemical industry, which together with synthetic rubber manufacture and gas manufacturing, consumes about 28% of all LPG. This leaves about 35% for all other uses, including industrial, residential and commercial, and agricultural uses. *It is clear that both the supply of natural gas, as well as the demand for other petroleum products, especially gasoline and petrochemicals, heavily influences LPG supply.*

There is little doubt that our hydrocarbon resources will become increasingly valuable as petrochemical feedstocks in future years, and their use as direct energy sources will have to decrease proportionately. Releasing natural gas from price control is the single most important step this country can take toward putting its energy supply situation back in balance. This step would

rectify previous policy which encouraged direct burning of natural gas as a source of power because of its low price, at the expense of oil, coal, and nuclear power. The current fertilizer, propane, and other energy-related shortages are the down-the-line results of a policy which induced artificially high demand for direct gas burning.

API supports the proposal that propane prices be decontrolled, just as we strongly support decontrol of natural gas prices. We see a similar price/demand relationship for this petroleum gas as has been observed for natural gas. When prices are artificially set below the free-market price for a product which is valuable both as a clean-burning energy source and as a raw material for petrochemical feedstocks, demand will outstrip the available supply and cause shortages.

Your letter also requested that we discuss the farm fuels and energy outlook for agriculture, so I would like to turn now to the outlook for gasoline and diesel fuel.

Although agriculture accounts for only about 3% of total sales of gasoline and diesel fuel, the supply situation for these petroleum products is good, and probably will continue to be good, if we have steady imports of crude and if the trend toward lower gasoline consumption continues.

Much of the explanation for the improved outlook lies in increased refinery production since the end of the embargo. Utilization of refinery capacity, which was down below 82% in mid-March when planting and fertilizing were peaking, has risen a full 10 percentage points to 92%. For the week ending July 12, 1974, motor gasoline production was up almost 16% compared with mid-March when the embargo ended, and distillate production (which includes diesel fuel) was almost 26% higher.

Even more encouraging are the higher stock levels for these key products. Distillate stocks are up 19% since the embargo; gasoline stocks are up almost 1%. Even this 1% is an important figure, since, normally, gasoline stocks would be declining during the March-July period. We believe conservation efforts have been a *major* factor in this extraordinary trend. Based on gasoline sales for the first four months of this year, motor gasoline consumption is down roughly 6% over the same four months of last year. If gasoline consumption can be held down, it will free crude oil for the production of other petroleum derivatives. I would like to stress that we cannot abandon conservation measures even in light of this improved outlook.

As I think the foregoing testimony points out, *the problem of agricultural supplies goes well beyond oil and oil products, into natural gas and even coal.* Shortages of one or more energy sources—or restrictions on their production and use—place an increased burden on other sources of energy. *And that is exactly what has occurred in recent years.*

Because of misguided natural gas pricing policy, because coal burning and recovery has been restricted in many areas, and because nuclear power has not been available, supplies have been drained which might have gone to help fill the supply gap for liquified petroleum gas, fertilizer raw material, gasoline blending, or distillate production.

This is why *API strongly backs deregulation of natural gas as one of the primary means of putting our energy supply situation back in balance,* and moving forward positively on actions that, over the long term, will permit our nation to reach a level of self-sufficiency consistent with our nation's best interest.

Other actions which the industry supports in the belief that they will help us toward this same goal include:

Expanding exploration and development of outer continental shelf areas.

Clearing the way to develop deepwater port facilities.

Resumption of operations in the Santa Barbara Channel.

Providing opportunities for, and encouraging substantial additions to, domestic refinery capacity.

Moving forward on a nationwide nuclear power generation program.

Encouraging private enterprise to embark upon expedited programs for development of non-conventional energy sources—solar, geothermal, and others.

The CHAIRMAN. We will keep the record open for 10 days for any supplementary statements.

Without objection, the committee will stand in recess subject to call of the Chair.

[Whereupon, at 4:20 p.m., the committee adjourned subject to call of the Chair.]

ADDDITIONAL STATEMENTS

NATIONAL MILK PRODUCERS FEDERATION,
Washington, D.C., July 18, 1974.

HON. GEORGE MCGOVERN,
Chairman, Subcommittee on Agricultural Credit and Rural Electrification, Committee on Agriculture and Forestry, U.S. Senate, Washington, D.C.

DEAR SENATOR MCGOVERN: Executive Order 11788 issued June 18, 1974 provides for the termination of the economic stabilization activities conducted by the Cost of Living Council under authorities contained in the Economic Stabilization Act of 1970. One of the provisions of this Order directs the establishment of the President's Committee on Food.

Responsibilities of the Committee, as spelled out in the Order, are to ". . . review Government activities significantly affecting food costs and prices and provide coordination for the Nation's policy relating to domestic and international food supplies and relating to food costs and prices."

We are cognizant of the very great concern over the need to control inflation and the concerns that have been expressed over rising food prices. We are concerned, however, that many of the past actions designed to deal with these problems have been of extremely short term nature and have failed to deal effectively with the inflation question. They have, however, served to create dislocations within agriculture and between agriculture and the rest of the economy which have seriously jeopardized the ability of agricultural producers to continue to produce food and fiber for this nation's markets.

It is our concern that the newly created President's Committee on Food simply signals a continuation of the policies that have resulted in the problems currently confronting major segments of the farm economy. Such a circumstance would serve neither the consumers nor the farmers and ranchers of the nation.

In this regard, we are concerned that this newly formed group may assume many of the decision-making responsibilities formally lodged with the Secretary of Agriculture and other officials of government. This was the situation existing with the Cost of Living Council. However, well-meaning such actions may be, they are too often taken without the benefit of the expert opinion available to those who have the statutory responsibility for them.

We are aware that the Senate Committee on Agriculture and Forestry has made some rather detailed inquiries into these areas. In addition, you have expressed concern over the past actions of the Cost of Living Council and the impact these moves have had on our food production capability. We would like to take this opportunity to commend these past efforts and to express the hope that your Committee would continue to exercise this type of leadership in focusing on these problems.

It is our belief that the time has come for the Executive Branch of the Federal Government, at its highest level, to assume a positive attitude toward food production, food distribution, and food prices. Of basic importance in developing a stable market, both for consumers to rely upon and for farmers to sell into, is a governmental policy aimed at the production of adequate supplies of wholesome commodities.

If the newly-created President's Committee on Food addresses itself to developing conditions within our agricultural economy, which will induce farmers to continue to produce, it will, over the long term, provide most reasonable prices obtainable for all Americans in the market.

It is our hope that the agricultural leadership in the Congress can prevail upon the President, his new Economic Counsellor, and other members of the

Committee on Food, to abandon economic expedience and apply themselves to the long term public good by positively assuring farmers stable markets so that farmers, in their turn, can positively assure consumers of abundant supplies. This, in its turn, can provide reasonable prices both for consumers who look to the market for their food, and for farmers who look to the market for their livelihood.

Farm production costs have risen at a record rate in the last two years. A portion of this increase can be ascribed to short supplies of key production materials including fuel, fertilizer, pesticides and equipment. Farmers and ranchers have faced difficulties in moving their production to market due to inadequate capacities in the transportation system. Food processors have experienced difficulties in obtaining needed packaging and other materials.

Many of the past actions to deal with food supply problems have failed to address these questions and the problems posed by the escalating costs of providing the food and fiber needs of the nation. We would hope that the President's Committee on Food would address itself to these and similar issues as they are of prime importance to both producers and consumers.

PATRICK B. HEALY,
Secretary,
National Milk Producers Federation.
RAY DAVIS,
President,
National Association of Wheat Growers.
C. W. MCMILLIAN,
Executive Vice President,
American National Cattlemen's Association.

STATEMENT OF FRED MOORE, MORTON, MISS.

Because of the inability of the United States livestock feeding industry, including poultry, to sell its products for prices which would cover its manufacture of products, many of its producers have depleted their capital resources and are within or near the threshold of bankruptcy.

Since the health and welfare of the people of this nation is dependent upon a good balanced diet, a part of it should come from animal protein, and since the economic welfare of the grain producing industry of our nation depends to some degree on the consumption of a part of its production by the livestock feeding industry, it seems urgent that responsible group should take immediate steps to determine the present economic position of the livestock feeding industry with the purpose of determining a reasonable prediction for its continued existence.

If this group should determine that the livestock feeding industry is truly on the threshold of disaster and probable extinction the further study should be made in search of remedy for this situation. There are possibilities but one that seems realistic would be the establishment by the proper government agency of some reasonable relationship between the price of meat and the price of grain and some program that would maintain this relationship within such bounds as to prevent catastrophic losses (not guarantee a profit) such as the target levels in such row crops.

As I suggested above, there may be better solutions to this problem but in my humble judgment that unless we find some solution that the livestock feeding industry and then later the grain producing industry are doomed if not complete destruction.

STATEMENT OF GERALD A. KARSTENS, VICE PRESIDENT,
AMERICAN FEED MANUFACTURERS ASSOCIATION, ARLINGTON, VA.

THE USE OF NATURAL GAS IN THE FEED MANUFACTURING INDUSTRY

The American Feed Manufacturers Association is the national trade association of the feed manufacturing industry. Feed manufacturers produce the feed required for the production of meat, milk and eggs.

Natural gas is the number one energy source for processing feed and is utilized throughout the year. An important use of natural gas is the generation of steam used in pelleting feed, which is the major means of controlling any microbiological contamination stemming from ingredients (i.e. Salmonella), as well as being an important factor in increasing the production efficiency of feeds.

Because of its relatively lower cost, in relation to fuel oil, the use of natural gas is beneficial to the nation's consumers. The price of No. 2 fuel oil has more than doubled during the past year while natural gas has increased less than 10 percent. When feed manufacturers have been required to shift from natural gas to fuel oil, an increase in cost of production has resulted. The higher cost of production must eventually be passed on to the feeders and will result in a higher cost of food—meat, milk and eggs. The continued use of natural gas in feed processing should help to hold the line on food prices.

STATEMENT OF ALVIN E. OLIVER, EXECUTIVE VICE PRESIDENT, NATIONAL GRAIN AND FEED ASSOCIATION

Mr. Chairman and members of the Subcommittee: The National Grain and Feed Association is a voluntary association of grain and feed firms ranging in size from the smallest country elevator to the largest grain and feed complex and includes warehousemen, processors, merchandisers, and exporters of a wide spectrum of grain and feed firms from across the United States. Its membership includes 1,200 direct memberships by individual firms and 46 state or regional associations affiliated with the National. Total affiliated membership includes some 12,000 grain and feed firms. Our association and its members are vitally concerned about an adequate supply of energy to help insure the production, processing, and marketing of an adequate supply of food for this nation and the hungry peoples of the world. In this regard we are concerned about the inconsistent policies of the Administrative Branch of government as they pertain to allocation schemes. Primarily we are concerned about the available supply of natural gas, the allocation and priority scheme of the Federal Power Commission, and the inconsistency of the allocation plans of FPC and the Federal Energy Administration.

Specifically we are concerned that FPC has not afforded agriculture the same priority in its allocation scheme controlling the distribution of natural gas as FEA has in its allocation scheme covering propane, middle distillates, residual fuel oil, and motor gasoline. Our fear is that in the event of a real natural gas shortage, an additional burden would be placed on alternate fuels for drying of crops which would cause a complete collapse of both the FEA and FPC programs resulting in the loss of much of our nation's food supply.

Activities of the National Grain & Feed Association related to energy have been numerous. The first formal activity was in May, 1973. Our members had experienced natural gas and propane shortages during the previous harvest and drying period. Alvin E. Oliver, our executive vice president chaired a session studying Storage and Conditioning Grain at the Midwest Grain Movement Conference held in Chicago May 16–18, 1973. The conference was hosted by the Governors of Illinois and Nebraska. The study group recommended ". . . that in establishment of priorities for fuel use that agricultural uses, such as drying and transporting grain can be ranked high among the alternative allocation of scarce (fuel) supplies. . . ."

Subsequently, the President of the National Grain & Feed Association appointed a special Fuel Shortage Task Force with the objective to collect, analyze, and disseminate information concerning the current and future propane, gas, and oil situation affecting our industry members. This industry task force was given a full "standing committee' 'status by our Executive Committee in January of this year.

Also in May 1973, the members of our task force met in Des Moines, Iowa with Secretary of Agriculture Earl L. Butz and energy officials from the Treasury Department, White House and Office of Emergency Preparedness to get a first-hand report from the government on the "energy crisis." The task force presented a special statement at the meeting.

In June 1973, the association developed a Grain Drier Fuel Questionnaire and asked its affiliated state associations to send the survey to their members. The survey was designed to find out how much fuel was used to dry grain the previous year, how much grain was dried, and how much moisture was removed from the grain. Some of the data collected from this survey will appear later in our statement.

The Association has also testified before a Congressional committee concerned with the supply of energy for agriculture and the Federal Office of Oil and Gas. James V. Hauser of Eldora, Iowa, our second vice president, testified before the Subcommittee on Research and General Legislation, Senate Committee on Agriculture and Forestry on June 13, 1973. Henry Kaufmann of Minneapolis, Minnesota, chairman of our Energy Committee, testified before a hearing conducted by the Office of Oil and Gas, U.S. Department of Interior on proposed mandatory allocation program for propane, September 7, 1973.

In addition to these specific activities, we have worked closely with the U.S. Department of Agriculture's Energy Office and the Federal Energy Administration and its many predecessor agencies. John H. Frazier, Jr., chairman of our Executive Committee, is also a member of the Federal Energy Office's Agricultural Advisory Committee.

In our many activities, the National Grain & Feed Association has gone on record favoring an energy allocation plan that would insure adequate supplies of fuel and natural gas for crop drying and feed manufacturing operations, including distribution activities. We strongly advocate this position to prevent our Nation's food supplies being placed in jeopardy.

First we will discuss crop drying procedures and needs. Secondly, we will discuss feed manufacturing needs and finally our thoughts concerning federal allocation schemes.

CROP DRYING NEEDS

Artificial crop drying occurs at three places in order to maintain grain quality. It is dried on the farm and it is dried off the farm at country elevators and terminal elevators.

The total drying capacity on- and off-farm is barely sufficient to preserve grain quality. It is, therefore, of the utmost importance that fuel for drying be available as needed on the farm and at grain elevators. In some locations farmers elect to bring grain directly from the field to the elevator because the elevator provides an economic service for the farmer. Generally speaking, larger elevator dying operations are much more efficient than farm-size driers. Without adequate fuel at the elevator, the only alternative available to the farmer customer is the less efficient on-farm operations—assuming he has stockpiled sufficient fuels.

Many elevators are on natural gas, while most farmers use propane or fuel oil. Current Federal Energy Administration regulations are aimed to assure that available supplies of propane are directed to those customers to whom propane is essential for their physical well-being or for the production of agricultural commodities. The aim of these regulations is to provide enough propane for all defined "priority customers." However, if natural gas service to elevators is curtailed, they would be forced to switch to propane. This would greatly increase demand resulting in a major shortage of propane supplies and thus endanger our food supply.

If priority customers do not receive all the fuel needed in order to dry grain, this may be little better than no fuel at all. A less than sufficient quantity of propane fuel or natural gas would present a choice of either drying part of the grain or drying all the grain to a moisture level too high for quality maintenance. Further, the fuel supplies must be available to be used when needed. If fuel is not available to operate driers when needed, problems can develop very rapidly in high moisture grain. The results can be horrendous if high moisture grain is not properly dried at the proper time. Supplies of fuel 24 hours later, after it is first needed, may be too late.

Mycotoxins can develop as a result of mold growth in high moisture grain that is not immediately conditioned since molds can thrive in 18 percent moisture grain. The mold Aspergillus flavus, plus many other molds, grow best at 80 degrees on grain at 18 to 23 percent moisture. Aflatoxin, a carcinogen, is a

toxin that may develop from the growth of Aspergillus flavus mold. We know that warm, high moisture grain can start to go out of condition in as little as two hours, and if not properly handled and dried the development of molds can begin. This is why we are so vitally concerned.

At this point, we wish to emphasize that quality grain is an absolute necessity for our food supply. Our consumers are not willing to chance buying adulterated food and should not be. Every bushel, every kernel must be saved and preserved. We are not in competition with the consumer; we are helping the consumer and we can only help with sufficient fuel to dry and preserve the grain.

Livestock feeders and poultrymen should not be subjected to the possibility of buying contaminated feed, and rightly so. If toxins develop in grain as a result of mold growth, there is really little choice—destroy the grain or try to find a non-food use for it. During a time of shortages it is very important that we have a coordinated allocation program for propane, fuel oil, and natural gas that gives agriculture high priority.

In order to better understand the problem of the fuel shortage facing grain elevators for the drying of grain, the National Grain & Feed Association conducted a Grain Drier Fuel Survey. The National's affiliated associations sent the surveys to their members to sample the universe of the industry. 914 responses were received. 644 responses were usable out of 818 from 10 states which were summarized in detail because the reported grain storage capacity of each state was considered sufficient to provide meaningful information for these states.

To understand the importance of natural gas, propane, and other fuels for drying grain, the fuel usage was converted to BTU's. Using the BTU's for each type of fuel, the relative importance of each fuel by state was reported as follows:

[In percent]

State	Propane	Natural gas	Fuel oil	Total[1]
Ohio	3.5	66.3	30.1	100.0
Indiana	49.9	47.6	2.4	100.0
Nebraska	73.2	26.6	.2	100.0
Kansas	9.7	90.3	----------	100.0
Iowa	46.4	50.1	3.6	100.0
South Dakota	66.1	25.8	8.1	100.0
Colorado	20.0	80.0	----------	100.0
Michigan	18.7	67.0	14.3	100.0
North Carolina	7.5	52.0	40.5	100.0
Pennsylvania	40.0	51.9	8.2	100.0

[1] May not add to 100.0 percent because of rounding.

Our elevators are expanding their grain drier capacity to meet the new demand for larger crops. The reported rated grain drier capacity of the 644 survey respondents (at a 5 point removal per hour) and the increased capacity for 1973 over 1972 is tabulated for each state.

[In bushels per hour]

State	Number of surveys	1973 drier capacity	Increased drier capacity over 1972
Ohio	154	255,640	20,875
Indiana	108	123,103	23,800
Nebraska	83	83,182	10,850
Kansas	105	85,078	1,100
Iowa	96	85,078	26,263
South Dakota	44	29,030	3,300
Colorado	9	13,500	0
Michigan	17	39,750	7,125
North Carolina	17	17,825	2,925
Pennsylvania	11	7,220	5,000
Total	644	739,406	97,238

Similar increases may be anticipated for 1974 as crop projections reach record highs.

It is possible to compute the average number of BTU's required to remove one point of moisture from a bushel of grain at a given moisture level. From this, you can project the total number of BTU's required to dry the crop by multiplying the figure times the total estimated bushel yield (less the projected number of bushels dried naturally) of a given crop times the average number of points of moisture to be removed per bushel.

A rule of the thumb factor used by many agricultural engineers and the Purdue University is that it takes 2,500 BTU's to remove 1 lb. of water from grain dried to the basis of 15.5 percent moisture. To remove 10 points of moisture from one bushel of corn dried to 15.5 percent (moisture content of No. 2 Yellow) it would take approximately 16,500 BTU's based on a reduction in weight of 1.2 percent for each percentage point of moisture removed. The weight reduction reflects the water withdrawn. Using this same approach you can determine the BTU's necessary to remove a given percentage of moisture from a given grain or oilseed based on the per bushel weight of that grain.

For a total simplification of the process (based on average required moisture removal from each commodity), about 91,500 BTU's are necessary to dry six bushels of corn, eight bushels of soybeans or ten bushels of grain sorghum. 91,500 BTU's equal one gallon of LP gas.

These factors might be considered average for projection work. However, one must keep in mind that seasonal weather factors are extremely important when it comes to crop drying. A case in point can be drawn from the experiences of the past two corn harvests in Indiana where several commercial drying operations reported that their total fuel consumption for corn drying in 1973 was only about one-fourth of the total consumption in 1972. If you recall, the corn harvest in 1972 was extremely unusual in that much of the corn was too wet to take out in October and November and was, in fact, still in the field as late as February and March. Figures from USDA indicate that over 80 percent of the crop in that state had to be dried when harvested. And, in 1973 the harvest period was unusually dry and the crop unusually mature, resulting in a major reduction in drying operations.

So, at this time, the entire exercise of projecting fuel needs for crop drying this fall and subsequent years seems a bit fruitless. However, the important thing is that recognition be given to the critical need for fuel on a moments notice; and that the Federal Power Commission and the Federal Energy Administration should have a consistent policy granting priority to the industry and to agriculture as a whole.

FEED MANUFACTURING NEEDS

Now for a discussion of the feed segment of our industry and its needs for fuel, propane, and gas. The animal feed industry has become one of the largest industries serving agriculture. The tremendous growth in demand for meat continues to push the industry toward new feed production records each year.

Incomplete data at this time shows that the total useful energy (measured in BTUs) consumed by the industry has risen from 15.6 trillion BTUs in 1947 to 48.7 trillion in 1967—an average annual growth rate of 5.9 percent. This general level of energy demand is expected to continue to increase, and by 1980 total useful energy consumed may reach 92.5 trillion BTUs. Gross energy consumed figures are considerably higher than those listed above.

The number of livestock slaughtered has shown an increase of 31 percent from 1947 to 1971, and this has greatly accelerated demand for prepared animal feeds. Along with this increase, there has been a sharp increase in the trend to use prepared feeds to improve feed efficiency and rate-of-grain ratios.

Of all the fuels used, natural gas is by far the most important, with fuel oil and electrical energy playing a very important role.

The following table shows the trend from 1947 to 1967. The table gives total energy consumed by source in trillions of BTUs.

	1947	1954	1958	1963	1967
Coal	3.3	3.5	2.5	1.8	2.9
Coke and breeze	.1	0	0	0	0
Total fuel oil	3.6	3.4	6.1	5.5	3.5
Natural gas	5.7	10.3	6.7	15.3	23.4
Other fuels	1.3	3.3	2.8	6.1	2.8
Fuels [1]	0	0	.7	0	10.7
Electric energy:					
Useful	1.6	2.6	3.5	4.3	5.3
Gross	7.3	9.1	11.3	13.3	16.2
Total:					
Useful	15.6	23.1	22.3	33.0	48.7
Gross	21.3	29.7	30.1	42.0	59.7

[1] Not specified by kind.

Source: Census of Manufacturers.

The following table shows the percentage relationship by source.

[In percent]

	1947	1954	1958	1962	1967
Coal	21.2	15.1	11.2	5.4	6.0
Coke and breeze	.6	0	0	0	0
Total fuel oil	23.1	14.7	27.4	16.7	7.2
Natural gas	36.5	44.6	30.0	46.4	48.1
Other fuels	8.3	14.3	12.6	18.5	5.8
Fuels [1]	0	0	3.1	0	22.0
Electricity	10.3	11.3	15.7	13.0	10.9
Total	100.0	100.0	100.0	100.0	100.0

[1] Not specified by kind.

Source: Census of Manufactures.

Current data from pending research would indicate that output of prepared feeds will increase at an average annual rate of 3.3 percent from 1971 to 1980. Using these figures it is possible to project the feed industry needs for the current year and for comming years. However, once again the important thing is to recognize the need as it pertains to production of our nation's food supply.

The important thing is that recognition be given to the critical need for fuel on a moments notice; and that the Federal Power Commission and the Federal Energy Administration should have a consistent policy granting priority to the industry and to agriculture as a whole.

CONCLUSION

In summary, grain elevators will need sufficient supplies of fuel to dry grain to serve the farm customer and the consumer; and feed manufacturers will need sufficient supplies of fuel to manufacture necessary feed and feed products to serve the livestock and poultry producer and ultimately the consumer. Also, the entire grain and feed industry needs sufficient supplies of fuel to make available adequate supplies of food for consumers here at home and the needy peoples of the world.

An exact projection of volume needs cannot be made as there are numerous variables, many of which are beyond the control of man. However, subject to unknowns, the industry must have the best possible guarantee of fuel available on a minutes notice to avoid severe and devastating losses of food and feed supplies. Administrative tie-ups must be eliminated to avoid these losses. An allocation scheme that can be implemented immediately needs to be adopted for the protection of all mankind. Such a scheme must be a workable program that will utilize all our resources to their maximum.

The present allocation schemes of the Administration causes concern to the National Grain & Feed Association and its members. The present programs of the Federal Power Commission and the Federal Energy Administration are not consistent in that FEA gives agriculture a high priority under its mandatory allocation program and under FPC's Order No. 467-B, statement of policy, agricultural users receive no special recognition, and in fact by their size and nature of contracts they receive a very low priority.

Under such a setup, agriculture is placed in jeopardy. If we have a wet harvest season requiring major drying operations, natural gas supplies are not adequate. We believe that the supply of the most logical alternative fuel, propane, would be completely exhausted by farm needs with none available to commercial operations. Under this set of circumstances the farmer would come to the elevator to seek drying service and prepared feeds. The farm customer who needs to have part or all of his crop dried as elevators, and who needs the prepared feeds for his livestock and poultry could not be served. With no relief possible, heavy losses would occur in our food supply chain.

Although FEA attempts to give agricultural operations priority, its allocation could not work if natural gas is not available to our commercial operations. As you will note from our survey, most of the grain drying operations at elevators use natural gas. Current supplies of propane, as an alternative fuel, would not fulfill our needs.

DISTRIBUTION

We also wish to bring to light at this time a potential problem in FEA's allocation program as it pertains to distribution and other various operations. Agriculture is given priority under FEA allocation programs, however, FEA has redefined agriculture through the use of Standard Industrial Classification codes which could cause significant problems when it comes to the actual administration of such a scheme.

Through the use of the SIC codes, it appears that distribution and farm supply operations of our industry, as well as warehousing and marketing activities, are improperly covered. Although various allowances are included in the FEA regulations, the National Grain & Feed Association is concerned over the lack of clarity of the rules. Our particular concern lies in the actual definition of "agricultural production." Through the use of the SIC code numbers, a use for which the codes were not designed, the activities of various establishments are specifically covered, but not the establishments themselves. Also we wish to point out that distribution activities of the industry are perhaps inadequately covered.

We believe the stated goal of the Administration is to maximize food production in this country. It is our opinion that we should be committed to this goal to best serve all consumers. These are stated goals of the President, former Secretary Schultz, Secretary Simon, Secretary Kissinger, Secretary Butz and FEA Administrator Sawhill. These government officials, in one form or another, have promised the American people, the American farmer, Congress and people of the world that the U.S.'s agriculture energy needs "from farm to table" will be given priority under any allocation plan implemented in this country.

Therefore, we believe that clarification of the rules and regulations needs to be made to avoid an Administrative jungle if we, in fact, have to fully implement a program of priority allocation to agriculture activities.

Also, within this context we feel an oversight has occured which should be corrected by the Administration—The Secretary of Agriculture is not on the White House Energy Advisory Committee to the President; and there is not an agricultural representative on the FEA's Advisory Committee on Project Independence. It is our expressed desire that agriculture be represented on both of these groups.

We thank you for the opportunity to express our concern and ask that you and your Subcommittee explore all feasible avenues of action to insure an adequate supply of fuel to maximize food production, processing and distribution.

STATEMENT OF GEORGE H. DUNKLIN, PRESIDENT, NATIONAL COTTONSEED PRODUCTS ASSOCIATION, INC., MEMPHIS, TENN.

NEEDS OF THE COTTONSEED PRODUCTS INDUSTRY FOR HIGHER CLASSIFICATION IN NATURAL GAS PRIORITIES

The production and processing of food and feed products has been consistently given a high ranking by the Federal Government in priorities for supplies of scarce commodities and services with one exception—which is natural gas. It would seem inconsistent with the national interests for a dissimilar classification of an industry for different petroleum products.

During the recent fuel/energy crisis, the energy policy for agriculture was promptly and clearly recognized—the nation's interest would be served best if agricultural production and processing were provided with 100 per cent of current energy needs. The result was that top priority was granted agriculture in all respects in fuel allocation programs except one—the use of natural gas.

The production of cottonseed as a by-product of the production of cotton requires prompt and orderly handling, storage and processing because it is a perishable commodity and has long been so recognized in the administration of the Federal government agricultural programs.

The uses of cottonseed products for human foods and animal feeds have been widely established for more than a hundred years. Cottonseed oil is one of the more important and useful forms of fats and oils required for the human diet. The export of cottonseed oil in recent years has earned more dollars for our sorely needed balance of foreign trade than any other edible fat and oil product. Other edible fats and oils exported in larger volume have placed heavy reliance on the donation provision of the PL–480 programs.

The most important buyers of cottonseed oil have been among the largest foreign producers of petroleum, such as Venezuela and the southern Mediterranean countries.

Cottonseed processing provides feed products for production of all forms of livestock important to the needs of our people. A consistent and available supply of these commodities can contribute to the restraint of prices in the marketplace and help to avoid the impact of inflation in the nations food supply.

Cottonseed oil mills place heavy reliance on natural gas in relation to total fuel needs of the mills. Many have interruptible service contracts for short term interruption in the supply of natural gas during emergencies—primarily adverse and severe weather conditions.

The growing shortage of natural gas compared to the increasing demand brings a problem of greater dimension into the picture. Some mills are confronted with the prospect of lengthy shutdowns and lack of supply of natural gas for processing needs—as a result of low priority classification under the regulations of the Federal Power Commission.

We join with the National Cotton Council and other segments of the agricultural industry of this country in urging that your Committee take action to provide that agricultural production and processing be assigned a permanent status in priorities-of-service category 2 under Federal Power Commission regulations. Agricultural production cannot be maintained in the future without establishment of such priorities for natural gas consumption.

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STATEMENT OF MIKE MAROS, CHAIRMAN, INDUSTRYWIDE COMMITTEE ON ENERGY AND CONSERVATION, NATIONAL COTTON COUNCIL OF AMERICA

COTTON INDUSTRY'S NEED FOR IMPROVED NATURAL GAS PRIORITIES

In an effort to avoid food and fiber shortages and higher consumer prices, both the Congress and the Administration last year repeatedly called for increased agricultural production. Our farmers responded by adding millions of fertile acres to their production plans.

National leaders, recognizing the need for maximum agricultural production, took the position that the nation's interest would be served best if agriculture were provided 100% of its current energy needs. Consequently, agriculture was granted top priority in all categories of the mandatory fuel allocation regulations.

However, an obvious shortcoming in national fuel policy is the lack of priority afforded natural gas for agriculture. The success of efforts to maintain adequate agriculture production depends on establishment of consistent priorities for energy in agriculture by all federal agencies.

America's cotton industry shares the problem of natural gas priority along with the rest of our nation's agriculture. Cotton is a major crop in 14 states and is grown on almost 14 million acres. Farm revenue from cotton and cottonseed in the 1973–74 season amounted to over $4 billion. Exports of cotton contributed over $1 billion to our balance of trade.

Cotton is the leading fiber of our nation's textile industry, providing consumers with needed quality apparel, household furnishings, and industrial products. With each 500 pound bale of cotton lint, there is also produced about

825 pounds of cottonseed. This high quality protein source is used in many products which provide food for the American people. Cottonseed meal is high in protein and is used extensively as an important livestock feed. Cottonseed oil is used almost exclusively as a human food, going into such products as vegetable and salad oils, shortening, and magarine. A new development, cottonseed flour, offers a potential for supplementing human diets in many appetizing ways with high protein concentrates.

Natural gas is an important fuel input for the production and processing of this food and fiber crop. Practically every segment of the cotton industry relies, to some extent, on natural gas as a source of energy. Cotton producers, particularly in western states, depend on natural gas to power irrigation pumps, an essential part of their operations. The majority of cotton gins across the country use natural gas for their drying processes. Natural gas serves as a fuel to generate steam for compression in cotton warehouses and compresses. This process enables shippers to utilize less cargo space in both domestic and export shipments of cotton.

Cottonseed oil mills are heavily dependent on natural gas. Data from "Fuels and Electric Energy Consumed" *1972 Census of Manufacturers* indicate that natural gas represented over 90% of the fuel (not including electricity) consumed by the cottonseed oil mill industry. Many oil mills have been forced to temporarily shut down due to curtailments of natural gas supplies.

Quite a few agriculture processors have received notice that their natural gas supply will be reduced in the future because of their low priority, interruptible status. The cotton industry is greatly concerned over the potential problem our industry faces unless some provisions are established to assure continuous supplies of natural gas to agricultural producers and agricultural processors.

U.S. agriculture is being called on to maximize production to supply expanding food and fiber markets both here and abroad. The mandatory fuel allocation regulations has done an excellent job in providing the necessary policy to allow U.S. agriculture to meet our nation's need. However, the existing natural gas regulations do not adequately recognize the priority needs of agriculture.

To alleviate this shortcoming, the cotton industry joins with other agricultural interests in requesting that agricultural production and processing be assigned a permanent status in priorities/of/service category 2 under Federal Power Commission regulations. Establishment of these priorities for natural gas is vital to support federal policy on maximum agricultural production.

STATEMENT OF GEORGE B. WATTS, PRESIDENT,
NATIONAL BROILER COUNCIL

The National Broiler Council is a trade association representing the producers and processors of more than seventy percent of the broiler chicken sold in the United States. We appreciate the opportunity to bring the attention of this Subcommittee to the fuel problems with confront the nation's broiler producers. We are grateful this Subcommittee is holding these hearings now so that the Federal Agencies which regulate our supply of energy may respond to the testimony presented and thereby better meet the demands which can be expected during the coming winter.

Broiler producers use petroleum for a variety of purposes. Fuel oil, diesel fuel, propane, butane and natural gas are all used in producing, processing and bringing to market adequate supplies of healthy and nutritious broiler chickens.

One of the most critical fuel needs in broker production is adequate supplies of propane for the heating of broiler houses. The need to maintain strict temperature controls in broiler houses cannot be overstated. Day-old broilers must be placed in facilities where the temperature is 90°F. This temperature must be maintained throughout the first week of life. During the second week of life, an 85°F temperature level must be maintained. Temperature is decreased by 5° weekly thereafter until 70°F is reached and then maintained. If this control program is not rigidly followed, *a minimum* mortality rate of 10 percent will be experienced and it is not unlikely that entire flocks could be wiped out.

Broiler houses are widely dispersed throughout rural areas and are owned and operated by independent individual contractors. Most of these houses are

heated with propane. Because they are so widely dispersed and because they are owned by small independent businessmen, it is important to assure that the supply of propane for heating these broiler houses will not be curtailed. Any such curtailment ultimately results in a reduction in broiler supplies and an increase in broiler costs.

Because propane is so critical to broiler production, the National Broiler Council has gone on record in opposition to a proposal under consideration by the Federal Energy Administration which might provide larger supplies of propane for use in the production of synthetic natural gas. This would tend to divert propane from its present uses where it is already in short supply. Such diversion would pose a threat to the fuel needed for heating broiler houses. If snythetic natural gas is to be manufactured from other fuels, it should not be manufactured from propane which is already in tight supply.

The National Broiler Council has participated in the work of the Ad Hoc Natural Gas Committee, which is made up of agricultural organizations working together to insure adequate supplies of natural gas for food production and processing. Natural gas is used in poultry processing plants for heating scalding tanks, steam cleaning, rendering and plant clean-up. All of these uses are necessary for the sanitation of the product which goes to the consumer. It is important that producers and processors of broilers know that adequate fuel will be available for these purposes.

Last winter a very serious shortage of phosphorus supplements for poultry and animal feed developed. The production of "feed phosphate" is highly dependent on the availability of natural gas. The Federal Power Commission, the U.S. Department of Agriculture and the National Academy of Sciences all participated in efforts to alleviate the feed phosphate shortage. Two manufacturers of feed phosphate, the Occidental Chemical Company and the Borden Company, petitioned the Federal Power Commission to obtain assured supplies of natural gas necessary to the production of this material. The National Broiler Council presented testimony in support of each petition. The FPC granted both petitioners immediate interim relief to help increase phosphate production, and both petitions appear to be progressing satisfactorily toward final decisions.

The energy needs of the broiler industry are extensive. Adequate supplies of natural gas are essential to broiler processing and to the production of the important phosphorus supplement. Propane must be available to heat the houses where broilers are raised.

The National Broiler Council recommends that this Subcommittee direct its attention to assuring that supplies of needed fuels will be available on a realible and predictable basis. Energy agencies must be required to give the highest possible priority to agricultural production and distribution. The Federal Power Commission ought to classify agricultural uses of natural gas no lower than Category 2 of its Order 467-B curtailment priorities. If natural gas supplies, which are used by the broiler industry to maintain essential sanitation, are to be curtailed at all, the Subcommittee should examine the reliability of alternate fuel supplies. If broiler producers and processors are to convert or purchase equipment to allow the use of alternate fuels, they need the assurance that such fuels will actually be available. A reliable fuel supply will mean an efficient and reliable food supply.

GARST & THOMAS HYBRID CORN CO.,
Coon Rapids, Iowa, July 17, 1974.

Senator HERMAN E. TALMADGE, Georgia;
Senator GEORGE MCGOVERN, South Dakota;
Senator HUBERT H. HUMPHERY, Minnesota;
Senator DICK CLARK, Iowa.

GENTLEMEN: Yesterday I wrote every member of the House and Senate Agricultural Committees a letter about the shortage of nitrogen fertilizer not only in the United States but in the world.

I have written most of you earlier along the same lines—but not as specifically as yesterday's letter. In the past week, I have sent every member of the House and Senate Agriculture Committees a copy of a letter the Bureau of

Mines of the U.S. Department of Interior wrote Senator Fulbright on April 24th. There were two paragraphs in that letter that keep me awake nights. They are as follows:

"Along the same lines, the Bureau of Mines has recently studied the production of ammonia from North Dakota lignite; findings were presented in a recent briefing for Representative Mark Andrews of North Dakota. The capital cost of plant to produce 500 tons a day of ammonia from lignite was estimated at $41.6 million; a similar plant based on natural gas would cost about $35.9 million. The cost of the ammonia produced would be about $70 a ton for the lignite plant and $71 for the natural gas plant, with lignite at $2.75 per ton and natural gas at $0.50 a thousand cubic feet. The cost of production of ammonia in each case is sensitive to the cost of fuel, and other price assumptions would yield other cost estimates.

"It is, therefore, apparent that a private investor would have to consider very carefully the probable level of natural gas prices to be expected in the future, and the possibility that new discoveries will lead to competitive plants based on natural gas. An immediate decision to proceed, in the face of heavy costs and incompletely worked out technology, could only be made with some assurance of a long-term market."

The U.S.D.A. has, in past years, been paying farmers for diverting 50 to 60 million acres of land. Now—and in the foreseeable future there will be no diverted acres. Farmers use an average of more than 150 pounds of nitrogen per acre on corn—75 pounds per acre on wheat, 125 pounds per acre on grain sorghum. And while they have not used as much on pastures as is justified, grass pastures will profit from the use of nitrogen just as well as grains.

There can be no doubt about the fact that we need three million tons more nitrogen at the earliest possible moment and I am sure that the market will increase, so I believe the figures of three to five million more tons to be made out of coal or lignite is a reasonable estimate.

The reason I write you men a second letter in two days is that most all of you know my background.

For the U.S.A. to spend about 90 billion for armaments—and hesitate to spend .5 of a billion or even one billion for food production is ridiculous.

And not to get started on the project before Congress adjourns will be unforgivable in my opinion.

For the Export-Import Bank to grant a loan to the Soviet Union of 400 million on a long time low interest rate was fine and good sense—because they have gas and oil—and the whole world needs more food! But——

For the Export-Import Bank to make such a loan and then have Congress fail to do as much or more for the American farmer would be terribly unfair!

* * * * * * *

If you believe that I am unduly emphatic about the situation, I would enjoy hearing your reasons.

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While lignite appears from the Bureau of Mines letter to be more economical than coal, it seems to me coal should be tried as well as lignite. And South Dakota has lignite as well as North Dakota.

Probably the reason I am so bold and insistent about the production of more nitrogen out of either coal or lignite is the fact that, back in 1951 I was effective in getting the then Secretary of Agriculture, Charles Brannan, to go to the War Production Board and get "Certificates of Necessity" for the fertilizer industry to build "Nitrogen Fixation Units".

We were at war in Korea, and war with either the Soviet Union or China or both looked either possible or probable. We were without grain reserves—prices of both grain and meat and cotton were all high.

The War Production Board did issue the Certificates of Necessity which gave the fertilizer industry a priority on the materials needed and an accelerated depreciation on the facilities.

Secretary Brannan put my brother, Jonathan Garst, in charge of the issuance of the Certificates of Necessities in January of 1951—and he continued until March of 1953 when President Eisenhower took office.

Jonathan Garst issued Certificates of Necessity for about 1.5 million tons of N—and the Republicans continued to issue such certificates after they took office until there was an "over production" of N for the restricted acreage.

So, having been successful back in 1951 in getting more N, I have the courage to be bold in 1974—23 years later.

One of the best ways to fight inflation is to produce more and better food with less labor.

And nitrogen is the best tool to use to do that very thing. I urge every one of you to do all you can to get more nitrogen produced from coal and/or lignite in the U.S.A. as soon as possible.

Very sincerely yours,

ROSWELL GARST.

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