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NATIONAL ENERGY PRODUCTION BOARD

HEARINGS

BEFORE THE

COMMITTEE ON INTERIOR AND INSULAR AFFAIRS UNITED STATES SENATE

NINETY-FOURTH CONGRESS

FIRST SESSION

ON

S. 740

A BILL TO PROMOTE THE GENERAL WELFARE BY ESTABLISHING A NATIONAL ENERGY PRODUCTION BOARD TO ASSURE EARLY DEVELOPMENT OF ENERGY RESOURCES ON THE PUBLIC DOMAIN AND ON OTHER FEDERAL LANDS AND ON THE OUTER CONTINENTAL SHELF IN ORDER TO OVERCOME THE DEPENDENCE OF THE UNITED STATES ON FOREIGN NATIONS FOR ENERGY SUPPLIES WHICH ARE ESSENTIAL TO NATIONAL SECURITY, COMMERCE, AND A FULL-EMPLOYMENT ECONOMY

JULY 14 AND 21, 1975

PART 2

Printed for the use of the
Committee on Interior and Insular Affairs

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Printed for the use of the
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U.S. GOVERNMENT PRINTING OFFICE

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NATIONAL ENERGY PRODUCTION BOARD

MONDAY, JULY 14, 1975

U.S. SENATE,
COMMITTEE ON INTERIOR AND INSULAR AFFAIRS,
Washington, D.C.

The committee met, pursuant to notice, at 10 a.m. in room 3110, Dirksen Office Building, Hon. Henry M. Jackson, chairman, presiding.

Present: Senators Jackson, Johnston, Stone, and Bartlett.

Also present: Owen Malone, professional staff member.

The CHAIRMAN. The committee will come to order.

OPENING STATEMENT OF HON. HENRY M. JACKSON, A U.S. SENATOR FROM THE STATE OF WASHINGTON

The CHAIRMAN. This morning the Committee on Interior and Insular Affairs resumes its hearings on S. 740, the proposed National Energy Production Board Act of 1975.

As I've said before, one of the most frustrating aspects of the continuing energy crisis has been the failure of the Federal Government to act decisively to mobilize the Nation's resources behind an aggressive, all-out, national effort to develop the Nation's domestic oil, gas and coal resources, designed to overcome our continuing dependence on foreign suppliers.

The untapped energy resources of the United States are enormous. Our recoverable coal reserves exceed 217 billion tons. Our ultimately recoverable coal reserves exceed 1,600 billion tons. We are the richest coal Nation on Earth.

Our proved oil and gas reserves approximate 38.2 billion barrels of oil and 237 trillion cubic feet of natural gas. According to the U.S. Geological Survey, our undiscovered oil and gas resources may amount to an additional 105 billion barrels of oil and an additional 686 trillion cubic feet of natural gas.

Yet, what are we experiencing today? Instead of reducing our dependence on foreign oil, we are becoming more dependent. Imports will account for almost 40 percent of our oil requirements this year. Natural gas remains in very short supply with prospects for more serious shortages ahead. Coal, our most abundant energy resource, is not being exploited as it should. Indeed, our railroads are unable to service many of our coal bearing regions. We face a major challenge not only in uncovering new energy resources, but in moving them from the mine or wellhead to the marketplace where they are needed.

S. 740 proceeds from two basic premises. Government action is imperative to accelerate domestic energy supply development. We need constructive action that will facilitate an expanded energy production program. The bulk of our undiscovered resources underlie the public lands and the Outer Continental Shelf, and it is entirely reasonable that the Government should act, and act promptly, to see to it that these assets are exploited for the benefit of all Americans.

Second, the plain, inescapable fact is that the present Federal bureaucracy is a maze of fragmented jurisdictions and responsibilities and ill equipped to mount the kind of all-out national effort we need to accelerate energy production. We need a single, specialized, mission-oriented action agency empowered to prepare and carryout programs that will supplement the efforts of the private sector, overcome bottlenecks, provide incentive, and marshal the Government's resources for energy production.

The mobilization board concept advanced in this bill served the Nation well in past national emergencies. The question now is whether the same device can be used to come to grips with our present energy production requirements. I think the approach holds great promise.

The committee wants the benefit of the widest possible expression of views. We are pleased to have with us this morning Charles Spahr, chairman of the board and chief executive officer of the Standard Oil Co. of Ohio; Rhea Cohen, representing the Sierra Club; Barbara Heller, representing the Environmental Policy Center, and Jeffrey Knight, legislative director of Friends of the Earth.

I want to welcome you to the committee. I appreciate your willingness to give us the benefit of your comments on the bill.

Our first witness will be Charles Spahr, chairman of the board of Standard Oil of Ohio and who also is appearing as the chairman of the American Petroleum Institute.

STATEMENT OF CHARLES SPAHR, CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER, THE STANDARD OIL CO. OF OHIO

Mr. SPAHR. Thank you very much for giving me the opportunity to appear before the committee this morning. I have a prepared statement which I have also summarized so I'm quite content, if that should be your desire, to simply submit the prepared statement for the record.

The CHAIRMAN. Your entire statement will be entered into the record. You may go ahead and give your precis.

Mr. SPAHR. Thank you, sir.

As you, yourself, indicated I'm appearing today in my capacity as chairman of the board of the American Petroleum Institute which is a trade association for large and small companies in all phases of the oil and gas business. I'm only incidentally here as chairman of The Standard Oil Co. of Ohio, but I will have a few comments to make about our own effort before I am through.

Mr. Chairman, Senate bill 740 presently, appears to me to be a blueprint of fundamental change in the way our Nation operates. It sets a precedent for government intervention in our private enterprise system. Regardless of what people may say, this system of ours works. It's my opinion that the Congress, unless it is very sure that some

other system would work better than the one we have, should recognize that it's fairly dangerous to tamper with it. A heavy burden of proof rests with those who propose far-reaching and novel changes in our system. Thus far, I haven't heard convincing proof. Who will bear the responsibility if these ideas don't work, for the damage that will be done to our national interest?

While this bill stops short of nationalization of the industry, it substitutes the judgment of a government board for the interaction of producers and consumers in the marketplace. Further, it provides that government board with the authority to fill any gaps the board perceives or imagines, gaps between the board's plan on the one hand and the choices of the marketplace on the other.

This bill will create another government agency with more regulations that would have the Government finding less oil with greater expense. We're afraid that the passage of the bill, as it's written, would damage our industry by damaging investor confidence and by interfering in our ability to respond to the demand of the marketplace.

Your action on this bill will have great influence on our Nation's future, so I urge you gentlemen to be very cautious as you consider substituting an untried innovation in the critical area of energy development at a time when our country simply cannot afford to make colossal mistakes. Thank you, Mr. Chairman.

[The prepared statement of Mr. Spahr follows:]

STATEMENT

of the

AMERICAN PETROLEUM INSTITUTE

presented by

Charles E. Spahr

before the

COMMITTEE ON INTERIOR AND INSULAR AFFAIRS
United States Senate

Washington, D. C.

July 14, 1975

Testimony on S.740, National
Energy Mobilization Board Act of 1975

My name is Charles Spahr. I am Chairman of the Board of The Standard Oil Company (Ohio), and also Chairman of the Board of the American Petroleum Institute. The Institute is a national trade association representing petroleum companies, large and small, in all aspects of the business. I appear here today on behalf of the API. At the outset, I want to express appreciation for this opportunity to present our views on S.740, the proposed National Energy Mobilization Board Act of 1975.

It is widely recognized and agreed that our country faces a long run energy supply problem. Before turning to the specific provisions of the bill before you, I would like to briefly review this Nation's energy supply situation.

Until the technology for alternative energy sources can be developed and perfected, crude oil and natural gas production must play a central role in supplying the U.S. energy needs. Thus, the most immediate energy policy objective must be the efficient development and use of domestic crude petroleum and natural gas supplies.

For most of the last 25 years the world price of oil remained low. Although there were quotas restricting oil imports during most of this period, these quotas were gradually

liberalized and finally abandoned. More and more foreign oil which was inexpensive at that time was used to supplement U.S. production and help to hold down consumer costs. This resulted in a gradual decline in domestic exploration and discovery of petroleum. Where the Nation depended on foreign oil for 13 percent of petroleum consumption in 1950, the foreign share of consumption is approaching 40 percent in 1975.

The Arab oil embargo of 1973-74 made the U.S. painfully aware of its dependence on foreign petroleum supplies. The embargo and its aftermath led to huge increases in the price of foreign oil. This in turn led to sharply higher prices for petroleum products in this country.

We are in complete agreement with the stated goal of S.740 that it is necessary to our Nation's security and its economy to reduce our dependence on foreign sources of energy. The petroleum industry believes that this goal can be achieved without damaging the quality of the environment or the quality of life of the American people. We are strongly convinced, though, that the National Energy Mobilization Board proposed in S.740 is not needed and would in fact hamper the attainment of greater energy independence. While the National Energy Mobilization Board might give the appearance of doing something about the energy problem, our analysis suggests that it would

not make a real contribution to the increase of energy supplies.

Comparison With World War II Efforts

The proposed National Energy Mobilization Board has been compared to the War Production Board of World War II. This is an invalid comparison. The task of overseeing the Nation's petroleum needs during World War II was assigned separately to the Petroleum Administration for War (PAW), which worked closely with the industry but let private enterprise do the actual work of finding, producing, and refining the oil. Petroleum industry experts staffed the PAW itself and other industry executives and specialists, still working for their respective companies, performed important advisory functions. Almost seven billion barrels of oil had to be brought from the ground between December, 1941 and August, 1945 to meet the requirements of the United States and its allies, and nearly six billion of this total came from the United States. That was one-fifth of all the oil that had been produced in this country since the birth of the industry in 1859.

The drain of World War II left the U.S. fearful of an acute oil shortage. But the government freed petroleum prices from control. Higher prices resulted in a new surge of petroleum exploration and discovery. The feared post-war petroleum short-

age turned into a surplus situation that lasted through much of the 1950's and 1960's when the real price of crude oil declined.

The philosophical basis of S.740 reflects a lack of faith in the ability of private business to respond again in this fashion. The proposed legislation would thrust the National Energy Mobilization Board into petroleum exploration and production on some of the most promising undeveloped Federally owned land and offshore areas. Moreover, the legislation provides that these operations would be subsidized by the private petroleum industry through the transfer to the Mobilization Board of a ten-year total of $19 billion collected through the sale of Outer Continental Shelf leases.

S.740 Based on Unsound Principle

The proper role of government in a market economy is to do things that the market cannot do for itself, or things that special conditions render extremely difficult to achieve through the market.

There might be some justification for considering a National Energy Mobilization Board with vast power to develop petroleum if there were evidence that petroleum markets were not functioning as they should because of monopoly power or inadequate response to incentives. This is not the case.

All of the available research suggests that there is no basis for government intervention into the petroleum industry because of monopoly power. The competitive nature of the petroleum industry is clear when three factors are examined: First, the lack of concentration; second, the freedom of entry for new competitors; and, third, the history of modest rates of return.

There are more than 10,000 producers of crude oil, 131 refining companies, and over 15,000 wholesalers of petroleum products competing for business. No firm controls more than 11 percent of the national volume at any of the levels of industry operation. In fact, the petroleum industry is less concentrated than the average for all U.S. industries and considerably less concentrated than most other large industries. Assertions to the contrary just don't change the facts.

There are no barriers to prevent the entry of firms that might want to begin to operate in the petroleum business. The use of joint ventures in both bidding for leases and in production has served to lower entry barriers to crude oil and natural gas production. Thus, not only is there active competition from existing firms but also the frequent injection of additional competition from new firms.

The profits of the industry have been moderate on average, another sign of competition among firms. Over the 10-year period, 1965-1974, the average return on equity for the

petroleum industry was 13.4 percent, slightly more than the average return on equity for all U.S. manufacturing (13 percent) but less than the return on other mining (14.7 percent). Again, in spite of assertions to the contrary, this record is not out of line.

More evidence could be cited. However, it is sufficent to say that no empirical study has yet been able to refute the hypothesis of a workably competitive petroleum industry. Numerous independent economic studies have documented the competitive nature of the industry.* It would appear unreasonable to pass legislation mandating Federal Government entry into oil and gas exploration and production where an active industry with a viable competitive structure already is operating.

The second question is whether the government should intercede because the industry has failed to respond to incentives and opportunities to expand output. We would remind the Committee that the petroleum industry has a long record of delivering low-cost energy to consumers. Because the industry has had in the past, and continues to have, a large number of competing firms, the industry does respond to changed conditions.

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* Recent studies include: Edward W. Erickson and Robert M. Spann, "The U.S. Petroleum Industry", in The Energy Question, Vol. 2, edited by Edward W. Erickson and Leonard Waveman, 1974, pp. 3-24; Thomas D. Duchesneau, Competition in the U.S. Energy Industry, 1975; Jesse W. Markham, "The Competitive Effect of Joint Bidding by Oil Companies for Offshore Lease Sales", in Industrial Organization and Economic Development, edited by Jesse W. Markham and Gustav F. Papanek, 1970, pp. 116-135; and Edward J. Mitchell, U.S. Energy Policy: A Primer, 1974, especially pp. 85-103.

What observers outside the industry sometimes do not appreciate are the long lead times required by the best technology available to find, develop, transport and refine an increased quantity of crude oil.

As a result of recent increases in the price of new domestic oil, the evidence shows quite clearly that there has been an upsurge in activity to find more supplies; after many years of decline, due to inadequate incentives, domestic drilling has risen substantially. Uncertainties of petroleum geology make it impossible to predict with accuracy how much additional oil might be found as a result of the new exploration efforts. The National Energy Mobilization Board could do nothing to change these uncertainties. Historically, however, private petroleum companies have responded to incentives and have located and delivered oil to consumers as a desired refined product. This process to expand domestic supplies has been accelerated recently, despite various governmentally imposed roadblocks, by the improved new crude oil prices for producers.

Thus, we oppose the National Energy Mobilization Board in principle because it represents government intervention into the petroleum industry where the market structure and market performance do not warrant such intervention. To pro-

ceed in such a situation is simply to ignore the basic foundation of business-government relations that have typically prevailed in the U.S. Such a move would be a dangerous precedent.

Overlap With FEA, ERDA

The proposal to create a National Energy Mobilization Board cannot be considered in isolation. Since the Arab oil embargo dramatically focused attention on energy supplies, we have had the establishment of the Federal Energy Administration (FEA) and the Energy Research and Development Administration (ERDA). The FEA already has a broad role to play as an information gathering and conservation promoting unit and holds wide regulatory power over the industry. ERDA, with a budget approaching two billion dollars, is working on joint private-public research programs in the energy area to increase total supplies and to speed the development of alternative fuels.

While the power of the NEMB would go far beyond FEA and ERDA, we are fearful that Congress' effort to "do something" about the energy supply problem could result in a proliferation of agencies that will overlap one another and delay rather than expedite action.

Oil and Gas Assessment and Exploration Program

In Section 204, this bill authorizes and directs the Board to carry out a Federal oil and gas exploration program

of the Federal lands and the Outer Continental Shelf to supplement the activities of the private sector.

Since the Federal Government holds most of the undeveloped attractive oil and gas producing properties, the increase in domestic petroleum supplies depends very heavily on the timing of the leasing program to make these properties available for exploration and development. Members of private industry have been urging for some considerable time that the pace of development be accelerated.

It is not clear how the NEMB would speed up this process. The NEMB can only enter the exploration business by bidding away people and supplies from the private sector or by gearing up an effort with all new staff and equipment. The first approach would not increase the total exploration effort but merely redistribute its control, a result of dubious merit. The second appraoch would be time consuming, inefficient, and would likely delay the total exploration effort.

There is no evidence that the private sector is unable or unwilling to aggressively explore and develop new public lands and offshore areas as fast as it is given the opportunity. Thus, there is no need for the NEMB in this specific area and we see no advantages to the public in the development of the Nation's energy supply from direct entry into exploration by the government.

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Materials for Energy Development

Section 202 permits the NEMB to require the allocation of certain essential materials into energy development. And, Section 208 requires the NEMB to prepare a plan for "the utilization of existing idle, underutilized or surplus facilities, installations, properties, and resources of the Federal Government to augment the Nation's manufacturing and industrial capacity...for the conduct of an accelerated domestic energy exploration, development, and production program." The apparent purpose of these sections is to overcome the reported shortages of equipment that appeared in 1973 and early 1974 when petroleum companies attempted to expand rapidly in response to improved crude oil prices.

Exploration and drilling activity had declined in the 1960's and early 1970's because of the inadequate incentive provided by the depressed domestic price of oil. As a consequence, the amount of oil field equipment available for quick deployment had also declined. Thus, the immediate efforts of the petroleum companies to expand domestic supply did run into some short-term material shortages.

Recent evidence, however, suggests that these equipment problems have largely disappeared. The industries that supply the petroleum companies have now had time to make their own adjustments and increase their production of materials. This is

simply the way we expect a private enterprise market economy to operate. A basic change in one market, such as petroleum, sets off an intensive effort to expand which impacts on many other markets. For a time there may be some imbalances but the system is self-correcting.

Since the initial temporary shortages that led to this concern have now been corrected, we see no reason to provide for allocation powers or for utilizing Federal facilities.

National Energy Production Companies

Section 302 authorizes the NEMB to finance the start-up of new private energy companies when it is determined they are needed to increase energy production.

In the petroleum industry, as I have pointed out, a viable competitive industry already exists where there are no barriers to entry and where the presence of new firms is common. There is no evidence that the subsidization of new firms is necessary to increase competition in the industry or to expand the capacity of the industry. The private sector is already engaged in a major expansion process and private sector investments in petroleum will have as much of an expansionary effect on Gross National Product and jobs as an equal amount of government investment.

Although we note that the bill tries to limit NEMB investment in these new energy companies, the limitation could prove difficult to maintain. For example, a loan for at least 50% of the capital for a new corporation is authorized directly; then if the general public chose not to purchase equity in the company, the government would be required to purchase up to two-thirds of the equity shares of the corporation and would then control the board of directors. The NEMB could end up investing 85% of the total capital in the new corporation with a combination of loans and equity purchase. And, if the initial capital proves to be insufficient, the NEMB could easily be forced into becoming an even heavier investor in individual corporations. We might ask, "How private will these new corporations be when the biggest investor and stockholder is the Federal Government?"

In general, if an energy project in petroleum is or appears to be merited because of market demand, the project will be undertaken by the private sector. Competition for markets in the industry is based on seizing opportunities as they occur. One danger with the subsidization of new corporations is that the NEMB will be tempted to squander public resources in areas and for projects that do not meet the market test.

There is no evidence that government owned or government controlled corporations are more efficient than private corporations. In fact, the record of wholly or partially govern-

ment owned foreign oil companies leads to the opposite conclusion. The clear indication is that the companies with government ownership are less efficient. This inefficiency then leads to increased costs to the public, either through higher prices for products or higher taxes to pay for subsidies to the government owned firms.*

The companies comprising the petroleum industry do not fear competition or new entrants. We are accustomed to both. However, we rightly fear unfair competition. With the Federal Government making significant investments in new energy corporations, the temptation would surely be great to provide special favors to those corporations. For example, we note that the bill already provides for the assignment of leases to these new companies by the Secretary of Interior outside of the normal bidding process.

Expediting Government Action

Section 203 gives the NEMB authority to interject its views into state or Federal regulatory or judicial proceedings where energy development might be delayed. Section 303 of Title III authorizes and directs the NEMB to review and evaluate the procedures and methods used by government agencies to

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* These conclusions were reached in a report by Nossaman, Waters, Krueger, Marsh and Riordan, An Evaluation of the Options of the U.S. Government in its Relationship to U.S. Firms in International Petroleum Affairs, prepared for the FEA, February, 1975.

process requests for projects that would increase exploration, development, production and transportation of domestic energy resources. The Board would propose new procedures where desirable. And, the Board could cut across other agencies to clear a project by recommending approval through an "Expedited Energy Project Procedure Report" to Congress. The recommendations of the report would become law in 60 days unless one house of Congress disapproved.

While the idea of providing mechanisms to cut through red tape is appealing, it is not clear that the NEMB would in fact be able to achieve a significant speed-up of review activity. At the bottom line, S.740 creates yet another Federal energy bureaucracy which will have its own approach to energy issues. This added bureaucracy could operate to increase the delays on energy projects instead of cutting the delays. There may be major or minor differences between the NEMB and other government agencies over appropriate policies and procedures; the result could be long bureaucratic battles rather than an elimination of red tape and faster development of oil and gas.

And, those issues that might prompt an "Expedited Energy Project Procedure Report" would clearly be those where a stalemate was encountered -- as was the case with the Alaskan oil pipeline. Such conflicts are likely to be so great and pervasive that preparation of the report would be a lengthy pro-

cess and it is unlikely that Congress would allow the report to take effect with only 60 days of scrutiny. In fact, the Expedited Energy Project might simply have two extra steps added to an already cumbersome procedure. One extra step would be to get NEMB to take action and the second would be to get Congressional approval without being sidetracked into lengthy committee deliberation and debate while the normal clearance process has been shut down to await the outcome of the Expedited Energy Project Report process.

Naval Petroleum Reserves Development

Various sections of Title II and Title III grant the NEMB the authority to proceed with exploration and to contract for the development of the Naval Petroleum Reserve number 4 in Alaska which has never been fully explored.

We believe that contracting with private industry to develop these Naval Petroleum Reserves would be sound policy. The important point, however, is that the NEMB is not needed to implement this policy. The Department of Defense or the Department of Interior could handle the contractual arrangements that would be necessary to develop the Alaskan Naval Petroleum Reserve.

Energy Capital Investment Program

Title V of S.740 authorizes the NEMB to prepare legislative recommendations on the desirability of various types of

Federal assistance to assure that there is sufficient capital for investment in the production, development and transportation of conventional energy supplies. On an interim basis, (until legislation is prepared) the NEMB would be empowered to approve requests for Federal energy financing on a project-by-project basis, subject to disapproval by Congress.

The petroleum companies are well aware of the sizable capital investments that they will be required to make in the next several years. Leaders in our industry have repeatedly stressed this in testimony before Congress and in communication with the public. We have not, however, asked the Federal Government to subsidize this capital investment through loans, grants, shared risks, or minimum price supports.

Petroleum companies have been neither reluctant to undertake huge projects, such as the development of the Alaskan North Slope and the trans-Alaskan pipeline, nor to accept sizable risks, such as in bidding for leases to gain petroleum exploration rights in offshore areas. And, sometimes the risky ventures do not work out; at a recent lease sale Exxon, Mobil and Champlin Petroleum paid cash bonuses of $632 million for rights to six tracts in the Gulf of Mexico off the Florida coast. Seven test wells subsequently failed to turn up oil or natural gas in commerical quantities and the future of this area is very much in

question. Outcomes like these -- involving heavy loss of investment -- are simply part of being in the petroleum business.

We do not need Federal Government subsidies to keep us doing our business. What we have urged is that the industry be allowed to operate in the market place free of the speical price controls and other impediments that were lifted from the rest of American business when it was found out that they didn't work.

Our greatest needs are to earn a reasonable rate of return on equity over a period of time and to maintain the confidence of potential new investors so that we will be able to generate new capital through normal channels. Investor confidence is being seriously undermined by the uncertainty about what actions government may take to handicap and impede the industry's efforts. Measures such as S.740, which threaten massive government intervention into petroleum could discourage future private investment in oil companies, setting off a vicious spiral. The less private investment the industry attracted, the less it could engage in expansion and, hence, the less it could produce. Such a spiral would in turn necessitate even more government participation, in effect fulfilling the prophecy that the private sector cannot do the job. At that point in time, who would dare admit publicly that out industry

had done the job in the past and could do the job again if given the opportunity?

National Energy Production Trust Fund

Title VI of S.740 establishes a National Energy Production Trust Fund to carry out provisions of the bill. From July 1, 1975 to June 30, 1985 the trust fund would receive a total of $19.0 billion; $1.0 billion the first year and $2.0 billion each year thereafter. However, the NEMB budget could swell to any level because it is not limited to the size of the trust fund.

Our general position is already clear. The National Energy Mobilization Board is not needed and, therefore, a special trust fund to finance its activities is not needed. Outlays from such a fund are not without cost to the taxpayer. Other things being equal, the $2.0 billion per year diverted to the trust fund from the Treasury could be used to lower taxes.

Conclusion

A continuing and expanding supply of petroleum is critical to the U.S. economy and security. The current surge of private exploration should permit us to increase our domestic supply of petroleum. We in the industry are pleased with the Interior Department's announced plans to accelerate offshore leasing. Oil will soon be available from Alaska's North Slope.

This forward momentum must be maintained. This is not the time for drastic actions that are based on the false assumption that the private sector either cannot or will not do the job.

S.740 would take a problem that can be, and is being solved in an economically efficient fashion by the private sector, and make it part of the political process. The National Energy Mobilization Board is just one of many actions proposed by the Congress that would serve to thwart the efforts of private enterprise to expand domestic energy production.

I am hopeful that Congress will see the threat to our energy supply outlook which is inherent in this bill, and also the potentially dangerous precedent it would establish for government intervention into other segments of the nation's private enterprise system. This system of ours still works. Unless the Congress is very sure that any other system will work better, it is dangerous and potentially disasterous to tamper with the system we now have in the hope of achieving some theoretical or ideal goal.

The CHAIRMAN. Thank you, Mr. Spahr. We certainly welcome your views. I hope that maybe you might make some suggestions as to how to improve the bill.

You give the impression that this is something wild. I call to your attention that the concept and also the details have been supported here by many outstanding leaders. John Bunting is an outstanding banker. Charles Luce is head of the world's largest utility company. Joe Fowler the former Secretary of the Treasury and now an investment banker on Wall Street, Mr. Blumenthal, head of the Bendix Co., Felix Rohatyn of the New York investment firm Layard-Treves and Leonard Woodcock from Labor have all spoken favorably of this legislation. I think the tendency is that any time you try to come up with a new approach, the industry raises storm signals. If it's new, it's dangerous and socialistic. I've heard this all my life.

It was Earl Warren who once said that the trouble with some of these people is that they can't distinguish socialism from social progress. I recall the screams that arose when one company before World War II, Alcoa, was the only aluminum company in the United States and Franklin Roosevelt proceeded to create new aluminum companies directly.

I believe in the free enterprise system. I think the problem is that we start from a false premise. I want to ask you this: do you believe that your business is a business affected with a public interest?

Mr. SPAHR. Of course I do.

The CHAIRMAN. Then you are different from other areas of the profit sector, you are subject to Government regulation and control. You agree that that's proper isn't it?

Mr. SPAHR. I agree that we are subject to Government controls.

The CHAIRMAN. Shouldn't it be proper that the Government has something to say over the life and death of free enterprise, itself? We have a lot of utilities, Mr. Spahr, that are going to the wall. They are free enterprise too, and they are hanging on the ropes.

Mr. SPAHR. Mr. Chairman, you have asked your question, and I would gladly respond. I think Government regulation is the order of the day and because we are working in the public interest, that we should be subjected to careful Government control. I submit to you, sir, that this is not an answer that says anybody's idea, no matter how well designed or how little subjected to careful scrutiny, should be the answer to what the regulations should be.

The CHAIRMAN. I'm not saying that either. I am merely pointing out that I recall the recent debate. When the former President, Mr. Nixon, was successful in his veto of the price rollback we were told that if we took controls off new oil, we would get all of the oil we wanted; at the latest, within 18 months. Since then, production has been going down and down. That was the basic argument.

All I'm saying is that we have a lot of oil. It was Mr. Morton, Secretary of Interior at the time, who had to go after the oil companies in the gulf to proceed to develop the natural gas leases that they had been sitting on for 2 years. Your view seems to be "just leave it to us and we'll do it."

By the way, may I ask a question. Who controls Standard Oil of Ohio?

Mr. SPAHR. Right now; Mr. Chairman, there is a 25-percent interest in the company owned by British Petroleum Co. of London as a consequence of our having worked out an arrangement with them in 1969, effective at the beginning of 1970, that gave us, in exchange for that interest, all their properties in the United States, including particularly, the one we wanted, the North Slope oil fields.

So, by the deal, we achieved at least an arrangement whereby we would retain the benefit, not only for the supplies and the development of that oil for the United States of America, but approximately half of the profits that would be derived therefrom.

The British Petroleum Co., as I think you know sir, or you did at least at one time, has the opportunity to increase this percentage ownership interest in us to slightly more than 50 percent, provided the production from the North Slope is sufficient to justify that; all a matter of record.

The CHAIRMAN. I understand that. I just want to make the record here because you're talking about the Government being in business.

Who controls now the British Petroleum Co.?

Mr. SPAHR. Mr. Chairman, I assume you know the answers to these questions.

The CHAIRMAN. Certainly I know them, but the public doesn't and you are here as a witness.

Mr. SPAHR. Yes, sir, I will answer the question.

The CHAIRMAN. It's very relevant to the statement you are making about the Government getting into business, go ahead.

Mr. SPAHR. The British Petroleum Co. is owned, to a substantial extent, by the Government of Great Britain. That ownership is divided into two parts; 49 percent of the company is owned outright by the Government, and another 23 percent approximately, is controlled through the Bank of England as a consequence of certain undesirable developments from Burma Oil Co.'s point of view that happened to that company about a year ago.

The Government, as I understand it, and I think I understand it correctly, has assured, and in fact, has committed itself not to exercise in the affairs of the British Petroleum Co., the extra voting interest that it acquired through the Burma semidemise.

The CHAIRMAN. The British Government has had the 49 percent for quite awhile, am I not correct?

Mr. SPAHR. You are. I think that at one time it was a little more, and at another time, a little less.

The CHAIRMAN. For all practical purposes, it is understood in Britain. I had a chance to go over to the North Sea last November. Now I understand the Government finds that they can't take effective control.

Mr. SPAHR. I understand, Mr. Chairman, that for many years, the Government has had the right through its director on the British Petroleum Co.'s board, to veto actions of the management, but it has never exercised that right.

The CHAIRMAN. I understand that. The Bank of England, is the Government, for all practical purposes, under the present government. Knowing their policy, they can have effective control and if the protection turns out to what we hope it will be, then that could be a very substantial factor on the north slope.

What you are really saying is, Standard Oil of Ohio can be under the control of the British Government.

Mr. SPAHR. The chairman of British Petroleum and I have had lots of discussion.

The CHAIRMAN. I'm not saying it's wrong. I just say it's just curious because of your line of argument here.

Mr. SPAHR. I'm about to explain it, may I proceed?

Sir Eric and I have had a number of discussions, in the past and we'll probably have some in the future about government ownership of oil companies. Let us say that our views aren't exactly the same.

However, I think that I have prevailed in the argument thus far that in an American company such as ours, that the majority of the board of directors should be outside American directors regardless of the ownership of the British Government of BP and regardless of BP's ownership in us.

At the present time, our outside director membership is exactly even with inside management plus British Petroleum's directors. Now, I feel that this is necessary in the interest of the majority of the stockholders, many of whom are private individuals, and in order that the affairs of the company may be conducted for the total good of all, rather than to be conducted too much for the good of one stockholder.

This is, undoubtedly, not answering the concern that you or others might have about government intervention in the company, but it is going a long way to assure, through the utilization of able men, knowledgeable in the business, as well as in other professions in this country that are important, to having the kind of control of the company's activity that I argue for.

The CHAIRMAN. But you are head of an operation which government is up to their neck in it. I would assume you would step down and get out of it if you thought this was a dangerous operation.

Mr. SPAHR. Excuse me, the Government is not up to its neck in the operation of my company at the present time, particularly if you mean the British Government. If you mean the United States Government, I will have to agree with you sir, that we are about up to here and still breathing.

The CHAIRMAN. You think it is all right that the British Government owns a big chunk of your company, but it's wrong for the United States?

Mr. SPAHR. I'm sitting here, sir, in a public place. I do not see a fundamental difference and I'm not necessarily that happy that the potential influence of our company's affairs exist in the way that it does, but, it's a fact of life so I'm living with it and coping with it very well, I think.

I do believe, sir, that the record of my chairmanship in the last 5 years of this company of ours will indicate that we have been working very diligently in the interest of the citizens of the United States as well as of the British Petroleum Co.

Do you have any different view?

The CHAIRMAN. I think you try to do very well, I disagree on some things, but I think you are an able administrator, and executive.

Mr. SPAHR. I am not contending that I need your support there, I'm suggesting that my work has been in the interest of the country, my

country, your country, and the citizens of this country as well as the British Petroleum Co.

The CHAIRMAN. When you support total deregulation of the price of oil, I think that's irresponsible at a time when our economy is in deep trouble. In fact, it can be catastrophic. If we don't understand that, we really don't understand our economy under the free enterprise system. You know what happens to these utilities when one sudden increase happens. Have you ever seen the American utility, I'm talking about the power industry, in worse shape than it is now, talking financially and otherwise.

Mr. SPAHR. No sir, but I think that part of the utilities problems arise through the ponderousness of the regulatory rules that apply to them that determine when and whether and how much they can get rate increases and other changes, and also whether or not they can get approval for building nuclear power plants and a number of things.

The CHAIRMAN. The facts are that when the price of oil skyrocketed, the utilities, and in particular on the east coast, were confronted with a catastrophic situation, as you know. Their stocks plummeted, interest rates, long term, 12, 13 percent on a bond, the utilities couldn't go into the equity market, they had trouble raising money.

Take the Florida Power Corp., for example. Some of their stock went from something like $60 down to $10. It's a very fine company. They held a sale, when their stock was around 60 and they had shareholders with 40. Obviously, when the price drops down to 10, they can't make it in the equity market or in the bond market. Where do they go? To the banks, so the banks got in trouble. All of this, has as a centerpiece, of course, the price of oil.

All I'm trying to point out, Mr. Spahr, is that you are in a business affected by the public interest. I want to point out that if we had a sudden increase in the price of oil because of total decontrol, and that is the industry's position, in my judgment, we are going to see a new and lower bottom to the economy. You're going to see a lack of recovery. President Ford, himself, is finally changing his policy. Now he wants the controls spread out over a period of time. That has not been the basic position of the administration. They've changed because the economists are concerned that decontrol could be catastrophic.

Now, I'm just trying to hammer home one basic thing. I believe in the private enterprise system. I want to keep it that way, but I'm fearful that once again, industry is not going to be wise enough or smart enough to know that if they allow their operations to go willy-nilly as they see fit, they are going to be in deep trouble. All I'm saying to you is that here is the United States of America with tremendous reserves of oil that are available. That oil should be developed in the shortest time possible.

Let's set aside Project Independence when you talk about oil and gas. It's available on the Outer Continental Shelf in Alaska. I suggest a mobilization plan. What is the industry's proposal to get it in the shortest time possible? If you have a better plan, let's hear about it.

This is what we are debating around here. An energy policy, in the shortest time possible. One recognizing that what we do to get that oil and that gas in 4 or 5 years will determine the future of the free financial institutions of the western industrialized nations. We heard it

over and over on the floor a year ago last March. Sustain President Nixon's veto and allow the marketplace to work and you will get all of these things. I don't buy that argument but I would be glad for you to tell us now, how are you going to get these resources developed in the shortest time possible without any mobilization requirements?

Mr. SPAHR. Very well, Mr. Chairman, but first if I may, I would like to respond to your comments about regulation.

Regulation is a way of life as I've indicated and I doubt that we are going to be free of it during my lifetime or yours or of anybody in this room, so I'm not arguing that point as such.

This bill, sir, and some of its provisions provides, among other things, that new companies will be created by government decision that present oil companies can be excluded from operating on Federal lands and looking for oil if the Board so chose and preference be given to others. It creates new enterprises, we're not talking about regulation as the bill provides.

The CHAIRMAN. New private enterprise, Mr. Spahr.

Mr. SPAHR. So they are called in the bill, yes sir, I understand the terms used.

The CHAIRMAN. The Government did that before. We only had a few rubber companies during World War II and we put together new companies, new aluminum companies, and a number of small independents.

How many truly independent oil companies are operating in Alaska on any scale?

Mr. SPAHR. Mr. Chairman, you are asking the questions faster than you will allow me to provide the answers. I'm perfectly willing to provide them.

The CHAIRMAN. I want to be courteous, go right ahead and answer them. Keep going as long as you like.

Mr. SPAHR. Very well, sir.

In the first place, I think it is quite an error to compare the competition in the oil industry with that that was in the aluminum industry at the time you mentioned. There isn't one oil company, or two oil companies, there are multitudes of them so the comparative situation of the oil industry, from my point of view, is not one that can be compared at all to the aluminum situation that you referenced, sir. I don't think one has to worry about competition in the oil industry because of the same reasons you were concerned about in the aluminum industry.

As far as Alaska is concerned, it is a far away place, posing many, many problems and all of the companies who were successful in Alaska in finding oil, are currently trying to do everything necessary to get it produced and brought to market.

It is true that those who found oil on the North Slope thus far are few in number and they are represented by those who are in the pipeline company and as I recall, there are about 7 of us still left in that activity. There are many others who would like to be in the oil business in Alaska and who are waiting for opportunities to come in through bidding on State lease sales yet to be posted and all of that.

We're in the infant stages of the oil industry in Alaska and only those who were successful in the beginning are spending their time and their money on that effort now.

I would submit to you, sir, that it would not be proveable that we have delayed or that we have refused to spend money or to take risks.

The CHAIRMAN. Will you answer the question that I asked? Name the companies that are really active in Alaska. You know them. I know them.

Mr. SPAHR. I don't know them all because I'm not familiar with those who are in the Cook Inlet operation, sir, those include Marathon, Philips and a number of others, but my company is not there, and I'm sure that I would miss a few.

But, those who are active on the North Slope, which I assume you are interested in include Exxon, Atlantic-Richfield, and the Standard Oil Company of Ohio, Mobil Oil Co., Philips Petroleum, Union Oil, Amerada Hess.

The CHAIRMAN. How many independent oil companies are there in the United States?

Mr. SPAHR. I don't have the faintest idea at the moment.

The CHAIRMAN. You're head of the American Petroleum Institute?

Mr. SPAHR. There are a great many independent oil companies and there is probably a different number today than there were last week, Mr. Chairman. That information can be provide to you, if you would like to have it, and I'll see that it is provided for the record.

The CHAIRMAN. Are there 50, 100, 10,000?

Mr. SPAHR. I read in my testimony here, that there were 131 refiners and over 10,000 wholesalers, and a great many producers and I do not have the number of them.

The CHAIRMAN. Will you supply that?

Mr. SPAHR. I will, indeed sir.

[The information follows:]

THE STANDARD OIL CO.,
Cleveland, Ohio, July 25, 1975.

Hon. HENRY M. JACKSON,
Chairman, Interior and Insular Affairs Committee, U.S. Senate, Russell Senate Office Building, Washington, D.C.

DEAR MR. CHAIRMAN: On July 14, 1975, as Chairman of the Board of the American Petroleum Institute, I testified before your committe regarding S. 740, the National Energy Mobilization Board Act of 1975.

During my testimony, you requested information on the current number of independent companies in the petroleum industry. Firms classified as independents are and have been in the great majority at all stages of the industry. As the precise number can vary with the definition of independent, the following numbers should be viewed as indications of the order of magnitude. In production of oil and gas, there are more than 10,000 independent companies. In refining, about 110 independent refiners compete with the major companies. The General Accounting Office Report on Impact of Federal Allocation Programs on Gasoline Retailers and Independent Refiners dated April 16, 1975, stated: "There are large numbers of independent jobbers involved in the wholesale distribution of petroleum products and independent marketers of refined products other than gasoline. At the retail gasoline station level, independent dealers have historically dominated the market." I would put the total number of independent jobbers in excess of 14,000 and the number of independent dealers on the order of 200,000.

During the discussion at the July 14 hearing you also expressed a desire to know what plan or what actions the industry recommends to increase the domestic energy supply. The list below sets forth very briefly actions that various members of the industry have recommended in previous testimony and public presentations. They are:

1. Complete, without any further delay, the trans-Alaska pipeline, and we are endeavoring to do that right now.

2. Deregulate natural gas field prices and "old oil" prices.
3. Accelerate exploration and development of outer continental shelf areas on a regular basis.
4. Resume operations in the Santa Barbara Channel.
5. Open up the Naval Petroleum Reserves for devolepment.
6. Expedite the development of deepwater port facilities.
7. Move forward on a responsible nuclear power generation program.
8. Encourage private enterprise to embark upon an expedited program for development and conversion of synthetic fuels into oil and gas.
9. Accelerate more intense research into and development of other non-conventional energy sources—solar, geothermal steam, and others.

I believe that every company in the petroleum industry is ready, willing and able to accept the usual business risks and participate in one or more ways in the development of new energy sources. Each probably has it own plan fit to its own capabilities. All are waiting in various degrees for our government to remove or modify the restrictions impeding this work.

Sincerely yours,

CHARLES E. SPAHR.

The CHAIRMAN. The fact is, the independents are really not operating in Alaska, is that not true?

Mr. SPAHR. Of course it's true, Mr. Chairman.

The CHAIRMAN. What about the Outer Continental Shelf? We're suggesting there be greater competition. This is the greatest potential oil reserve in the world, at least hopefully, in the United States. I think there is more petroleum there than in the lower 48 States. Hopefully we will be able to develop that. We're working on it.

All I'm suggesting is that you tell us how the industry will go forward, on an all out, top priority, overriding priority basis to get the oil out at the shortest possible time so we can turn this around. Production is going down steadily.

Mr. SPAHR. Mr. Chairman, if lease sales are made available in the near term future to the oil industry, on the shores of this country, I'm sure that you will find that there will be many oil companies, including independents, probably working in groups for the purpose, who will demonstrate an interest in developing plans on which they can explore for oil, and that they will demonstrate the competence and capability of financing their activities.

These are expensive operations, as you very well know, sir, and it isn't at all surprising to find not only independents, but major oil companies, finding it necessary to work within the limits of the law, to arrange to lessen their risk by doing things in concert to the extent that it is possible to do them.

The risk on many of these great enterprises is just too great to sustain alone in case disaster should strike. I think that you'll find that the oil companies are prepared today to go to the marketplace to raise money, to conduct their activities, once they are allowed to do so.

The CHAIRMAN. What is your plan? What is your blueprint? What's your proposal? How do you want us to speed up? Time is of the essence. Tell me what it is?

Mr. SPAHR. My plan would be—this is not a plan but a response to your question.

The CHAIRMAN. What I'm trying to get at is the fact that we've been in an energy crisis for a long time. The argument is that Congress doesn't have a plan: the administration does: the industry does.

Tell me what the industry plan is, if there is one, that will really get oil and gas in the shortest time possible, not over the next 20 years. We're talking about the next 4 or 5 years.

Mr. SPAHR. Mr. Chairman, as chairman of the API, I think I should remind you that I am not in a position to obtain all the plans of all the companies as to what they want to do.

I would be in pretty serious shape, as an individual, if that would be the case; but I do believe, sir, that if you were to ask them, that every one of these companies would be able to tell you what their plans are. Some of them might be reluctant to tell you, but would be able to tell you.

My company has a plan, has had a plan for quite some time, revised every year for 10 years ahead. It contemplates spending more money than we feel we can generate, even with Alaskan oil. So, we'll have to cut out some things if we can't manage to generate enough funds to do all of this.

The CHAIRMAN. Can you give us an overall plan, Mr. Spahr?

Mr. SPAHR. I can't tell you an overall plan because I'm not in a position to tell you what it would be legally.

The CHAIRMAN. It's no violation of an antitrust law if the American Petroleum Institute comes up with their blueprint; if API tells us what we need to do to get this energy in the shortest time possible. I'm not talking about collaboration and holding meetings between companies. I'm just curious to find out.

Mr. SPAHR. I think that the National Petroleum Council is the body that you should be looking to for that kind of advice or commentary, not the American Petroleum Institute.

Mr. CHAIRMAN. Are you aware of a policy on the part of the private sector that could get the petroleum in the shortest time possible?

Mr. SPAHR. Sir, I'm aware of a lot of things, for example, I'm aware of what is a fact, that there is a high interest in being able to explore, in the Gulf of Alaska, in the Beaufort Sea, off the Southern California shore, further out in the gulf coast, in the Baltimore Canyon in the east, and up off our Maine and New England area offshore.

I know all those interests exist and there are conjectural plans, very likely, in the planning areas of every major company in the industry to do parts of these things to the extent they can.

I think there is a great deal of urgency in getting things done, but thus far, these companies are unable to do things because they have not been released to do them because of various things that the Government, either the bureaucracy or the Congress is or is not doing.

The CHAIRMAN. What percentage of the resources of the large American international oil companies are being invested and utilized abroad instead of within the United States? What's the ratio of that?

Mr. SPAHR. I think the source of information for that kind of thing would have to come from some unbiased agency, such as the Chase Manhattan Bank and other sources. I do not have that information but I could——

The CHAIRMAN. Don't you think there's a less biased source, like the Government? Why shouldn't the Government be in the position to provide this information?

Mr. SPAHR. Sir, I never talked about information, other than to say we're concerned about this Government board having access to all private industry information.

I've expressed concerns today about what's proposed about putting the Government into business through this bill in competition with

American private enterprise on some bases that I feel are not quite fair and reasonable, or even.

Mr. CHAIRMAN. I'm not going to dispute this any further.

I'm not wedded to any one concept. I just want to get this job done. We've had some very responsible people in here who feel the same way, and who are deeply committed to the private sector. I'll just give you some of their names. I sort of get the impression from your people that you feel there's no role here for the Federal Government despite the fact that should we be in another cutoff in the Middle East, everyone will jump into town here and want to know why something didn't happen.

Mr. SPAHR. Mr. Chairman, if I may, I would like to reflect upon something I know you know, but it's from the experience that this country had during World War II and the Korean emergency, ending in 1953.

On both of those occasions, we were in a crisis situation, and the Government did do something, I think quite intelligent about arranging to cope with it.

A Petroleum Administration for War was formed and so was a Petroleum Administration for Defense. They were related to the Interior Department at the time, and they were composed and manned by people who were requested to leave industry and work for the Government.

So, in those cases, the Government took advantage of expertise and knowledge and put it to work immediately rather than experiment and gave the people involved the necessary strength and control to see that things got done.

In recent years, I have been quite dismayed by the attitude displayed toward us, generally, by many people in this town who seem to feel that because we have been involved in the petroleum industry, we cannot be relied upon to work for the country's interest in the area of improving our energy situation.

I submit, sir, that any idea that's designed to have the Government be more influential than it has been in the past on energy matters should have some kind of proviso to command and utilize the strength and experience, the knowledge and the determination of people in the industry who want to help.

I'm one of those. There are many others.

The CHAIRMAN. I respect your sincerity. Ralph Davies headed that effort.

Mr. SPAHR. He did in the beginning in World War II.

The CHAIRMAN. He sure did, and I'll tell you how well he did it. As you know, he was head of Standard Oil. He came in and worked with Mr. Ickes.

Tell me how he was rewarded by his company because he did such a good job when he stepped down?

Mr. SPAHR. I don't know.

The CHAIRMAN. You don't really know that story? I'm amazed. He was fired by Standard Oil of California. He didn't get his job back.

Mr. SPAHR. Was he fired, or retired?

The CHAIRMAN. No, sir; he was fired.

Harold Ickes bought a share of stock and went to the shareholders meeting and tried to get him reinstated.

He served his country faithfully and loyally and impartially, and he was tough on them. Just read that record if you have time. I try to do my homework.

Mr. SPAHR. I do mine, too.

Mr. CHAIRMAN. I'm amazed you're head of ——

Mr. SPAHR. But I can't possibly anticipate all the questions that you'll ask about history.

The CHAIRMAN. You just brought up World War II.

Mr. SPAHR. And the Korean incident.

The Korean incident, sir, was one in which I participated. I was here in Washington. I worked with two men, Bruce Brown and J. Ed Warren, neither of those gentlemen got fired. The first one was an employee, an officer of the Standard Oil Co. of Indiana. He did an excellent job, I think, and so did Mr. Warren, who followed him.

Later, Mr. Warren's career was considerably enhanced, I think, by the fact that he'd been here and he went on to greater opportunities and became the head of, among other things, of a big oil company; whereas, he had been an independent before.

The CHAIRMAN. Look up the record. After all, the World War II mobilization effort was a very substantial effort. I just suggest that you go back and read that record and find out what happened to Ralph Davies. It's a very interesting story.

Mr. SPAHR. Yes, sir, and I hope that you would learn more about Mr. Warren if you do not know much about him already.

The CHAIRMAN. I would like to, but you brought up World War II, and what was done and I was rather surprised you weren't familiar with that record because that was the Petroleum Administration for War, and it was a massive effort.

I will defer further questions.

Mr. SPAHR. I was going to ask you if you felt that Mr. Davies did a good job?

The CHAIRMAN. Yes; he did such a good job that the company wouldn't have him back.

Mr. SPAHR. Remember, I was saying in the beginning that there are many men in the industry who are willing to lend their efforts and take those kind of risks including myself.

The CHAIRMAN. I commend you for it; but it does reflect on the company doesn't it that they wouldn't take him back?

Mr. SPAHR. I'll have to study the facts that you suggested. I'll study about the Standard Oil Co. of California before I respond to that comment, Mr. Chairman.

The CHAIRMAN. I didn't bring up the World War II problem on oil. I just wanted to bring you up to date on it.

Senator Bartlett and then Senator Stone.

Senator BARTLETT. Thank you, Mr. Chairman.

Mr. Spahr, this committee, as you know, took on a new function 4 years ago to study the energy crisis, the fuel shortage, and still is charged with that responsibility.

How do the reserves for oil and gas 4 years ago compare to today, which would be the stand of the interest of this committee in the energy shortage of this country?

Mr. SPAHR. Senator Bartlett, excluding Alaska, which may or may not have been counted 4 years ago, as it's being counted today, I believe

the reserves of oil and gas in this country are less than they were at that time.

Senator BARTLETT. How about the production?

Mr. SPAHR. The production has also gone down somewhat, not precipitously but measurably and noticeably it has gone down.

Senator BARTLETT. Do you feel that at the time this committee has been charged with this responsibility, there have been actions taken by Congress that have improved the environment for the discovery of oil and gas, new oil and gas reserves?

Mr. SPAHR. No, sir. I do not think the Congress has taken any action, to speak of, to improve the environment for finding oil and gas.

Senator BARTLETT. In your conversation, or dialog with the chairman, you didn't have a plan for solving the energy shortage.

This committee voted—a majority of this committee voted—against legislating the Alaskan pipeline, or adopting the Gravel amendment.

Do you think that amendment, which permitted marketing Alaskan oil in the 48 States, helps to alleviate the shortage?

Mr. SPAHR. I'm not sure which amendment you're referring to.

Senator BARTLETT. The Gravel-Stevens amendment that provided the Alaskan pipeline meet the environmental requirements of NEPA.

Mr. SPAHR. Sir; I should have made that exception. I should have said, as I have said before—and I'm sorry that I made the error this morning—that the single thing that has been done by this august body and by the House, is to have arranged to approve that particular amendment so we could obtain a right-of-way permit to build the Alaskan pipeline.

That was an error on my part, overlooked, I think, in the excitement of the conversation with the chairman.

Senator BARTLETT. It passed the Senate on a tie vote with the vote of the Vice President, but this committee did not support it by a majority.

This committee has supported the rolling back of crude oil prices. Do you feel that's a plan to bring on additional discovery of reserves and to resolve the energy shortage?

Mr. SPAHR. No, sir. I think that rolling back crude oil prices hampers the effort to find more oil and gas.

Senator BARTLETT. As far as the plan is concerned, do you believe that continued control by the FPC of gas improves our energy situation, domestic energy situation and increases the supplies of gas?

Mr. SPAHR. I emphatically do not think that the control exercised by the FPC has been helpful in adding to the volumes of gas that are available. Quite the contrary, Senator Bartlett, I think it's been harmful.

Senator BARTLETT. What effect did the action of 3 months ago to do away with the depletion allowance of the large companies and reduce it for all companies, have on the exploration of oil and gas?

Mr. SPAHR. Senator Bartlett, my view is, it had a very disastrous effect upon the effort to find oil and gas.

It's been said many times, with some accuracy, that the independents drill more exploratory wells than do the majors, or the integrated companies.

Drilling wells, regardless of the depth, or regardless of the horizons

into which the drilling goes, does not tell the whole story. I believe the record will support my contention that there's been more oil found in recent years by the efforts of the majors than by the independents, although evidence or contentions have been made to the contrary.

A great deal more money has been expended by the majors on drilling in deep and difficult places and faraway places, and this is the kind of effort that has been largely blunted by the loss of the depletion allowance.

It's been variously estimated that that single act by the Congress took away perhaps as much as $2 billion this year that otherwise would have been generated and then reinvested in the effort to develop new energy sources.

That money simply is not available and I plead with you, sir, to understand that if the money isn't available, it can't be spent, and the consequent magnitude of the effort on the part of the ones who have lost the money has to be reduced substantially.

I regret that action very much. It has been, in my view, quite detrimental.

Senator BARTLETT. The chairman of this committee was responsible for generating support for passage of the stripper well amendment, in which I had part; but after the passage, I've been opposed to it.

What effect does that have as far as production is concerned?

Mr. SPAHR. I think it's had a helpful effect. Stripper wells, as we both know, are costly wells in terms of unit cost to produce.

So, higher or free prices will allow them to produce longer than would be possible than if prices were restricted or lower.

The generation of income on the part of those who are such producers provides funds that they would not otherwise have that they can reinvest in efforts to find new oil and gas.

I repeat, I think the encouragement of stripper well production has been a salutary thing.

Senator BARTLETT. The chairman mentioned—not specifically, but did mention the freeing up of new oil and matching strip oil, 38 percent was decontrolled, and said this hasn't worked, that during the period of the action taken by Congress, by this administration, to free up oil has resulted in less production.

Certainly, the record shows it has gone down.

What would happen if the oil hadn't been freed up? In other words, if there wasn't a free market price for new oil and there's not a free market price for strip oil and for national oil, and we had a control price as we have today of $5.25, what would this situation be?

Mr. SPAHR. Senator, I'm sure the situation would be worse than the one we have today.

The funds that have been made available would not have been made available; there would have been less drilling effort than there was as a consequence of those enactments.

So, we'd not only be producing less oil now, our chances for producing more in the future would have been substantially lessened.

As we know, it takes some lead time to put money into the ground before we start getting oil out of it. It takes some luck to find the large horizons first, rather than the modest ones, to replace the oil that's being lost from the discoveries made years ago.

It has not been astounding to me that the things that the chairman said about producing anything to date or not producing anything to date, but it's expected by me that those efforts, added to the effort that would continue under the same circumstances, would ultimately, and hopefully soon, start to produce a change in the downward trend in production in this country.

Senator BARTLETT. Would the number of active rigs be a good picture of the oil industry over the last 20 years or so when there were almost 2,700 in 1955 and this has decreased down to less than 1,000 in 1971 and then with the time of some decontrol of prices, and rise in prices, the decontrol of oil, the number of rigs decreased to the approximate 740 at the present time?

Then with the reduction of the depletion allowance, and doing away, for some, the number of active rigs has now dropped from what it was to something like 1,612, or in that area.

Then looking, again, at the fact that our demand for oil was doubled compared to 1955, this would give a target level of active rigs somewhere in the neighborhood of 5,400.

Would all this show, both the decline in rigs and the recent pick up, and the more recent decrease numbers of 30 or so stack rigs, would this all give some credence to a plan to increase reserves and increase domestic production for this country of the free market?

Would the free market tend to maximize the effort of drilling in this country? Is it a reasonable goal to expect that we'd have to have some 5,400 rigs operating in order to have enough domestic oil and gas and to reach levels we need to supply demands to get us through this century, or at least to have the opportunity of having additional rigs?

Do you think you can follow me?

Mr. SPAHR. Senator, without being able to respond to the numbers exactly, I'm sure that the number of rigs that would be active will be a pretty accurate reflection of the conjectures on the part of the contractors for those rigs as to the opportunity to find oil and make some money doing it.

To the extent that restrictions apply, they're going to be less sanguine, and to the extent that those restrictions and regulations and price ceilings are removed they're going to be more willing to take risks for the possible gains that will derive from success of the drilling.

I feel quite certain that it can be demonstrated that there's been a direct relationship between rig activity and Government activity involving the Government in the regulation of the oil business.

I think there would be nothing like the stimulation of the free market to encourage steady and rapid increase of drilling activity in all areas where it's at all prospective for the finding of oil and gas.

Senator BARTLETT. Is there a direct relationship between available capital and rig activity?

Mr. SPAHR. There should be a direct relationship of some sort between available capital and rig activity.

Senator BARTLETT. That's all I have. Thank you, Mr. Chairman.

The CHAIRMAN. Just a point of information. Could you define free market in relation to the present world oil market.

You keep using free market over and over again. Would you describe that free market?

Mr. SPAHR. Mr. Chairman, the world no longer operates in a free market insofar as crude oil is concerned.

The CHAIRMAN. Why did you say that? You said free market over and over again. This is misleading to the public.

Mr. SPAHR. I think we could have and should have a free market in this country that allows the producer and explorer in this country to have a chance of obtaining the kind of income of his effort needed to compensate him for the risk taken and give him some profit and some ability to go further.

I think that would happen if we freed oil in this country to meet the prices in the world market.

The CHAIRMAN. Isn't it a fact that the uncontrolled oil here in the United States is set at the world price. The world price is set by cartel. Is that true or false?

Mr. SPAHR. It seems to me that the world price is very directly influenced by the OPEC nations, which you call the cartel.

The price of new oil here has risen to meet the price of that oil delivered in this country.

The CHAIRMAN. So, it's not a free market.

Mr. SPAHR. The price for new oil in this country has been permitted to rise in what has been thus far, a free market for it to do so in this country.

The CHAIRMAN. Mr. Spahr, let's level here. I don't mind a little nonsense, but you say it rises to the level of what? It rises to the level of the cartel price. You've agreed that the world price is the cartel price. Is that correct; true or false?

Mr. SPAHR. If you want me to say true, I'll say true; but I thought I'd answered your question, Mr. Chairman, just as precisely——

The CHAIRMAN. You're not admitting that the so-called free oil here is determined by what happens in the world market, and the world market is determined by the cartel.

Mr. SPAHR. I believe the record will show, Mr. Chairman, that I said that the price of new oil in this country had risen to meet the delivered price of oil delivered to these shores from foreign producing areas.

The CHAIRMAN. Is that a free market?

Mr. SPAHR. Is what a free market?

The CHAIRMAN. Is that world price a free market price?

Mr. SPAHR. I didn't say it was.

The CHAIRMAN. I'm asking you whether it is.

Mr. SPAHR. Of course it isn't.

The CHAIRMAN. All right.

Senator Stone.

Senator BARTLETT. Excuse me, Mr. Chairman. I have some figures on that that I might put into the record at this point.

Senator STONE. I yield.

Senator BARTLETT. In January the new price is $11.28 versus an import price of $12.77. In March, it was $11.47 versus an import price of $13.28; in April, the new price was $11.57 versus $13.17.

The CHAIRMAN. What is it now?

Senator BARTLETT. I'm giving you April prices, the last ones we had from the FEA. The point that I'm making is that it's been well under the imported price.

Certainly, the Chairman is correct in that the OPEC countries control the price, but my question is this controlling oil is $5.25 by the Federal Government of the United States to make that world price, or the cartel price, any less free market?

Mr. SPAHR. Would you repeat the question?

Senator BARTLETT. The Chairman was making the point that the imported price is the cartel, the OPEC price, which it certainly is.

Also, our free market price has never reached that, so we spend a little bit less, which I think is significant because that has saved the American consumers considerable money.

My point is that we have controlled a price of $5.25. The fact that that's controlled to $5.25, will it make it any less free market, or does it make it any more free market?

Mr. SPAHR. The controlled price, it seems to me, is a withdrawal of the free market in this country.

Am I understanding, I wonder?

Senator BARTLETT. My point is, in my opinion, the control price doesn't improve the free market situation. I would think that the reason that the OPEC countries have such a great opportunity to control the price is that our supplies are inadequate and that the controlled prices we've had helped contribute to that and slowed down our increase in production and reserves to the extent that the OPEC cartel could not so easily set price as they have.

Mr. SPAHR. Senator Bartlett, if I might make a statement that you remind me to make in this: I have never been, and I want it understood now, a supporter for establishing a floor, an international oil price floor, as had been proposed at one time earlier this year by an eminant gentleman in the administration.

The CHAIRMAN. Secretary Kissinger, wasn't it?

Just say it.

Mr. SPAHR. I'm quite willing to say it, sir; by Secretary Kissinger, if you like.

The CHAIRMAN. Everything has to be secret. What's the point?

Mr. SPAHR. It doesn't have to be secret at all. I didn't see the necessity of using the name, but if you want it used, fine.

The CHAIRMAN. I think it's important.

Mr. SPAHR. However, I wanted to say this, Mr. Chairman——

The CHAIRMAN. It's important so the country will know.

Mr. SPAHR. What I wanted to say, starting from where I was, I've been against any floor of an international nature for the oil price. I don't think it's necessary and my company doesn't want it for any kind of protection. I think it would be a little bit difficult to argue for a floor and then argue for no ceiling on the side of selling products or crude oil. It wouldn't be consistent.

Besides, I feel that a floor isn't necessary, that the OPEC nations are not going to be concerned about what's done in this country in an effort to get Alaskan oil to market, to develop shale oil or anything else because they know that in the lifetimes of our sons and daughters will we ever be in a position to compete with them in selling hydocarbons in the world market.

So, they have no reason to cut their price to discourage us from doing what we can do because they'd be cutting their price in the markets that are more important to them than is the United States.

So, I have no fear of it whatsoever and I don't expect to see it happen.

Senator BARTLETT. I think there's a member of this Committee that did suggest a floor at one time. I believe it was the Senator from Washington.

The CHAIRMAN. That's correct, in case you're unaware of it. I think the Senator from Oklahoma voted for it in connection with Project Independence. The companies came in and asked for it. That is a guarantee in connection with the development of projects for the conversion of oil shale and coal to fuels. I can well perceive of a situation in which the cartel may attempt to drive American companies out of business by suddenly lowering oil prices to a point where such conversion project costs would be in excess of price.

You know the cost of development in the Persian Gulf. It runs from 5 to 12 cents a barrel. What is the cost up in Alaska? You don't know yet, but it's pretty high.

Mr. SPAHR. It's pretty high, Mr. Chairman, but unlike you, I am not concerned about what the Arabs will do and so I repeat——

The CHAIRMAN. You're not concerned about what the Arabs will do?

Mr. SPAHR. No, sir. I don't think they are going to do anything that, as I said before, will jeopardize our ability to finish that Alaskan project and do a lot of other things in this country. I'm very certain of this, so I do not agree with the chairman about the need for a floor price for oil.

The CHAIRMAN. I'll cross that bridge when I get to it. I don't think you can just rule it out.

Senator BARTLETT. Mr. Chairman, thank you, and I thank my good friend from Florida.

Senator STONE. I've been yielding but what I'd like to do is be unyielding.

Mr. Spahr, as I understand it, the particular section of this bill on page 31 of Committee Print 1, proposing the creation of private sector companies by government includes as a condition of creating these private sector companies, so-called private sector companies, a finding that there would have to be a situation where the private sector is unable to move because of unusual requirements for large capital for a commercial scale facility or unavailable technology.

Would you consider in circumstances like that, that the device proposed here, would have a role to play in assisting private sector companies that already exist; is the majors, or even the small independents, as opposed to creating federally chartered companies?

Mr. SPAHR. I want to say no, with a modification. I do not think they'd have any role to play in assisting the companies that already exist in doing the job that has to be done.

The exception is this, and I'm not pleading for this kind of fund for this purpose necessarily, but I do feel that in the area of research activities, or processes, such as deriving clean fuels from coal, desulfurizing, gasifying; perhaps in the research to make sure there's a viable process for developing shale, that Government research money, perhaps available through ERDA or something like that, could be

very helpful, particularly if the Government, as I believe it does, wants to speed up the determination of the dependability of such new processes and activities beyond the pace that a private company could take, considering the risk of being wrong on too giant a scale.

I can see the use of Government money on research projects.

Senator STONE. But not on development?

Mr. SPAHR. But not on hydrocarbon development by a process that's been tried, proved and in utilization by companies already, today.

You know, we'll be reminded that the Government did a job during World War II on pushing the development of synthetic rubber when raw rubber was cut off by enemy action.

That's an example of the kind of thing, I think, Government input of money could move forward faster than private industry could.

Senator STONE. Just in the area of production of hydrocarbons, does the Government have a role to play in setting goals or creating incentives, or otherwise assisting?

Mr. SPAHR. I suspect the Government could do very helpful work for developing goals and setting incentives.

Senator STONE. What about in the area of the Outer Continental Shelf and shorelines of this country? Does the Government have a role to play there in setting goals and creating——

Mr. SPAHR. It could very likely be the case, Senator. I am not involved, at the moment, as a company officer, in working on the Outer Continental Shelf because we've got a pretty heaping plateful in Alaska and other places.

I am not a competent witness on this but it seems to me that when we talk about the Outer Continental Shelf, we're talking about depths that we have to drill to before talking about the need to develop prospect technology not thus far utilized.

It seems to me, therefore, that here is an area of research and perfection of technique in which the Government could play a helpful, encouraging, expediting role.

Senator STONE. In a research role and development role dealing with the technological breakthroughs that are required for deep drilling for example?

Mr. SPAHR. Right.

Senator STONE. What about different environmental areas of the Alaska situation?

Mr. SPAHR. Here, the Government has played a role through the influencing of the design of the facility that is now being installed.

It seems to me that's an example of the kind of role that the Government can effectively do. They played the role by insisting on the design and the method in supporting it, but we're executing it.

Senator STONE. I would point out that the chairman had a significant role to play in that situation, didn't he, the Alaskan pipeline?

Mr. SPAHR. I think the chairman had a role to play in the passing of the National Environmental Protection Act at the very beginning.

The CHAIRMAN. Would the Senator yield right there?

Who authored the pipeline bill?

Mr. SPAHR. The Alaska Pipeline Bill?

The CHAIRMAN. That's what he asked about.

The SPAHR. Is there a bill by that name?

The CHAIRMAN. I'll be darned.

You're the head of the American Petroleum Institute and you don't know that it took special legislation——

Mr. SPAHR. Yes; I know it took special legislation.

The CHAIRMAN. That's the Alaska pipeline bill. That's what it's commonly referred to. I'll get you the exact title.

Second, did the court rule, in holding up the pipeline, on the basis of the National Environmental Policy Act, or did the court rule that they didn't have authority to build a pipeline beyond certain right-of-way limits?

Mr. SPAHR. Sir, I think the court ruled that the Mineral Leasing Act of 1921 did prevail.

The CHAIRMAN. That's right.

Mr. SPAHR. Therefore, the width of the right-of-way available to the pipeline would not exceed what was specified in that old bill.

That was later changed by act, although it was attempted to interpret it differently before the act was passed, so we wouldn't be delayed.

The CHAIRMAN. Mr. Spahr, let me just explain. It's all very simple.

Mr. SPAHR. I remember, sir, that that had to be worked on and changed, that the courts would not allow us to go ahead.

The CHAIRMAN. But NEPA didn't hold it up. What held it up was the fact that both Alyeska and the Department of Interior said there was full authority to go ahead under existing law. Our counsels and our staff disagreed.

It went to the circuit court. The circuit court ruled unanimously that they didn't have authority to build a pipeline with a 50-foot right-of-way.

You mentioned that I was also the author of the National Environmental Policy Act, which is true. I'm not a one-faceted person.

I am concerned about the inference that I got from your comment that NEPA held up the Alaska pipeline.

Mr. SPAHR. Sir, you drew an improper inference.

The CHAIRMAN. I apologize. Why did you bring up the National Environmental Policy Act in connection with the Alaska pipeline? It had nothing to do with it.

Mr. SPAHR. I think, Senator Stone asked me if I knew that you, the chairman, had something to do with the legislation that had implemented the Alaskan pipeline.

My reply started out by referring to the fact that I knew you'd had influence even before that in the passage of the NEPA.

The CHAIRMAN. It just happens not to be relevant to the issue of the pipeline because it was not decided on that basis.

Go ahead.

Mr. SPAHR. I did not wish to argue, but I think that it was the National Environmental Protection Act that, let us say, forced the improvement in the design, eventually, of the pipeline beyond what it would have been.

The CHAIRMAN. Thank God.

Mr. SPAHR. I have never argued otherwise.

I do feel that, in retrospect, we might all have saved time together if we could have found some way to have authorized the building of that road while we were trying to work out all the other difficulties pertaining to the pipeline. We might have saved a year, but that's in the realm of conjecture, and I'm certainly not castigating anybody.

Senator STONE. Mr. Spahr, that was not in the realm of conjecture. That's precisely my point.

We're at a stage now where Congress is trying to find a way, a safe way, in terms of the environment to accelerate the development of our hydrocarbon resources so as to make us less susceptible to outside pressures.

This is one of the drafts of one of the pieces of legislation reaching for that goal. This is where the Congress needs to work together with the industry.

What I'm asking for is not merely those points of this bill that the API differs with, but some affirmative suggestions of how the industry and Government can work in harness together to accelerate some of our hydrocarbon resources.

I understand the antitrust difficulties that the API faces in providing a unified plan, but as a spokesman, either on an individual basis, or basis for the API, or the industry, or just as a knowledgeable person, what would be your response to that?

Mr. SPAHR. I feel that we could work effectively together if the Congress were able to find a way to free us, encourage us to do the things that need doing, rather than plan to create new entities and permit them to do things that they would then prohibit us from doing.

I do not think that we will solve the problems of this country in the energy field fast by relying on the formation, with all the problems that arise out of getting it started, new companies while failing to rely on those already in the business who are perfectly willing to put their knowledge and their muscle behind the efforts that we all want to see solve our problem.

Senator STONE. Obviously, you're facing difficulties now with the existing structure.

I'm asking you what, specifically, can Government do to accelerate your efforts?

Mr. SPAHR. I think the Government——

Senator STONE. I'm asking for any opinion you have in any role that you wish to give.

Mr. SPAHR [continuing]. I think the Government would be very helpful if they would substantially reduce the regulation now imposed upon us as to prices, as to allocation of product, as to a lot of things provided in the present Energy Emergency Act that may or may not expire on August 31, depending on what you do.

I think if the regulations and restrictions were removed, or substantially reduced on a schedule that would eventually see them all designed to leave, that you would see us demonstrate that we feel considerably indebted to go out and do things that we can't do now because we can't see the ability to generate the capital to do them with.

I think it would be helpful if we found some way to replace the very substantial funds that were lost through the loss of the depletion allowance because this industry needs the ability to form and attract capital, and it doesn't have the same ability that it had on the 1st of January of this year.

Senator STONE. If you attracted more capital in the New York money market, would the likelihood be that your investment of that

capital be in Indonesia or some other such exotic places, or the OCS in Alaska?

Would your yardstick not be where you think you'll get the largest strike, regardless of where it is?

Mr. SPAHR. That would be the normal tendency to do the latter. I think arrangements could be made by your careful editing of anything that you do so this would not come about.

As far as my company is concerned, we're fully commited to development in America and are spending no money outside of the United States, nor do we plan to, nor can we for some time to come.

I think that arrangements could be made for similar commitments of capital that would be made available only if it's going to be used in this country.

As you well know, sir, in talking about such things as windfall profits taxes, as they've been defined, and as to investment credits, there's been considerable talk about he desirability of providing for forgiveness of a tax that would otherwise be applied if the funds that would be taxed were to be reinvested in energy-related activities in this country; exploration, production, transportation, refining in this country, and only if invested in this country.

That kind of a qualification might well be necessary and would certainly be very tolerable, and I believe would still result in considerable increase in effort over what can be managed now with shortened funds.

Senator STONE. Are there any other suggestions you might make?

Mr. SPAHR. No, sir, not right now. I really feel that those I've made, if you were willing to try them, would produce considerable positive results.

Senator STONE. Like what positive results?

Mr. SPAHR. More drilling, more activity in looking for what we call the exotic sources of energy now, more ability to work on shale oil, on gasifying coal so that all that gas burning equipment that's about to have no fuel could still be utilized in this country; a lot of things.

Senator STONE. What do you foresee is the likelihood of the price situation in the next 6 to 12 months?

Now, that's assuming no change at all in the legislation in this country, because it could just as well be that whatever is passed will be vetoed and the vetoes sustained, which will leave us right where we find us today.

What is the likelihood of the situation given no real change? What do you think at this point will be the pricing in the next 6 to 12 months?

Mr. SPAHR. As far as I'm concerned, I would make the assumption in the beginning that there may be some kind of extention of the present act under which we're working.

One has to make some assumptions about something.

Senator STONE. We can do it either way because we could extend that, have it vetoed and the veto sustained. That's one scenario.

The other is that we extend it and it is or isn't vetoed, or that veto is override. So, let's assume for the sake of this statement that the present statutes would continue on.

Mr. SPAHR. The present situation would continue on.

Senator STONE. Then I'll ask you how it would be if the act came off.

Mr. SPAHR. My belief is prices will continue to rise, somewhat. That's predicated upon the assumption that there will be some adjustment, upward, of import oil brought on by the producer nations. What that will be, I don't know.

I'd like us to be able to get some relief from FEA so that we can seek price adjustments that will reflect coverage of the costs that we haven't been able to pass through thus far.

All of these things together would spell to me the possibility that in the course of the next 6 or 8 months, the price of—let's take a major product, gasoline—might well rise on the order of magnitude of up to 7 cents a gallon.

Senator STONE. Let's assume that we extend the present regulatory situation, that that is vetoed and the veto upheld, which would mean there would be no more regulation of price.

Now what do you think is going to happen in the next 6 to 12 months?

Mr. SPAHR. It's been generally stated a number of times that 40 percent of our oil in this country is old oil now controlled at $5.25 price.

The CHAIRMAN. 60 percent of the oil produced in the United States is old oil.

Mr. SPAHR. Then I suppose that the price of that oil would rise and that it would be reflected in the prices of the products that arise from it.

If it's 60 percent of the oil, if that price should rise by $6 a barrel, you'd have something like an average increase in price of $3.60 a barrel for old oil.

Senator STONE. At $3.60 a barrel, what's that.

Mr. SPAHR. Let's say half the barrel goes to gasoline, for example, so it would bear half the cost.

So, you'd have $1.80 that would be applicable to 21 gallons of gasoline in the barrel.

Senator STONE. All right. What does that come down to per gallon.

Mr. SPAHR. About 6 cents a gallon.

Senator STONE. In other words, your forecast would be that if the existing regulatory situation continues, you might well still get an increase of 6 to 7 cents a gallon at the pump.

Mr. SPAHR. I don't believe it would be higher than that.

Senator STONE. No higher than that.

Yet, with deregulation, it would be no higher than 6 or 7 cents a gallon at the pump?

That's what you just said. Is that really your position?

Mr. SPAHR. In the first case, I was talking about the possible effect of the increase of price of all oil, of imported oil and all unregulated oil.

In the second instance, I was talking about decontrol of old oil but not the effect of the rise in the price of oil due to action by OPEC.

The two would be additive rather——

Senator STONE. I want the similar yardstick.

Did you assume no OPEC increase in the first case, as well?

Mr. SPAHR. In the first case, we were talking only about the possible effect of increase in OPEC's price of oil and the release to us of some ability to increase our margins to cover costs that we have had to

absorb up until now. That's what I was talking about in the first place.

In the second place, I was talking only about the effect of decontrolling old oil.

Senator STONE. But use the other realm, the same one, so we get a comparison, because otherwise you don't really get a comparison.

Mr. SPAHR. Senator Stone, all you have to do is add the one to the other to find what the case would be if OPEC raised the prices, and our prices rose to meet the same and we decontroled prices.

Senator STONE. So, you're saying that effective decontrol would be about the same as the effects of the response to an OPEC rise in the order of what's being anticipated anyway?

Mr. SPAHR. That's what I was conjecturing. I could be very wrong.

Senator STONE. Let me summarize it.

What you're saying is that if both these take place, that is to say not only an OPEC increase but also deregulation, then the order of increase at the pump would be around 12 to 13 cents, in your best foresight guess?

Mr. SPAHR. Yes. That's exactly what it is right now.

Senator STONE. What would that do if there were deregulation and an OPEC increase and a 12-cent increase or so at the pump? What would that do to your industry? What would that do to industry, in general?

Mr. SPAHR. I think it would do several things. I believe that it would have a depressing effect upon the use of gasoline for private purposes, and would probably have a depressing, but perhaps a healthy effect upon the use of motor fuel for commercial purposes. It probably would push for greater efficiency, still, in the transportation industry in our country.

Insofar as industry use of oil and oil products, I think there you would have a continuation of business with the attempts to pass through the higher costs of energy to the marketplace and to the extent it would be unsuccessful in doing that, their business would contract, but to the extent that they would be successful, it would be the consumer in the end and it would always be the consumer in the end which will have to pay for it.

Senator STONE. That's the difficult policy position that Congress finds itself in, because what you've just outlined is, in effect, a mirror image of what the President is asking to happen. He's asking for an increase in these prices, even by having to impose them in terms of fees, import fees and the other, and the deregulation, in order to raise the price and reduce the consumption.

Members of the majority party in Congress particularly are concerned that when you do that, when you do raise the price and reduce consumption, you hike unemployment and you rekindle inflation.

Mr. SPAHR. I'm not at all sure that this would happen.

Senator STONE. What do you think would happen?

Mr. SPAHR. I think they would have costs at a higher level, but I think we might very well have a resurgence determination on the part of industry and business to do what they could to improve their own participation in the GNP. I think they would feel more confident than they have in the past, if they could see the future. They would be

able to get fuel for some money; whereas now we have to be concerned about not getting fuel because of lack of supply.

My own company, among other things, is a chemical company with substantial plants in western Ohio. It's highly dependent upon natural gas supply to make ammonia and other fertilizer products and to make acrylonitrile, which is used to make fibers that now replace wool and cotton, no longer produced, and so on.

We have been advised by our supplier that we can expect to be cut back to 40 percent of normal supply this winter. Last year we were advised, about this time of year, we could expect to be cut back to 70; we were cut back to 40.

If they're as accurate this time as they were last time, we'll be without any supply at all and we won't be able to operate the chemical business.

I think it would be much better for us to get gas at a higher price and make our fertilizer and sell it to the farmer who wanted to buy it, than not be in business at all.

Senator STONE. I think it's generally perceived in the country and in Congress that there really isn't a physical shortage in natural gas, and there's quite a drive on now to do something to affect the price in order to free some of that up, punch more holes and to develop more gas than has already been found.

The same feeling doesn't pertain with regard to liquid petroleum. There the country thinks there's a glut. Is that right or wrong? They think that the major companies are pushing the service stations to stay open nights, stay open on Sundays, push gas; that there's a glut.

Mr. SPAHR. I think it's all a very big figment of a lot of imaginations.

Senator STONE. What is the case?

Mr. SPAHR. I think the case is one in which the oil companies are encouraging, as far as service stations are concerned, their dealers to operate at differing hours, depending on the traffic patterns, that make more sense for their locations in terms of volume per hour, and to close up at other hours.

This results in some of them being open late hours but closed in the early afternoon and vice versa.

Senator STONE. What about the glut versus the shortage idea?

Mr. SPAHR. I don't think there is a glut. In fact, there has been some concern demonstrated here recently that we might have a gasoline shortage this summer. I think that there are inquiries going on by FEA and others to find out what the gasoline stock situation is, and so on.

We've made reports of our own, I know, and we have pointed out that we got into a difficult situation on gasoline supply because we couldn't make a refinery, a new refinery in Philadelphia work. One that, incidently——

Senator STONE. Let's get to the refinery though.

The general public thinks that you're operating at less than capacity in the existing refineries, even though you can get feed stock crude oil in order to operate, and therefore, the shortage, if there is one in gasoline this summer, is one brought on by the companies, themselves, to raise the price pressure; right or wrong?

Mr. SPAHR. I have to give you an opinion. I know that the public is being led to think that and beginning to think that.

I believe the facts are these; that the price situation for products has been such that there's been little encouragement to refiners to run extra volume of crude oil in order to sell products at no profit.

So, I don't know there's been encouragement for them to run beyond 100 plus percent of 1972 norms; however, I think this has led to a conclusion that things might change in the future so that scheduled shutdowns, for turn-around maintenance purposes, might have been advanced a little bit here and there to get the job done that had to be done this year, with the hope that when they started to run crude oil later on, the tariff would have been going on a month, for example and they'd be able to pass through costs that they would not have been able to pass through at an earlier time.

I think there was some acceleration and increase in turn-arounds early that will be compensated for now that the turn-arounds are finished.

Senator STONE. Do that again in 2-cent words for the American public.

Let me repeat this accusation which is generally perceived and you give your version of it.

The public thinks you're not refining oil and gas to the limit of the available stocks in order to increase the pressure on price and that produced the recent increases at the pump over July 4 and all like that.

Now, in two-bit words, what's your version?

Mr. SPAHR. That's not true.

I think the price increase in the first of July was for very obvious reasons. On the first of June, the President imposed a $1 per barrel crude tariff. It couldn't be passed through until the first of July.

Senator STONE. So, it had to be absorbed.

What you had on the first of July was a Government arranged price increase. Everybody, I believe, was anxious to stop absorbing those costs as soon as possible.

Senator STONE. So, they had to slow it down until they could pass this down—this increase.

Mr. SPAHR. No, no. They didn't slow down to do that. They kept on producing. People didn't run out of gasoline. I'm only speaking to the point that the price went up on July first, and as you read in the paper that 13 companies, or so, raised the price on the same day.

All I'm suggesting is that they raised it on the same day because they were prevented from doing it for 31 days—30 days. So, they did it as soon as they could, or they would have done it at various times earlier.

There are certain interesting facets in these regulatory laws that make it pretty imperative to change the price once you can recover the cost or you may lose the opportunity forever.

Senator STONE. What about the availability, and your not using what's available?

Mr. SPAHR. As far as we know, there's product available. People aren't going to run out of gasoline. There hasn't been any hanky-panky about cutting back in order to get higher prices. You can't get them anyway unless you can justify them on total cost.

We've assured the FEA that unless we run into mechanical trouble, or acts of God, that we don't expect to have any gasoline shortages.

We borrowed, on exchange, gasoline made to our specification, while our refinery was down. We expect to be able to pay that back and keep our customers supplied at the levels that they were accustomed to in the early part of this year and get through the year, although our inventories are not comfortable.

We'll be building them slowly in the meantime. The reason they're not comfortable is because we owe goods that we couldn't make once and had to have them made by somebody else.

Senator STONE. In this piece of legislation, and a number of others, at least the stated goal is to speed up the supply of domestic fuel; that is to say domestic crude oil, and natural gas, and hydrocarbons, under a friendly flag where you don't get a cutoff for political purposes.

Do you think that it will do that, or do you think it will go the other way? Will it be productive if it comes along, or counterproductive?

Mr. SPAHR. I believe that if all of that becomes law, it's likely to become counterproductive. I'm referring to the part, particularly, that has to do with the creation of Government-private companies and to the influence that the Board can have upon decision as to who will be allowed to do what in the exploration field and where.

Senator STONE. So, it's not just the Government private companies, it's the combination of the possibility of Government private companies with restrictions on the existing private companies from activities that they would otherwise perform. Is that your view?

Mr. SPAHR. That's my view, and it's partly based upon my belief that the formation of new companies will require new people on the boards lacking of experience in a whole new effort to find out what should be done and how to do it, and so on. There's going to be a lot of time lost in trying to figure things out.

Time doesn't have to be lost if you rely upon people who already are willing to do the business.

Senator STONE. One last question and then the chairman told me to suspend this hearing until after lunch, at 2 p.m. and then we'll recommence with the environmental groups.

Would the opposition of API, in general, and your position be moderated somewhat if the provisions for Government private companies were on the basis of last resort—that is only if first refusals were not taken up by existing private companies in a particular situation?

Mr. SPAHR. No, I think there are still plenty of features in the bill that would generate——

Senator STONE. I'm talking about that feature. I know there are others, and we'll be discussing them; but on the feature of Government private companies. If such could not be created, except after a right of first refusal had not been taken up by existing private companies in any situation, the conditions of which were specified here, would that moderate your opposition to some extent?

Mr. SPAHR. I don't believe it would moderate mine because I have no way of foreseeing what conditions would be specified under such circumstances that would result in no option being taken up.

They could be onerous and specified in a purposeful way so that it wouldn't be practical to take them up, and I think we'd be concerned about that.

Senator STONE. Mr. Spahr, I wish we could keep going, and then I also wish we could follow you right immediately with the environmental organizations, but we do have to answer the three-light buzz.

The hearing will be suspended until 2 p.m., and I thank you very much. You've been most candid.

Mr. SPAHR. Thank you Senator, and I do appreciate you giving us all this time. I think perhaps I could even say I've enjoyed it.

[Whereupon, at 12 p.m. the hearing was recessed to reconvene at 2 p.m.]

AFTERNOON SESSION

Senator JOHNSTON [presiding]. Sorry to keep you waiting this afternoon. In fact, I thought we still operated under rules that said you couldn't have committee meetings in the afternoon. But, the meeting will come to order.

We have our good friends here on S. 740, National Energy Production Board. Mr. Charles Spahr, Chairman of the Board and Chief Executive Officer——

Ms. HELLER. That was this morning.

Senator JOHNSTON. Ms. Rhea Cohen, representing the Sierra Club; Ms. Barbara Heller of the Environmental Policy Center; and Jeffrey Knight, legislative director of Friends of the Earth. You may proceed as you wish.

STATEMENT OF MS. RHEA COHEN, REPRESENTING THE SIERRA CLUB

Ms. COHEN. Mr. Chairman, my name is Rhea Cohen and I am representing the Sierra Club.

As one of the Nation's oldest conservation organizations, the Sierra Club has evolved from its 1892 beginnings as a group of hikers and naturalists into today's national association of about 150,000 members in some 200 local groups across the continent, who concerns themselves with a wide variety of matters affecting the human and natural environment.

We appreciate having the opportunity to testify today on S. 740 because we have long supported the creation of an institutional framework for formulating long-range environmentally sound national policy to regulate energy production, consumption and related land use.

To our regret, this legislation would not achieve that result. In fact, it appears to circumvent both the National Environmental Policy Act and the Coastal Zone Management Act, both of which are vital tools in the rational use of energy resources.

It must be noted that we received only 3 working days' notice of this hearing, and that we have had little time, therefore, to study the committee's July 8 revision of the bill. This was an unreasonably short time for the public interest groups to examine and prepare testimony on a legislative proposal of such far-reaching significance. Accordingly, we urge the committee to schedule another hearing with notice sufficiently in advance so as to permit concerned citizens and environmental groups to devote as much time and thought to the revised bill as its great importance warrants.

However, should the committee decide instead to dispose of this legislation, we are obliged to point out that S. 740 raises a number of disturbing questions, questions so serious that we are constrained to ask the committee to reject the bill.

The five Presidential appointees of the proposed National Energy Mobilization Board would have very broad powers to assist private industry to exploit fuel resources on Federal lands, on land in the Public Domain and on Outer Continental Shelf lands, in Alaska and in the lower 48. The Board would unilaterally set the Nation's energy policy for the next 10 years, with no requirement for the Congress to authorize the Board's specific energy targets.

Promotion of energy conservation, which should be a crucial element of our national policy, is omitted from the Board's job description, although it should be one of that body's primary responsibilities.

We ask: Can the people of America afford to give away to five administration representatives the Congress' power to make energy policy for the Nation?

The National Energy Mobilization Board would be empowered to allocate, by rule or by order, any scarce, critical and essential materials to further its energy production goals. There is no provision for prior congressional approval of the Board's allocation decisions, nor for any orderly inquiry into the possible conflicting demand for those materials by other consumers.

For instance, a sudden large-scale diversion of materials and equipment to energy production could tie up chemical suppliers, conduit fabricators, manufacturers of specialized pumps and custom designed machinery, and handlers of heavy freight, to such an extent as to jeopardize federally ordered public health improvements to drinking water filtration plants and sewage treatment facilities.

We ask: Should the Congress turn over to a single-minded panel the grave responsibility to balance the urgent competing demands of our complex society for hard-to-get supplies, equipment, and capital?

Without any prior congressional action at all, the Board would have the power to carry out a Federal oil and gas resource assessment program, to locate and lease oil and gas supplies on Public Domain and Federal lands and on Outer Continental Shelf lands, where leasing has not occurred due to land use conflicts, "exceptional environmental hazards," or opposition from local residents or from State and local authorities.

In such a place, an environmental impact statement would surely be required before exploration could begin. However, the bill only provides for the Board to consult the Environmental Protection Agency Administrator and other agency heads, "so that they can identify exceptional, unique or unusual conditions that may require special treatment or precautions to protect the environment or insure safe exploration activities."

This is an evasion of the National Environmental Policy Act, which provides for public participation in the earliest stages of decisionmaking, and exploration is an early stage of oil and gas production. Not until after the exploration activities are completed is the Board to prepare an impact statement before deciding to sell or lease the resources for production, and by then it is too late. Log-

ging has already taken place; soil, watercourses and wildlife have been disturbed; the shore and seabed have been impacted.

While NEPA would be badly battered under this program, so would be the Coastal Zone Management Act. In the face of local opposition, the Board could still proceed, and the exploration process could predetermine vital elements in a locality's future coastal zone management program, by dictating transportation routes and modes; by clearing trees, moving earth, installing offshore drilling rigs; by destroying potential estuarine sanctuaries which might otherwise have been protected under section 312 of the Coastal Zone Management Act; and by stimulating boomtown development.

We ask: Should an agency of the Federal Government be directed to ride roughshod over the concerns of the citizens and their local and State governments?

Again without prior congressional approval, the Energy Mobilization Board would undertake an Alaska naval petroleum reserve exploration program and a pipeline study for transport of oil and natural gas. The preceding arguments regarding NEPA and CZMA would apply to these two petroleum Reserve No. 4 projects. The location of the celebrated caribou calving grounds, petroleum Reserve No. 4 is the subject of Congressman Melcher's amendment to H.R. 49, which was passed by the House last week.

The House bill provides for the Secretary of the Interior to explore for oil and gas and to conduct a feasibility study of delivery systems. At the same time, he is to engage a task force including representatives of the State of Alaska, the Arctic Slope Regional Corporation, the U.S. Fish and Wildlife Service and the Office of National Petroleum Reserves (established by the act), all to "study and review the values and best uses of the public domain lands contained in Naval Petroleum Reserve No. 4 as subsistence lands for natives, scenic, historical, recreational, fish and wildlife, wilderness or for other purposes," and to make recommendations to Congress within 3 years. The bill also directs the Secretary to conduct the exploration "in a manner so as to preserve such surface the exploration "in a manner so as to preserve such surface values."

The Sierra Club strongly supports such an approach for the ultimate protection of Petroleum Reserve No. 4 features. Our board of directors recently passed a resolution, which I will provide for the record, calling for the surface area of Petroleum Reserve No. 4 to be transferred to the jurisdiction of the Fish and Wildlife Service.

According to the bill before us today, the Energy Mobilization Board would follow up the exploration program and pipeline feasibility study with a report to Congress containing a program for gas and oil production from Petroleum Reserve No. 4. If neither House passes a resolution of disapproval during the following 60 days, the program would take effect. We object to this procedure for two reasons.

First, that time period is too short for the provisions of NEPA to be carried out. The Council on Environmental Quality's Guidelines for Preparation of Environmental Impact Statements state at section 1500.9(f):

Agencies seeking comment shall establish time limits of not less than forty-five (45) days for reply, * * * (and) should endeavor to comply with requests for extensions of time of up to fifteen (15) days.

To this 60-day period the guidelines add, at section 1500.11(b):

To the maximum extent practicable, no administrative action subject to Sec. 102(2)(C) is to be taken sooner than ninety (90) days after a draft environmental statement has been circulated for comment * * * neither should such administrative action be taken sooner than thirty (30) days after the final text of an environmental statement (together with comments) has been made available to the Council, commenting agencies, and the public.

Second, the press of other business or a holiday recess or even an 11th-hour filibuster could prevent either House from passing a resolution of disapproval within the 60-day limit, with the result that an unwise program could go into effect by default. Under this time limit, the Congress would abdicate to the executive branch its traditional responsibility to set policy for the Nation.

And now we must ask: Are our coastal zones, our public lands, our cities and our countryside so devoid of human and natural values that they can be designated for energy production by a nonaction of the U.S. Congress?

We ask that question because S. 740 earmarks three other programs for the 60-day negative action, or effectiveness by default: a Federal energy financing program, for subsidies to the energy industry; national energy production companies, for public-private combines to develop fuel resources where private companies were unable to proceed because of environmental risks; and the most unfortunate of all, the Expedited Energy Project Procedure Report, which could split off a single project from an overall energy program and render useless the type of broad program environmental impact statement which is required under NEPA. This requirement was upheld in the June 16, 1975, ruling in *Sierra Club* v. *Norton* (No. 74–1389, U.S. Ct. of Appeals, D.C. Circuit; Judge J. Skelly Wright presiding).

In section 303(c)(1), there is an ambiguous statement which on first reading appears to be a NEPA savings:

The Board may recommend an expedited procedure for congressional review and approval in accordance with section 305; *Provided*, That the Board may not utilize this subsection to change, amend, modify, or gain an exemption from any substantive standard related to public health, safety, or the quality of the environment.

We note that NEPA is not a substantive standard and thus is not protected by this disclaimer. We believe this section would give the administration carte blanche to undermine NEPA. We prefer the present procedure, in which the Interior Secretary can always go before the Congress for special legislation on specific projects, because in such an instance, the Congress must take positive action and the public has a fair chance to affect the decision.

In summary, we ask the committee either to schedule a new hearing for more citizen comment, or to reject S. 740 outright for its anti-NEPA overtones.

Thank you.

Senator JOHNSTON. Thank you very much, Ms. Cohen. Why don't we finish with all three presentations and then we will have questions.

[Subsequent to the hearing Ms. Cohen submitted the following resolution:]

RESOLUTION OF THE EXECUTIVE COMMITTEE OF THE SIERRA CLUB, MAY 4, 1975

The Sierra Club believes that oil resources within Naval Petroleum Reserve 4 in Alaska should be held in reserve for possible future use and that immediate emphasis should be placed on conducting basic environmental studies of the area's surface resources. These studies should lead to preparation of a comprehensive land management plan which would identify areas of critical environmental concern, such as caribou and waterfowl habitat and areas used by Alaskan Natives for subsistence. The plan should protect these areas and allow further oil and gas exploration only in places where exploration and development would be compatible with protection of surface resources. The Club urges that administration of the surface resources be immediately vested in the U.S. Fish and Wildlife Service, with key areas such as the Utukok (caribou calving ground) and Teshukpuk (waterfowl habitat) to be placed in wildlife refuges.

STATEMENT OF MS. BARBARA HELLER, ENVIRONMENTAL POLICY CENTER

Ms. HELLER. Thank you, Mr. Chairman. We appreciate the opportunity to present our views here today. I would like to request that my entire statement be submitted for the record, and I will just hit the high points.

Senator JOHNSTON. All statements will be put into the record.

Ms. HELLER. Thank you. We regret to say, Mr. Chairman, that although we believe that a few of the goals which may be achieved by this proposal may be worthwhile, and as you know, we have supported some of them in the past, we believe that enactment of this bill by Congress would nullify many years of important congressional action. That is a pretty strong statement and I hope you will bear with me while I try to justify it.

It is no wonder that some of your big industry witnesses, and Mr. Spahr was a notable exception this morning, have wholeheartedly supported this bill in previous hearings. It provides for joint ventures between industry and Government, low interest loans and other financial assistance, circumvention of the most significant procedures that have been developed by Congress and agencies in recent years to protect the rights of the public and the interests of State and local governments.

Senator JOHNSTON. Which things are circumvented?

Ms. HELLER. I was going to get into that in a minute, but the section on expediting energy-related Government action provides for——

Senator JOHNSTON. Congressional recommendations.

Ms. HELLER. The Board makes recommendations to Congress. It draws up proposals for expediting procedures, and if Congress doesn't act negatively within 60 days—and this is going to be recommendations on every energy project, if the Board so desires, every powerplant, every refinery, and every pipeline—if Congress doesn't act on each of those propoasls within 60 days, it goes into effect.

Senator JOHNSTON. I see.

Ms. HELLER. It would also virtually exclude, in our opinion, many small energy businesses. It provides that the Energy Mobilization Board may

enter into contracts or other arrangements * * * with any person, firm, association, corporation * * * or without reimbursement, with or without performance or other bonds, and with or without regard to sec. 5 of title 41, U.S. Code.

Title 41 is that title which has to do with advertising for contracts and competitive bidding.

The Board may also "accept and utilize the services of voluntary and uncompensated personnel. . ." I know a number of well-paid industry lobbyists whose companies would gladly loan them to the Board so that they may achieve the goals of the bill: writing and recommending legislation, writing reports, et cetera.

At the same time, of course, there is nothing to prevent their companies from receiving "financial assistance" because of the "shortage of capital" in order to produce energy.

What more could the president of a major oil company which controls oil, coal, natural gas, and other energy resources, ask for?

We believe that the bill is based on erroneous assumptions. For example, the finding that dependence from foreign sources is necessary to "avoid excessive cost for energy supplies" implies that all domestic energy will be cheap to the American consumer.

Domestic oil and gas, if price regulated, may indeed be cheaper than OPEC oil, but production of synthetic fuels from coal and oil shale will cost the consumer a great deal more.

Its price will be higher still if it is subsidized with taxpayers dollars either through quasi-government corporation development or through price floors as this legislation will allow.

Our important and realistic energy needs, and methods which would really achieve some measure of self-sufficiency are ignored. Energy conservation is mentioned just once in this entire 55-page bill, with a passing note that the goal of independence makes it "necessary to accelerate conservation efforts," meaningless words in the context of this development-at-any-cost legislation.

The one area where we really could achieve self-sufficiency, or at least move toward it, energy conservation, is not listed in the long list of targets set out in the bill.

If targets, as set out, are not being achieved, the Board may enter into "agreements" with "private and governmental" entities to assure that such targets are met. Nowhere is there any review by the public or by any other entity of these targets, or, indeed, of any other of the Board's activities.

There is no requirement that the Board's meetings be open to the public, or that any public hearings be held on their decisions.

True, the members are appointed by the President and confirmed by the Senate, but we know, from historical as well as recent experience, that this body, unless confronted with a scandal, routinely confirms nominees of the President.

We are reluctant, Mr. Chairman, to advocate setting up another energy bureaucracy when we already have a Federal Energy Administration, ERDA, Interior Department, Commerce Department, the Energy Resources Council and numbers of other agencies which are promoting energy development.

The ERDA program accomplishes, or will accomplish once the program really gets underway, many of the goals of this bill. It allows for Federal-industry cooperation in constructing, operating, and monitoring demonstration plants, including commercial sale demonstration plants. Funding would be shared by both industry and Government, and each would share in the experience both of operating the facility and sharing the information gathered.

With regard to the materials allocation authority section, it's important to realize that perceptions of when and to what exent shortages exist may change from month to month, even within the industry, and that the Government will not be able to determine these matters better than the industry.

Our market system of supply and demand has worked to solve shortage situations in the past and it will continue to do so if allowed to work.

Senator JOHNSTON. We have got that allocation authority now, under the allocation bill.

Ms. HELLER. This section allocates—it's not just energy supply allocation, it's allocation of all materials, steel, or whatever the Board decides is necessary to produce energy.

Senator JOHNSTON. Counsel has reminded me that the Defense Production Act has allocation authority. But it's my recollection that the allocation bill itself has allocation authority for materials needed for energy production. I think that's correct, and I think that provision has been almost never used.

Ms. HELLER. We believe the provision written in this bill could take material away from other industries, such as the construction industry or the automobile industry, which are equally important to our economy as the energy industry.

It is vital that we set policies which will guide Federal agencies and private industry, but anything beyond guidance, in our view, could be very harmful to other sectors of the economy.

The oil and gas resource assessment and exploration program is something, we are sure that you will be very interested in.

This section directs the Board to explore and eventually produce public resources on public lands:

whose leasing to private enterprise * * * may not be in the public interest or has been delayed because of land use conflicts, exceptional environmental hazards, opposition from local residents or from State and local authorities, or for other reasons.

Furthermore, exploration contracts with——

Senator JOHNSTON. Would you give me those reasons again?

Ms. HELLER. This is a quote from the bill:

Whose leasing to private enterprise * * * may not be in the public interest or has been delayed because of land use conflicts, exceptional environmental hazards, opposition from local residents or from State and local authorities, or for other reasons.

Mr. KNIGHT. Page 21 of the committee print.

Ms. HELLER. Furthermore, exploration contracts with private companies may be entered into by noncompetitive negotiations in which the company is compensated by the Federal Government in proportion to the volume and quality of economically recoverable oil or gas.

Despite the possible noncompetitive contract, the company which conducts the exploratory work has first refusal rights on the production lease.

If the development of public resources by private companies is not in the public interest, the development of such resources by the Federal Government will be less in the public interest.

Much as we dislike the policies of the industry, we do not believe that the Federal Government can develop energy more safely or more efficiently.

Furthermore, this section is a blatant violation of the rights of the States and local authorities and the public, to act on matters which concern them.

This will supersede legitimate State and public concerns and procedures which have been established to protect environmental, social, and economic interests, and it eliminates any potential for substantive participation by those interests.

Senator JOHNSTON. Let me stop you right there. Are you saying—or would you repeat your view on the Government being in the exploration program.

Ms. HELLER. I didn't say exploration, I said development. I think there's a difference. We have, as you know, supported federally contracted exploration as a prelude to commercial leasing.

I think it's important as a supplemental way of getting information about our energy resources. That's very different from the kind of program that this bill mandates, which is Federal involvement——

Senator JOHNSTON. Leading to production.

Ms. HELLER. Absolutely.

Senator JOHNSTON. How would you define where exploration stops and production begins, the one that is good and the one that is bad?

Ms. HELLER. The way the system operates now, there is a point at which, after the lease is sold, a company makes a decision about whether and when to bring in a production platform.

In our view, that decision ought to take more into account then simply whether or not it's a commercially recoverable field.

There's no reason why, when you are leasing public resources, the Federal Government, whose resource after all it is, should not be involved in the decisions about where and at what rate and how to produce that resource.

That's very different from getting the Government involved in the business of producing, which we have, and still do, and always will oppose, as far as I can tell.

Senator JOHNSTON. Are you saying that the division point between exploration and production is the bringing in of a commercial platform? Do I understand that?

In other words, you would let the Government explore but not let them produce, is that correct?

Ms. HELLER. Yes.

Senator JOHNSTON. Now where is the division point between the two?

Ms. HELLER. At the point where a company writes a development and production plan, which they do now under existing procedures, and when they decide to order a production platform.

Senator JOHNSTON. That's what I am getting at. The actual ordering or putting in place of a production platform?

Ms. HELLER. Right.

Senator JOHNSTON. So, you could not then use a production platform for an exploratory program.

Ms. HELLER. I wouldn't think so.

Senator JOHNSTON. And that has the advantage of simplicity. I guess we can define our production platform from exploration platform, because you use, many times, the same holes and you drill many exploratory wells from production platforms. You just complete the exploratory hole and make a production hole.

But that would more or less limit it to drilling ships, would it not?

Ms. HELLER. Probably.

Senator JOHNSTON. Because we are going to face this question I am sure, when the OCS bill comes up on the floor of the Senate. It's a very difficult, virtually impossible, problem of defining the difference between exploration and production, or exploration and development particularly.

We could have a guide say, on a production ship, that would at least help us definitionally. Now, in your judgment, how would you define where the Government is to explore and where they are not to explore? Would you have them explore all frontier areas?

Ms. HELLER. I don't think that's feasible. I think the OTA study showed us pretty clearly that the Interior Department as now constituted, simply won't be able to gear up such a program in the amount of time that would be necessary to adequately explore those areas.

I think it is feasible, on a limited basis, on one or two structures or traps in frontier areas.

Senator JOHNSTON. Which frontier areas would you use?

Ms. HELLER. I couldn't make a judgment as to that.

Senator JOHNSTON. How big a dollar program do you think we ought to have?

Ms. HELLER. Do I think we ought to have?

Senator JOHNSTON. In other words, you are the appropriations committee, the authorizing committee, and the committee says, we will go ahead with the exploratory program, how big should that be? What should we authorize? And what should we appropriate?

Ms. HELLER. I don't think I could give you a dollar figure right off, but I could probably do some homework and give you one for the record, if you would like.

Senator JOHNSTON. Do you have any idea about what kind of parameters we are talking about, say in dollars?

Ms. HELLER. I am familiar with the figures that were given in the OTA study and elsewhere, for an overall Federal program, but the figures for a limited Federal program would be much less.

Senator JOHNSTON. Less than $1 billion?

Ms. HELLER. Probably.

Senator JOHNSTON. How about the provision here that authorizes this body to intervene in State and regulatory and judicial proceedings?

Ms. HELLER. I'm not sure what the point of that is, because I think legally almost anyone can intervene anyway. You are a lawyer, maybe you can answer that.

Senator JOHNSTON. It sounds to me sort of like a Consumer Protection Agency, to represent the antienvironmentalists.

Ms. HELLER. In that case, we would have to oppose it. [Laughter.]

Senator JOHNSTON. That's what I got from it, because when you look at energy and why we did not develop the energy as fast as it could be, I can think of three or four obvious reasons. Capital shortage, possibly allocation of scarce materials, and certainly one thing, has got to be environmental constraints.

Now without reference to whether you are for them or against them; it's very clear that these factors slow things down. When you have to figure out whether something is environmentally harmful, and

do it in a safe way, obviously, that makes it more expensive and takes more time to do it.

I happen to believe that we ought to take that time and spend that money in many instances, but this bill, as I see it in two respects, recognizes that you need to cut through the redtape in some instances. And the first way it would do it, is to authorize the intervention by a group that represents the viewpoint of emphasizing the need for energy.

And they would go before the FEC to the CEQ or whatever, and present that viewpoint. The other is the expediting provision to cut through the redtape.

We have had some very interesting testimony on this bill. Former Secretary Fowler talked about the War Production Board. Were you here when they talked about that?

Ms. HELLER. No, but I read the hearing record.

Senator JOHNSTON. He said we needed to do three things. First, we need to provide the capital or make sure it's provided, and if private enterprise doesn't have enough, figure out a way to get it to them or give it to them.

Second, you need to allocate to them whatever needs to be done; and third, you need to cut through all the redtape and just say we will do it.

It wasn't that he was so much saying that's what we need to do on energy, but saying that's what we did with the War Production Act and that it would work with energy. I think that's very true.

The question is, do we want to go to those extreme procedures and I'm inclined to think, at this point, that we do not.

Ms. HELLER. We would agree with you.

Senator JOHNSTON. Let me ask you this. What about capital? What is your view on the supply of capital for developing energy?

Ms. HELLER. We do make some concrete suggestions at the end of the testimony, as to how to provide capital for those who need it. May I go through that part of my testimony?

Senator JOHNSTON. Yes.

Ms. HELLER. We believe that the energy capital investment program for energy facilities as outlined in S. 740, makes the Lockheed loan look like nickels and dimes. Federal financial assistance is to be granted on a project-by-project basis at the discretion of the Board after submitting written reasons to Congress, although no positive congressional action is required.

Such Federal financial assistance may include but not be limited to loans and loan guarantees, commitments to purchase supplies, agreements to share loss, equity investments or the granting of leases.

Again, this requires negative congressional action in order to prevent implementation. The taxpayer and ultimately the consumer will be bankrolling the loss for private industry incompetence.

At a time when actions of American companies abroad, in terms of bribing foreign officials, when Mobil has the capital to buy Montgomery Ward, and when Gulf Oil is talking about a merger with Rockwell International, we fail to see the need for this kind of capital assistance program.

Some assistance may be needed by small companies because of the monopolistic tendencies of the major companies in the energy industry, but an overall program such as that established by title V of this bill,

we think is dangerous and inefficient. Other means than direct subsidies can accomplish the same goals.

Senator JOHNSTON. Let me interrupt there. Do you think we will get sufficient investment in the OCS development?

Ms. HELLER. Yes; particularly if you follow up on the actions that this committee took last week, which begins to equalize opportunity in the OCS field, by decreasing our reliance on the bonus bidding system.

We have also supported, and continue to support, the provisions in the House Commerce Committee's energy legislation—H.R. 7014—which provides for loan guarantees for small producers of deep mine low sulfur coal, and would strongly support such legislation in the Senate.

We think this kind of provision would do more to "help overcome unemployment," to increase competition, and indeed, to develop energy resources in the area where they would really begin to meet energy demands, than any other kind of financial assistance outlined in this bill.

Senator JOHNSTON. You feel strongly about the ability of private companies to go out on the OCS and develop it sufficiently fast. Do you think there's enough incentive that they can produce at least twice the capital that they have been putting in to increase that rate or double that rate?

Ms. HELLER. I think there's plenty of incentive. If you take away the huge upfront amounts and give them another kind of competitive system for getting into the leasing.

The kind of capital assistance that is provided for in this bill, is going to take away capital from other segments of society that may need it just as much and perhaps more.

I don't think anybody has really looked at the implications of diverting tremendous amounts of capital, when indeed it may be available to the energy industry now, without such assistance, on other segments of the economy.

Senator JOHNSTON. As far as this Government exploratory program is concerned, we have, as you expressed here in this committee the other day when we were talking about it, that it would be so good to have the Government in the exploratory program so that they can drill some more holes——

Ms. HELLER. I disagree with that position completely. If there was any oil there, the companies which had invested over $1 billion in that wouldn't be pulling out. That, in my opinion, is an absurd argument for Federal exploration.

I think Federal exporation is important, but to supplement energy exploration by private companies in other areas.

Senator JOHNSTON. Would you prohibit, under the Federal exploration program, the Government going into abandoned leases?

Ms. HELLER. I don't think so. There may be leases that were abandoned years ago, for other reasons, that might possibly be productive, I don't know.

Senator JOHNSTON. If it was possibly productive, do you think that the Government geologists would better be able to make that assessment than a private geologist?

In other words, if an abandoned lease brought a good deal, as in Destin Dome, to be able to mine that lease. If it hasn't been done by

a private geologist, would a Government geologist better be able to make that assessment?

Ms. HELLER. I think that would vary considerably from lease to lease, depending on how long ago that lease was abandoned.

The economic situation has changed considerably in the last 10 or 15 years, even in the last 3 years, and leases may have been abandoned more easily many years ago, when the price wasn't quite so high, than they are now.

Senator JOHNSTON. Wouldn't any Government leasing program involve or rely on Government geologists, and amount to saying that these geologists are better than private geologists?

Ms. HELLER. I would think they would not necessarily be better, but equally competent perhaps.

Senator JOHNSTON. Do you think they are?

Ms. HELLER. I think there are a lot of competent geologists in the USGS. I don't think there are enough to manage a total Federal exploration program, but I do think there are enough to oversee a limited Federal exploration program. Contracting of course, not having USGS do it themselves.

I would think that because of that the Government would not go back to abandoned leases but instead go into new areas.

Senator JOHNSTON. Do you think that politics would ever get involved in decisions as to where to drill? Do you think that any Member of Congress might say please come drill another hole in the Destin Dome, because to find oil there might be good for that State?

Ms. HELLER. Senator, I think politics takes part in every decision that is made in this country. There are pressures from every side on every decision. That is just the way it works. You know that as well as anybody here.

Senator JOHNSTON. Who would be most susceptible in political decisions, Government or private industry?

Ms. HELLER. I think both are susceptible. The difference is that private industry is out for its own profit, as it should be, and Government is susceptible to pressures from both sides.

One of the reasons we opposed Federal production and the Federal Government getting involved in energy the way this bill would have it, is because it would take away one of those levels of interference, if you want to call it that.

The way things are now, the public groups have Government to turn to as a regulator. Whether or not you agree with the way they are regulating, there is, at least, that level.

If Government and industry go into partnership, Government is going to have a vested interest in not regulating itself and in not regulating industry. I think that's a very important political point.

But I don't think that necessarily holds for the question of Federal exploration, because it's a very different proposition.

Senator JOHNSTON. I said we were going to finish all three witnesses before we got into conversation here and I apologize for that.

[The prepared statement of Ms. Heller follows:]

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TESTIMONY OF BARBARA M. HELLER
BEFORE THE SENATE INTERIOR COMMITTEE
JULY 14, 1975

We appreciate the opportunity to present our views here today on S 740, the National Energy Mobilization Act. We regret to say Mr. Chairman, that although we believe that a few of the goals which might be achieved by this proposal may be worthwhile, and some of them we have, as you know, supported vigorously in the past; we feel that the overall aims of this bill, and the means for achieving them, if accomplished, would nullify many years of important Congressional action. It would do irreparable harm to our relatively free economy, to our environment,

It is no wonder that your big industry witnesses have wholeheartedly supported this bill in previous hearings: it provides for joint ventures between industry and government, low interest loans and other "financial assistance," circumvention of the most significant procedures which have been developed by Congress and agencies in recent years to protect the rights of the public and the interests of state and local governments, and virtual exclusion of small energy businesses. It provides that the Energy Mobilization Board may "enter into contracts or other arrangements...with any person, firm, association, corporation ...with or without reimbursement, with or without performance or other bonds, and with or without regard to sec. 5 of Title 41, U.S. Code." The Board may also "accept and utilize the services of

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voluntary and uncompensated personnel...." I know a number of well-paid industry lobbyists whose companies would gladly loan them to the Board so that they may achieve the goals of the bill: write and recommend legislation, write reports, etc. At the same time, of course, there is nothing to prevent their companies from receiving "financial assistance" because of the "shortage of capital" in order to produce energy. What more could the president of a major oil company which controls oil, coal, natural gas, and other energy resources, ask for?

Let me begin this analysis at the beginning of the bill: with the Findings. S 740 is based on some assumptions which are inherently misleading and just plain wrong. For example, the finding that dependence from foreign sources is necessary to "avoid excessive cost for energy supplies" implies that all domestic energy will be cheap to the American consumer. Domestic oil and gas, if price regulated, may indeed be cheaper than OPEC oil, but production of synthetic fuels from coal and oil shale will cost the consumer a great deal more. Its price will be higher still if it is subsidized with taxpayers dollars either through quasi-government corporation development or through price floors as this legislation would mandate.

Our important and realistic energy needs and methods which would really achieve some measure of self-sufficiency are ignored. Energy conservation is mentioned just once in this entire fifty-five page bill, with a passing note that the goal of independence makes it "necessary to accelerate conservation efforts" - meaningless words in the context of this development-at-any-cost bill. The bill describes 10-year "targets" for development of coal, oil, natural gas, nuclear power, synthetic fuels, and other energy sources. Yet the one area where we really could move toward self-sufficiency -

energy conservation - is not even mentioned as a target. The Board is to "monitor" agencies and private enterprise to see whether progress is being made toward its "targets" including monitoring foreign activities.

If the targets are not being achieved, the Board may enter into "agreements" with "private and governmental" entities to assure that such targets are met. Nowhere is there any review by the public or by any other entity of these targets, or, indeed of any other of the Board's activities. There is no requirement that the Board's meetings be open to the public, or that any public hearings be held on their decisions. True, the members are appointed by the President and confirmed by the Senate, but we know, from historical as well as recent experience, that this body, unless confronted with a scandal, routinely confirms nominees of the President.

We now have, at the federal level, the FEA, ERDA, the Interior Department, the Commerce Department, the Energy Resources Council and a multitude of other agencies involved in promoting energy development. We do not need to add yet another bureaucracy to those which already exist. We do need to send a clear direction of policy to the agencies which now have the job, so that they know what the public interest in energy development requires, so that the uncertainty is taken out of the development business for the companies, and so that we may all get on with the job. In our view the right kinds of development incentives and standards, to encourage efficient development, would truly benefit the consumer and taxpayer and would help the economy and our energy supply picture far more than this mobilization bill. I will return to some suggestions which we believe could help accomplish those goals toward the end of this statement, First I would like to discuss some of

the specific items in S 740.

MATERIALS ALLOCATION AUTHORITY

The Board may control the distribution of supplies of materials and equipment if it finds that "such supplies are scarce, critical, and essential...." and necessary to accomplish the expansion and construction of energy facilities. The Board's authority is entirely discretionary since there is no review of its decisions. Yet, how is the Board to determine that supplies are inadequate? Such a decision seems simple, but may in fact be difficult to determine. For example, last winter we were hearing from a variety of sources that drilling rigs and other material essential to development of the offshore were in critically short supply. A comprehensive survey by Offshore Magazine, an industry trade journal, concluded that "...studies predict a rig demand well beyond the capacities of the worldwide shipyards at least through 1982...." Only a few months later, on April 23, 1975, in testimony before the Interior Subcommittee of the House Appropriations Committee, C.L. Graves, Chairman of the Board, President, and Chief Executive Officer of J. Ray McDermott Co., said that "If the government would assure our industry of work on a continuing basis, on any level... of leasing, the industry is capable of performing the work." Statements of the API and the President of the Ocean Drilling and Exploration Company (ODECO) at the same hearing reiterated that position. There need be no shortage in the industry if leasing plans are well known and if the companies have time to plan and to order equipment. The point is that perceptions of when and to what extent shortages exist may change from month to month, even within the industry, and that the government will not be able to determine these matters better than the industry. Our market system of supply and demand has worked to solve shortage situations in the past and it will continue to do so if allowed to work. This bill would not allow it to work. It

could take materials away from other industries (i.e. construction) which are equally important to our economy. It is vital that we set policies which will guide federal agencies and private industry, but anything beyond guidance could be disastrous to other sectors of the economy.

OIL AND GAS RESOURCE ASSESSMENT AND EXPLORATION PROGRAM

This section directs the Board to explore and eventually produce public resources on public lands "whose leasing to private enterprise.... may not be in the public interest or has been delayed because of land use conflicts, exceptional environmental hazards, opposition from local residents or from State and local authorities, or for other reasons." Furthermore, exploration contracts with private companies may be entered into by noncompetitive negotiations in which the company is compensated by the Federal government in proportion to the volume and quality of economically recoverable oil or gas discovered. Despite the possible noncompetitive contract, the company which conducts the exploratory work has first refusal rights on the production lease. If the development of public resources by private companies is not in the public interest, the development of such resources by the Federal government will be less in the public interest. Much as we dislike the policies of the industry, we do not believe that the Federal government can develop energy more safely or more efficiently. Furthermore, this section is a blatant violation of the rights of the states and local authorities and the public, to act on matters which affect them. This would supercede legitimate state and public concerns and procedures which have been established to protect environmental, social, and economic interests, and it eliminates any potential for substantive participation by those interests.

ALASKAN NAVAL PETROLEUM RESERVE EXPLORATION PROGRAM

The Pet. 4 exploration program established under this bill is cumbersome and inefficient. The Board is directed to designate a federal agency which will "direct and supervise execution of the program," but the Board is directed to prepare the exploration schedule, contract for the work, and establish procedures. Then the Board is directed to prepare a feasibility study justifying a pipeline, such study to be "sufficient in detail to support preliminary engineering design of pipelines on the designated routes." Never is there a question of whether such a facility is desirable or necessary. "All costs associated with making the study...shall be charged to any future applicant who is granted a right-of-way for any of the routes studied." You may say that such a study is a small price for such an applicant to pay in return for the right to build a pipeline. Perhaps, but given the well-known levels of federal cost overruns in addition to the general high cost of pipelines, this will guarantee that they are built and controlled by the major oil companies; another blow to the role of the independents in our energy economy. While we support exploration of the naval reserves, preferably federally contracted exploration, we firmly believe that these reserves should be maintained for times of national emergency, and not produced for commercial sale.

FEDERAL FACILITIES ENERGY PROGRAM

This section is oriented toward providing materials and equipment which are believed to be in short supply for the purpose of developing energy. We feel that it is a serious mistake for the Federal government to get involved in private sector decisions about shortages, for reasons stated earlier. Most equipment supply shortages are short-term problems which can and have been solved by the private sector and the market economy. By the time the Federal government could gear up a program to resolve any such problems, the problems would have solved themselves, and the Federal

government would be in the position of having spent taxpayers' money needlessly - on another Federal pork barrel boondoggle. This is yet another example of Federal override of state and local authority.

NATIONAL ENERGY PRODUCTION COMPANIES

In our view this section, establishing Energy Production Companies, has fundamental and frightening implications for our economic and social systems. We are living in a time when much of the nation is rightfully critical and suspicious of the bigness of the Federal government, of the way in which the Federal government spends public money, of the increasingly obvious reliance of big government on big business for its policy decisions, of the regulator in cahoots with the regulatee, and of the intrusion of both government and big business into every aspect of our lives. This section of S 740 mandates a partnership between big government and big business the likes of which few have imagined. It establishes Energy Production Companies (subject only to Congressional disapproval) funded by the taxpayers, at least one third of the shares of which must be controlled, "individually or jointly, by private sector corporate entities able to provide significant technical, operational, and management expertise to the project." The so-called "private sector companies" will, of course, be the major energy companies, which can indeed provide such expertise, and which control most of our resources. Furthermore, the "private sector corporate shareholders will have the right to purchase at any time the equity shares held by the fund" (the National Energy Production Trust Fund.) In addition, the "corporate shareholder will be offered the right to acquire any shares unsubscribed by the public." These Production Companies may produce energy from oil shale, coal gasification and liquifaction, solvent coal refining, geothermal energy, OCS oil and

gas, coal mining and refining, and the transportation of energy supplies. In other words the Federal government will form a giant joint venture with the oil companies and will subsidize development of all of those incredibly inefficient means of producing energy which the major companies control but are not developing even with their vast capital resources. It will ignore those areas which are diversely owned and which could really contribute to our efforts toward self-sufficiency in an economically efficient and responsible manner: deep mine low sulfur coal, OCS oil and gas, non-conventional sources, and energy conservation.

EXPEDITING GOVERNMENT ACTION

This section is bad in principle and counter-productive in effect. It would render meaningless most of the laws and procedures which Congress and federal agencies have established in recent years to protect the rights of the public with regard to decision-making at the federal level on environmental and other matters. The Board is to submit its recommendations for overcoming "procedural delays" for each facility to Congress. This could, of course, be hundreds of different recommendations, each in the form of an "Expedited Energy Project Procedure Report." If Congress does not act negatively within 60 days, the Board's recommendations are implemented. Given the rate at which Congress acts, and the plethora of recommendations which are required to be sent to Congress under this section as well as the other sections of this bill, there is a built-in bias toward overriding existing procedures, and in fact toward adoption of all of those programs which require negative Congressional action. This will mean circumvention of the impact statement process pursuant to NEPA, which is now the only part of the process where the public has an opportunity to comment. It will mean circumvention of procedures to involve the states and local communi-

ties, including those established in your recent amendment to the OCS Act; and of procedural aspects of the Coastal Zone Management Act. Overriding procedures which have been developed to protect the public interest and to allow some measure of public participation (however meager) is not the way to "expedite" energy development. It is much more likely to interminably delay development, for it will force states and local governments and citizens' groups into uncompromising positions of intransigence.

COAL PRODUCTION

The Coal Production section is redundant and irrelevant since the Energy Production Companies are authorized to produce coal. The wide ranging authority given the Production Companies and the coal production program makes the attempt to pass Surface Mining legislation, OCS legislation, and any environmental programs a laughable farce. Why bother to enact legislation to provide procedures and standards for development if the Federal government, working in partnership with industry can supercede them?

ENERGY CAPITAL INVESTMENT PROGRAM FOR ESSENTIAL ENERGY FACILITIES

This section of S 740 makes the Lockheed loan look like a nursery school exercise. Federal financial assistance is to be granted on a project-by-project basis at the discretion of the Board (after submitting written reasons to Congress, although no positive Congressional action is required.) "Such Federal financial assistance may include but not be limited to loans and loan guarantees, commitments to purchase supplies, agreements to share loss, equity investments or the granting of leases." This is another area where the 60 day negative response of Congress is necessary in order to prevent implementation. The taxpayer and ultimately the consumer bankroll the loss for private industry incompetence. We are learning

that some, if not most, of an amount equal to that "loaned" to Lockheed may have been spent in bribing foreign officials, and we are learning that similar "business expenses" have been routine with many energy companies. At a time when such actions are occurring, and when Mobil has the capital to buy Marcor, and when Gulf is talking about a merger with Rockwell, we fail to see the need for this kind of capital assistance program. Some assistance may be needed by small companies because of the monopolistic tendancies of the major companies in the industry, but an overall program such as that established by Title V of S 740 is dangerous and inefficient. Other means than direct subsidies can accomplish the same goals. You have begun to re-establish some equality in opportunities in the energy business by your action last week to decrease reliance on the bonus bidding system used in offshore leasing. We seem to have more faith in the way our system works than many of you. When it becomes profitable for the companies to produce synthetic fuels in an environmentally acceptable and economically efficient manner, the companies will develop them. We have long supported internalizing the social and environmental costs as a reflection of the true cost of producing energy. I hasten to add that that does not mean an arbitrary price hike which does not internalize any such costs, as the President has proposed. Government intrusion into production, either by direct participation or by subsidies will inevitably lead to that production which is most inefficient and most damaging, resulting in enormous costs to the citizens of this Nation.

Let me suggest some proposals which we believe would help us achieve self-sufficiency in ways which are acceptable.

1. Energy conservation should be the primary goal of this country

in attempting to achieve independence. The necessity for and feasibility of accomplishing great energy savings have been documented time and again. Why not establish an Energy Conservation Authority within an existing agency to monitor energy conservation efforts by government and by industry, to suggest legislation, and to enforce laws and regulations? If we are serious about self-sufficiency and not just interested in creating pork-barrel energy development projects, that should be the first step we take.

2. As you know there are millions of tons of high quality, low sulfur, deep minable coal in the eastern regions of this country. The capacity for expansion of production from these mines is enormous, and would be much more rapid than production from any of the other energy resources which this bill targets. As you also know, most of this eastern coal, unlike the coal in the west, is diversely owned by great numbers of small producers. We have supported the provision in the House Commerce Committee's Energy legislation (HR 7014) which provides for loan guarantees for small producers of deep mine low sulfur coal, and would strongly urge that the Senate consider similar legislation. Such a provision would do more to "help overcome unemployment" (Finding (f) in S 740) than any other kind of financial assistance.

3. Removing the uncertainty from government policies is extremely important to companies for effective planning for development. This can be done without compromising the great gains we have made over the last few years in the realm of coastal management, and without compromising or delaying environmental planning and standards. Your amendments to the OCS Act (although not as strong as we would like) are one step toward eliminating such uncertainty. A Surface Mining bill is another step, and we hope and trust that, despite

a temporary setback, we will see such a bill enacted.

4. No shortage now exists which is more important than that of competent trained personnel in the energy development field. There is and will be a shortage of petroleum engineers, according to the National Academy of Engineering (U.S. Energy Prospects: An Engineering Viewpoint.) In addition, training programs for key offshore operating personnel on rigs are woefully inadequate and non-standardized. We suggest that a Federal licensing program and uniform training should be undertaken by the Federal government to foster safe OCS oil and gas development. Similar programs may be necessary in other areas as well.

Mr, Chairman, we have been privileged to cooperate with and support this Committee's work often. Quite frankly, we cannot understand how those of you who have spent so much time and honest effort trying to right the inequities which big oil has engendered in our energy economy, could propose a bill which will reverse what progress had been made because of your efforts. It is time to stop cloaking bad energy proposals in the language of the economic and unemployment cure-all and recognize them for what they are: giant pork-barrel projects which will drop staggeringly large economic benefits into the pocket-books of precious few. In designing new energy programs it is time for the Federal government, including both the Administration and the Congress, to think in clear-headed terms about all of the implications of energy development proposals, and to design programs which will both benefit and protect all of the people of this nation, not just the world of big business.

Senator JOHNSTON. Why don't we go ahead and hear from Mr. Knight, and then we will come back to our questions.

STATEMENT OF JEFFREY KNIGHT, LEGISLATIVE DIRECTOR, FRIENDS OF THE EARTH

Mr. KNIGHT. Thank you, Mr. Chairman. I do appreciate the opportunity to testify on this bill.

Before I do, I would just like to outline what we think are the most significant steps that need to be taken in the energy area.

These involve energy conservation, which we feel must become the cornerstone of all this Nation's efforts to ease the energy crisis. Energy conservation, by which I mean cutting energy waste, increasing the efficiency of energy use, and the movement to uses which require less of an energy budget, will have beneficial effects for the economy, for unemployment, and for our need to increase sources of energy supply.

For the economy, because it will counter the inflationary impact of rising energy costs. For unemployment, because expenditures to increase energy conservation will tend to be labor intensive.

For the energy supply bottleneck, because energy conservation will increase the life of known reserves and will significantly ease the energy growth rate, which will lessen problem of capital and material supply, and lessen the onslaught on the environment.

Energy use is not per se an indicator of the quality of life. There are several countries in Europe which have per capita GNP equal to that of the United States, and yet whose per capita energy use is only half that of the United States.

This difference shows that we can significantly cut and alter our energy use patterns without hurting the economy.

Let me give a few examples of the kinds of savings that can be made through energy conservation now, without the need for any technological breakthroughs, equivalents in billions of gallons:

Air-conditioning: if energy efficiency is improved 7 to 10 percent——

Senator JOHNSTON. How can you say that 7 to 10 percent?

Mr. KNIGHT. By improving the efficiency of air-conditioning units. There's a range of efficiency among the various units that are now on the market, and if you move it up to the upper level range of BTU use, you're going to get this kind of——

Senator JOHNSTON. We just passed a bill the other day, for efficiency labeling. I think it was last week.

Mr. KNIGHT. I think that would have some effect. Of course, consumers have to know that this is there and it has to be accessible, and they have to understand whatever figures it's put in.

Senator JOHNSTON. Isn't it rather difficult to define efficiency?

Mr. KNIGHT. I don't think so.

Senator JOHNSTON. Don't some work better at lower speeds or higher speeds, or higher temperatures and lower temperatures?

Mr. KNIGHT. That's a question of efficiency. I get down to water heating for example, and one of the suggestions is to lower the average heat that water is heated to, which I think now is about 140 degrees, to about 120 degrees.

Obviously, the water is not as hot and it doesn't feel as hot coming out of the tap. I think it's sufficiently hot for the purposes it's being used for, and yet we don't——

Senator JOHNSTON. How would we deal with that? Would we legislate 120 degrees and put a governor on a hot water heater?

Mr. KNIGHT. I'm not exactly sure Senator. I don't think we necessarily have to go that far.

Senator JOHNSTON. I would also like to save on my bills at home, which are getting astronomical.

Mr. KNIGHT. The source for these particular things is a professor at University of California, and I have just spoken with him. I have not seen the papers which these are outlined in, so I can't really give you how he comes to these conclusions.

I think the point I wanted to make was that very significant savings can be made without really major types of changes.

Senator JOHNSTON. Let me ask you about this packaging here. You say "267,000 barrels of oil per day"——

Mr. KNIGHT. That's equivalent.

Senator JOHNSTON. How about the packaging?

Mr. KNIGHT. Packaging of food, any kind of packaging of food.

Senator JOHNSTON. You mean using more plastics?

Mr. KNIGHT. I think one of the things this would imply is using less plastic. I seem to remember that in 1958, probably paper and other kinds of materials, wax paper and things were more common than plastic material.

Senator JOHNSTON. That would certainly make it more easy to dispose of because those plastics last forever they tell me.

Let me ask you about this returnable beverage container, because I'm about ready to be convinced that we need to go to that, particularly my State which has one of the worst records in the world for throwing beer cans out of cars, and making garbage heaps out of our beaches and other areas.

You say you save 2.3 billion gallons of oil per year, that's an incredible amount, 2.3 billion gallons. How many barrels a day would that be?

Mr. KNIGHT. It comes out to about 54½ million barrels, which is something on the order of 150 thousand barrels a day.

Senator JOHNSTON. Do all of you support that?

Ms. HELLER. The returnables, yes. There have been a number of studies on that issue. One was done by the Center for Advanced Computation in Champaign, Ill., which compares the energy use of returnable versus glass disposable versus aluminum bottles and cans.

I think it was overwhelmingly in favorable of returnable bottles.

Senator JOHNSTON. As I understand it, the unreturnable glass bottles just have a little less glass in them, isn't that right? They are still made out of the same kind of glass.

Ms. HELLER. Yes.

Mr. KNIGHT. You have to make them sturdier; you can't have the seams in the bottles I think that you have in the no-deposit bottles.

Senator JOHNSTON. What are the main reasons for non-returnable? Is it so much manpower and manhours invested in rehandling them and that sort of thing?

Mr. KNIGHT. I think one of the main reasons is to get away from using aluminum over and over again. Aluminum, as you know, is a very energy-intensive material. It requires extremely high quantities of electricity to make very small amounts of aluminum.

I remember one ad that once said something like: several cans with the equivalent amount of energy that went into them, would be the equivalent of what each person in the country used per day, or something like that.

So I think one of the purposes is to get away from that.

Senator JOHNSTON. Glass bottles use a lot of natural gas and oil.

Ms. HELLER. That's right, especially natural gas.

Senator JOHNSTON. Go ahead. I'm sorry.

Mr. KNIGHT. I guess you have gone over these. I guess the largest one of these, of course, is in space heating where insulation and better building design could easily save as much as one-third of the energy used in space heating, and possibly more. This would be the equivalent of about 36 billion gallons of oil per year. Obviously, that's oil, that's gas, and they are the fuels that are burned to produce electricity since those are the three ways that you space heat.

This may have more relevance for electricity generation than for liquid fuels.

Senator JOHNSTON. Let me ask you something. Last year I had a bill that came to this committee and passed the Senate. I don't know what happened in the House. It evaporated over there, as so many of our bills. The bill required the FEA to make an annual assessment for each of the ensuing 10 years, on energy needs and the means by which they can be solved with inputs from all those concerned. For example, State Department would have to comment on the international relations effects of whatever decisions were made; Commerce, et cetera; so the Government would be forced to come up with an energy policy, however tentative and however substantive.

It, nevertheless, would be forced to come up with that energy policy. It would be forced to update it year by year. That seems to me to be such an obvious need in this country. It's almost laughable that we don't have that, that nobody is going for that.

Shouldn't we at least do something like that as a first step toward energy planning?

Ms. HELLER. I think we all support coordinated energy planning and some long-term policy decisions. But such planning really must, if it's going to get anywhere, respect the concerns and the needs of the people who are going to be affected, including States, local communities, and Federal agencies.

That means an opportunity for input that really means something from all of those interests. I know this is Energy Month in Congress, and the emphasis on energy seems to ignore every other interest in the economy—and I think it's unfortunate.

We certainly support coordinated Federal planning, and I made several suggestions at the end of our testimony, as have each of my colleagues, about ways of really moving toward self-sufficiency and energy independence, that would be both helpful to the economy and the employment situation and would still consider the needs of all those other segments of society.

I think we'll be in big trouble if we get energy on a development at-any-cost program.

Senator JOHNSTON. Shouldn't we at least know what the tradeoffs are and what the options are, and what the projected needs are? Has anybody in this country decided yet what kind of energy we need in 1980, and how we are going to get it?

Ms. HELLER. I certainly agree that all the tradeoffs and all the options ought to be looked at. That's what Project Independence was supposed to do, and it doesn't seem to be much use——

Senator JOHNSTON. Where is Project Independence?

Mr. KNIGHT. It's up on the shelf somewhere.

Ms. HELLER. That's right; it's filed away.

Mr. KNIGHT. I think one of the problems of Project Independence was that it was very narrow, especially in terms of the various options that were looked at, and maybe this is partly a matter of just ignoring the task of doing this.

Maybe you have to do these studies over and over again until you start getting some familiarity with the true parameters that have to be looked at.

I don't think the options have really been considered. I think that some of these energy conservation options that I outlined especially, have not been considered.

And if they have been, they are not as easy to attain. It's one thing to build a powerplant or to order an area of the Outer Continental Shelf to be leased, when you know that maybe it will be 5 or 7 years off, but that the oil is going to come out of there. There are companies who have that as their purpose for being in existence and they will do it.

It's easy to legislate, fairly easy to legislate, and to have it happen. That is not true with some of these things suggested here which are kind of diffused, require a lot of action in a lot of varied areas, and don't really fit into patterns of regulation and legislation that have existed in the past.

[The prepared statement of Mr. Knight follows:]

FRIENDS OF THE EARTH

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DAVID BROWER, *President*

STATEMENT OF JEFFREY KNIGHT, LEGISLATIVE DIRECTOR, FRIENDS OF THE EARTH, BEFORE THE SENATE INTERIOR and INSULAR AFFAIRS COMMITTEE

July 14, 1975

Mr. Chairman:

I am Jeffrey Knight, Legislative Director of Friends of the Earth. Friends of the Earth is a national environmental organization dedicated to the preservation and rational use of our natural resources. I appreciate the opportunity to testify.

Before I address S.740, "The National Energy Mobilization Board Act of 1975", I would like to outline what we think are the most significant steps that need to be taken in the energy area.

These involve energy conservation, which we feel must become the cornerstone of all this nation's efforts to ease the energy crisis. Energy conservation, by which I mean cutting energy waste, increasing the efficiency of energy use, and the movement to uses which require less of an energy budget, will have beneficial effects for the economy, for unemployment, and for our need to increase sources of energy supply. For the economy, because it will counter the inflationary impact of rising energy costs. For unemployment, because espenditures to increase energy conservation will tend to be labor intensive. For the energy supply bottleneck, because energy conservation will increase the life of known reserves and will signiffcantly ease the energy growth rate, which will lessen problems of capital and material supply, and lessen the onslaught on the environment.

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Energy use is not per se an indicator of the quality of life. There are several countries in Europe which have per capita GNP equal to that of the United States, and yet whose per capita energy use is only half that of the United States. This difference shows that we can significantly cut and alter our energy use patterns without hurting the economy.

Let me give a few examples of the kinds of savings that can be made through energy conservation now, without the need for any technological break-throughs:

Air Conditioning: if energy efficiency is improved 7-10%, it would save the equivalent of 4.5 billion gallons of oil, or the need for 10 1000 MWe nuclear power plants per year. (Source: Dr. John Holden, University of California, Berkeley)

Water Heating: Putting two inches of insulation on all pipes, and lowering the water temperature to 120 degrees F will save 20% of the energy used. This is equivalent to 2.4 billion gallons of oil per year, or five nuclear power plants. (Source:Holden)

Space Heating: Insulation and better design of buildings could easily save as much as one-third of the energy used in space heating. One-half savings is harder, but achievable, and a two-thirds savings in energy may be ultimately possible. A One-third savings is the equivalent of 36 billion gallons of oil per year. (Source: Holden)

Refrigerators: Better insulation and better motors could save 40% of the energy used in refrigerators with almost no increased front end cost. This is the equivalent of 5.3 billion gallons of oil per year, or 13 nuclear power plants. (Source:Holden)

Solid Waste: The use of solid waste as an energy source could generate up to 357,000 barrels of oil per day, equal to 5.5 billion

gallons per year. (Source: EPA: "Energy Conservation through Improved Soild Waste Management", 1974)

Packaging: If the per capita packaging consumption in 1973 were reduced to the levels that existed in 1958, this would result in saving the equivalent of 267,000 barrels of oil per day, or 4.1 billion gallons per year. (Source: People and Energy, June 1975)

Returnable Beverage Containers: EPA has estimated that a total switch to glass returnable beverage containers would save the equivalent of 2.3 billion gallons of oil per year. In New York, a task force study showed that such a switch would result in a loss of 1200 jobs, but the creation of 5200 new jobs.

I point out these examples only to show the tremendous gains that can be made through energy conservation and the fact that S.740 totally ignores them.

We are opposed to S.740 which, we feel is nothing less than a Tonkin Gulf Resolution for unfettered and irrational energy development in this country. It would, in effect, remove practically all economic, regulatory, and administrative checks on energy development and place grave burdens on our environment, on our entire regulatory structure and on our free market system, such as it exists today.

S. 740 is a dangerous proposal. The extraordinary powers it grants a small group of people, whose actions are, subject to ~~except~~ (no effective restraint, are unheard of) in time of war, when they are accepted reluctantly. But we are not at war. There is a misconception here, that somehow the energy crisis is like the Axis powers, and can be dealt with in the same way. And yet the need for energy, and the need for energy conservation, is a need that is permanent, like our need for air and water and food. It is not an enemy, to be defeated by the granting of extraordinary powers.

Furthermore. S.740 is based on the conclusion that prosperity, however we may measure it, is tied to energy growth. I have tried to

of living and the use of much energy, it is not so rigid as this bill asserts.

S.740 would create a Board, subject to practically no review, which could interfere in any activity in this society so long as the Board determines, subject to vague guidelines, that energy supply is threatened otherwise. There are no provisions for judicial review, and the number of actions that the Board is permitted or ordered to take is, to me, certain evidence that the 60-day Congressional disapproval provision will be of little hindrance to the Board's actions. By this bill, Congress would be delegationg its power to legislate in very key and sensitive areas to those who are not elected representatives of the people.

The Board is given an unlimited budget, through the National Energy Production Trust Fund. Although it is ostensibly limited to $2 billion a year authorization, Section 602 (6) makes clear that the Board can spend more if it wants to.

Furthermore, the Board is permitted to interfrere in any regulatory proceeding which it determines may delay energy production. Although the Board is expressly denied the power to interfere with substantive aspects of regulation, its interference with procedure may give that very little effect. Without proper procedure, how can we be sure that the substance is there. This nation's courts have long acted under this premise in their review of regulatory proceedings that if they gaurantee the procedure, the substance will be assured. And now the Board may interfere with such proceedures.

The Board is directed to set national energy goals, and then interfere in the economy to make sure they are met. Under Title II, as I read it, the Board would be able to intervene in any sector of the economy having to do with energy production, transportation, or use and order that changes be made to increase energy supply and

and drain America first. It could also, under Title III, set up energy companies, financed by federal loans, which, when and if they were established would be primarily sold to the energy industry. It would permit the energy industry to expand and grow without any risks or any economic constraints, since the goverment would assume both. Under the scheme for federal divestiture of these companies, although the public would be allowed a chance to buy, it seems clear that controlling interests would be obtained by the large energy companies. This seems contrary to the public interest, since it will further the concentration of economic power in these companies.

In closing, let me say that we are opposed to this bill because we think it is unnecessary to create this Board to act in the manner outlined in the bill. We have less objection to its functions of gathering information and making reports, but are concerned about the broad powers it has to interfere in the legitimate work of many other institutions, both public and private, which have concerns equally legitimate and in no way subordinate to questions of energy supply.

There are many government agencies, and many private industries working on the problems of energy supply. But there are none working solely on enrgy conservation, which ought to be of primary concern to us all. Each of the energy conservation measures I outlined is like a permanent Elk Hills, in terms of savings in energy that can be made. And yet energy conservation, since it does not involve enormous capital intensive projects, since it is not an activity that is in the traditional line of business endeavors, is neglected in both the public and private sectors. What is needed, maybe, is a National Energy Conservation Board, to assure that energy conservation take its rightful place in our national energy policy. What is not needed, however, is the Board proposed by this bill, which will do nothing to deal with reducing

energy demand which will lead to a worsening of our enviromental crisis a further concentration of economic power in the energy industry, the undermining of NEPA and of other regulatory proceedures, subordination of the goals of a multi-faceted society and economy to the goal of increased energy supply, and the firming up of the policy of drain America first, which will leave us vulnerable in the long run. We urge this Committee to reject S.740.

Thank you.

Senator JOHNSTON. Let me ask you this, and this question will go to all three of you, particularly Ms. Cohen because we haven't asked you as many questions.

Are you satisfied with the pace of domestic energy development today?

Ms. COHEN. I will be speaking for the Sierra Club.

Senator JOHNSTON. The question that I asked is, "Are you satisfied with the pace of domestic energy production?

Ms. COHEN. The Sierra Club has been in agreement with the energy positions and today's environmental group witnesses for quite some time. The pace can be altered depending on economic circumstances. Our concern really, is the type of energy that's developed and produced and promoted. Our major concern is with conservation and the protection of self-limited resources. As has already been mentioned in the testimony of the other two witnesses here, we would like to see more emphasis, by specific Government action, on conservation controls and needs; measures put into effect, not simply lip-service when it sounds appropriate.

Senator JOHNSTON. How many million barrels a day do you think they could save, say in conservation in calendar year 1976?

Ms. COHEN. I can't answer that. I think the people at this table would be able to give you more specific answers than I can.

Senator JOHNSTON. All right.

Ms. HELLER. Just to give you one example, in 1972 the Office of Emergency Preparedness came out with a study on energy conservation; specific proposals about where you would be needing energy, conserving energy, and how many barrels of oil a day could be cut back.

They suggested that if their proposals were undertaken at that time, by 1985 we could be saving, I think the figure was 7.2 million barrels a day, and they were not the kind of proposals that made significant changes in anybody's standard of living or lifestyle.

Senator JOHNSTON. I quite agree with you. My other question has to do with whether we can achieve that kind of savings effective in 1976, or whether it would not take a good bit of time to implement it.

I am strongly for conservation, but I don't think we should kid ourselves about how quickly the programs can take effect. It's like emission control on automobiles. You have to wait for the automobiles to be phased out. You can't get everybody to go to returnable glass bottles overnight.

You can't go to space heating or water heating; water heating you could if you could figure out a way to mandate it, or air-conditioning overnight.

Mr. KNIGHT. After the *Wickard v. Filburn* case, the one where the Government was able to order a farmer not to grow wheat for his own consumption because that was taking him out of interstate commerce. so it was under the commerce clause. I don't think the question of "reach" is really at issue here.

Mandating some of these energy conservation things would be no more radical a step than some of the things contemplated in this bill probably far less.

Senator JOHNSTON. What I am saying is that it will just take time. Like refrigerators; even if you had the money to buy a new refrigerator, the new refrigerators are not being manufactured.

Mr. KNIGHT. It also takes time to develop the energy sources, and what we are saying is that people are looking at that time and seeing that that time is important because it exists, and so we can't get the benefit until we pass through that time.

But at the same time, we are not really considering energy conservation strategy over the same period, which may effect the kinds of energy needs that we will have down the line when these various supply options can be available to us.

Senator JOHNSTON. Let me ask you this, Ms. Heller. Are you satisfied with domestic energy production?

Ms. HELLER. At the moment?

Senator JOHNSTON. Yes.

Ms. HELLER. I think it's sufficient to meet our needs in the short run. The question seems to be, how quickly can it gear up if we have serious shortages in the medium run.

Any of these proposals, as you said, take time.

Senator JOHNSTON. Do you think the natural gas situation is pretty serious this year?

Ms. HELLER. Yes I do.

Senator JOHNSTON. Do you see prospects for the loss of lots of jobs this year? Have you researched that?

Ms. HELLER. No.

Senator JOHNSTON. I hear some real horror tales, talking about areas like California and Ohio, et cetera.

Ms. HELLER. We have been hearing hard-up tales for years I think there is some danger, but how are you going to produce natural gas at a very quick rate?

Drilling new wells for oil and natural gas take many, many years. But we are talking about energy conservation, deep mine coal development, the sources of development for enhanced recovery of developed fields. which already exist both on and off shore, could do far more to expand existing supplies than the kind of vast new projects that are being talked about by the administration.

Senator JOHNSTON. Are you familiar with our secondary recovery methods?

Ms. HELLER. Right. I thought it was very good.

Senator JOHNSTON. Do you favor that?

Ms. HELLER. Anything to increase recovery from existing wells.

Senator JOHNSTON. There really hasn't been anything said all day about whether we should put it on pending legislation, which extends——

You know it got knocked off the bill at a conference committee.

Ms. HELLER. Which pending legislation, the OCS Act?

Senator JOHNSTON. No; the extension of the Mandatory Allocation Act.

Ms. HELLER. I was thinking that something about enhanced recovery should be put in with the OCS Act, I think that's a very good place for it.

Senator JOHNSTON. If you are really for it, I'll put it on anything that comes along.

Ms. COHEN. Senator, I'd like to say something. There is one aspect of the war idea that I think we should really think about. The idea that this bill is based on some wartime powers and the idea of giving a board emergency powers to take action. That is the sort of thing that could be done for energy conservation where the Government would get behind a drive in every way it could.

Encourage energy conservation, starting with the Government agencies to save energy in their own operations, and revise their regulations to save energy indirectly. That would be a very good start, it would set an example, first of all, but it would have far reaching effects, including the snowball effect of educating people more and more to the possibilities of energy conservation.

It takes a while, but it doesn't take that long to get people to swing behind a movement. This is where the Government can really sell a great program for great results without great expense, and without any capital investment.

Senator JOHNSTON. Let me just ask a question where a yes or no answer will do.

I take it that all three of you oppose this bill very strongly.

[A chorus of yeas.]

Senator JOHNSTON. Let me just ask another yes or no question. Can it be amended, or modified to please you? Or is it just wrong in its basic thrust?

Ms. HELLER. I think that the thrust is wrong. I don't think we need a wartime kind of board, and I think we all agree on this, we don't need to get the Government involved with the industry in producing energy.

I think industry is very capable of developing energy itself with the right kinds of incentives and under the right kinds of controls. I think what we have to do is identify all of our options as you suggest. Not just the options which the administration has identified, like oil shale, western coal development, synthetic fuels, and the administration proposal for OCS development, which essentially are for the benefit of the major oil companies, and effectively exclude many small companies.

Senator JOHNSTON. Which OCS?

Ms. HELLER. The administration's proposals of no changes I think would——

Senator JOHNSTON. In the oilfield?

Ms. HELLER. Yes. I think the approach of this committee would increase greatly the role of the independents and the small businesses in the off-shore.

Senator JOHNSTON. You are enthusiastic about the OCS bill?

Ms. HELLER. I'd like to see it further amended. We will support it, assuming that there are no changes. We'd like to see some more changes that we would like in it, but yes, we support it.

Senator JOHNSTON. There are not too many more changes that you would feel important. Is it that you want more information?

Ms. HELLER. We want more information, we want the deprivation of judicial review that was included under Senator Stone's amendment on regional advisory boards taken out. This is a preemption of judicial review to the States, on arbitrary and capricious actions of the Secretary.

As you know, we support the limited experimental Federal exploratory program.

Senator JOHNSTON. I hope you haven't loaded it down too much so we can't pass the bill.

Thank you very much for your comments. I am personally inclined to agree with most of your comments on this bill. I think the bill is very useful as a vehicle for dialogue.

Ms. HELLER. A conversation piece?

Mr. KNIGHT. Senator, how are you going to get the energy crisis to surrender. That's what the War Panel Board was for, to fight a war and get somebody to surrender. The need for energy is going to be a need, as far as I can see, as long as we are living.

Senator JOHNSTON. We could solve the whole problem if Congress would just accept my ideas in total.

Thank you very much.

[Whereupon, at 3:34 p.m., the hearing was adjourned subject to the call of the Chair.]

NATIONAL ENERGY PRODUCTION BOARD

MONDAY, JULY 21, 1975

U.S. SENATE,
COMMITTEE ON INTERIOR AND INSULAR AFFAIRS,
Washington, D.C.

The committee met, pursuant to notice, at 10 a.m. in room 3110, Dirksen Office Building, Hon. Paul J. Fannin presiding.

Present: Senators Fannin and Bartlett.

Also present: Owen Malone, professional staff member for the majority; and David Stang, deputy director for the minority.

Senator FANNIN. The committee will come to order.

OPENING STATEMENT OF HON. PAUL J. FANNIN, A U.S. SENATOR FROM THE STATE OF ARIZONA

Today we will hear testimony on S. 740, the National Energy Mobilization Act. Before we hear from this panel of distinguished witnesses, I would like to offer a few comments of my own on S. 740.

Review of the testimony heard on S. 740 last Monday indicates a multitude of objections from various sectors as to the bill's merit. Barbara Heller of the Environmental Policy Center made the following comments in reference to the Board established by S. 740:

> We now have, at the Federal level, the FEA, ERDA, the Interior Department, the Commerce Department, the Energy Resources Council and a multitude of other agencies involved in promoting energy development. We do not need to add yet another bureaucracy to those which already exist. We do need to send a clear direction of policy to the agencies which now have the job, so that they know what the public interest in energy development requires, so that the uncertainty is taken out of the development business for the companies, and so that we may all get on with the job.

In reference to the Federal energy facilities program mandated by S. 740, Ms. Heller said:

> This section is oriented toward providing materials and equipment which are believed to be in short supply for the purpose of developing energy. We feel that it is a serious mistake for the Federal Government to get involved in private sector decisions about shortages, for reasons stated earlier. Most equipment supply shortages are short-term problems which can and have been solved by the private sector and the market economy. By the time the Federal Government could gear up a program to resolve any such problems, the problems would have solved themselves, and the Federal Government would be in the position of having spent taxpayer's money needlessly—on another Federal pork barrel boondoggle.

Jeffrey Knight, Legislative Director of Friends of the Earth, condemned the pervasive Federal intervention into the private sector that would result from enactment of S. 740.

S. 740 would create a Board, subject to practically no review, which could interfere in any activity in this society so long as the Board determines, subject to vague guidelines, that energy supply is threatened otherwise.

However, Charles Spahr, representing the American Petroleum Institute, criticized the most saddening aspect of S. 740; the abandonment of the market mechanism for solving America's energy dilemma and the utilization of administrative decision instead:

Thus, we oppose the National Energy Mobilization Board in principle because it represents Government intervention into the petroleum industry where the market structure and market performance do not warrant such intervention.

What we have urged is that the industry be allowed to operate in the marketplace free of the special price controls and other impediments that were lifted from the rest of American businesses when it was discovered they were ineffective.

S. 740 would take a problem that can be, and is being solved in an economically efficient fashion by the private sector, and make it part of the political process. The National Energy Mobilization Board is just one of many actions proposed by the Congress that would serve to thwart the efforts of private enterprise to expand domestic energy production.

Finally, we should note that such massive intervention in energy related sectors of the American economy as mandated by S. 740 not only displaces the natural corrective function of the market mechanism, but also discourages private investment in the energy industries. Investor confidence would be seriously undermined by fear of "Where will the Board strike next with its deleterious allocative decisions?" The less private capital attracted into energy industries, the less will be the needed expansion of exploration and production. Then more Government intervention will follow. Hence, S. 740 would become a self-fulfilling prophecy—that the private sector could not respond to America's energy needs.

The results of this tragi-comedy would be twofold: (1) America's energy needs would remain subject to the vagaries of the Middle East's policies. (2) The U.S. taxpayer would eventually pay for a needless creation of another Federal bureaucracy and repeated unproductive Federal intervention into the energy industry.

Before we hear from our first witness I would like to insert in the record Committee Print No. 1 of S. 740.

[The information referred to follows:]

[COMMITTEE PRINT NO. 1]

JULY 8, 1975

94TH CONGRESS
1ST SESSION

S. 740

IN THE SENATE OF THE UNITED STATES

FEBRUARY 18, 1975

Mr. JACKSON (for himself, Mr. MAGNUSON, Mr. BAYH, Mr. LEAHY, and Mr. STEVENSON) introduced the following bill; which was read twice and referred to the Committee on Interior and Insular Affairs

A BILL

To promote the general welfare by establishing a National Energy Mobilization Board to assure early development of domestic energy resources in order to overcome the dependence of the United States on foreign nations for energy supplies which are essential to national security, commerce, and a full-employment economy, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "National Energy Mobilization Act of 1975".

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SEC. 2. FINDINGS.—The Congress finds and declares that:

(a) It is the policy and the goal of the United States to reduce as rapidly as is practical the dependence of the United States on foreign sources of energy.

(b) The achievement of this goal is essential to insure the independence of our foreign policy, to avoid excessive cost for energy supplies, and to maintain national security.

(c) With proper planning this goal can be achieved without damaging the quality of the environment or impairing the quality of life of the American people.

(d) There are enormous energy resources of coal, oil, natural gas, oil shale, geothermal, uranium, and other forms of energy within the United States which have not been adequately explored or developed.

(e) The Nation has extensive underutilized technical, industrial, manpower, and other resources which could be mobilized to achieve the goal of increased energy self-sufficiency.

(f) Programs to assist the exploration and development of the Nation's energy resources and to assure the availability of the essential systems to transport energy from producing areas to consuming markets can stimulate the economy, help overcome unemployment, and provide meaningful new employment opportunities in both public and private sectors.

(g) To the extent that existing Federal energy resource and development programs and the efforts of the private sector to develop domestic energy resources fall short of achieving desired levels of domestic self-sufficiency the Federal Government should undertake innovative actions to mobilize private and public sector efforts to increase available domestic energy supplies.

(h) To best achieve the objective of greater domestic energy self-sufficiency, it is necessary to accelerate conservation efforts and to establish a Federal authority empowered to establish specific targets to maximize domestic energy production, to identify significant institutional, policy, and physical constraints on increasing domestic energy production, and to undertake and to propose to the Congress specific action programs to utilize all of the resources of the private and public sectors to increase domestic energy supply.

SEC. 3. PURPOSE.—It is the purpose of this Act—

(a) to assure that the resources of private enterprise and the Federal Government are effectively com-

mitted to maximizing domestic energy exploration, development, and production;

(b) to stimulate the economy and to create needed employment through a vigorous program to mobilize Federal, State, and private sector efforts in increasing domestic energy supply and in improving energy transportation systems; and

(c) to enhance competition in the energy industry.

SEC. 4. DEFINITIONS.—As used in this Act, the term—

(a) "Board" means the National Energy Mobilization Board;

(b) "Chairman" means the Chairman of the Board;

(c) "public domain and other Federal lands" means all lands, including mineral interests, owned by the United States without regard to how the United States acquired ownership thereof and without regard to the agency having responsibility for management thereof, except—

(1) Indian lands;

(2) Outer Continental Shelf lands;

(3) Components of the National Park, Wilderness Preservation, Wild and Scenic Rivers, and Trails Systems; rivers being studied as potential additions to the National Wild and Scenic Rivers System under or pursuant to section 5(a) of the

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Wild and Scenic Rivers Act (82 U.S.C. 906), roadless or other de facto wilderness areas being studied to determine their suitability or nonsuitability for preservation as wilderness under or pursuant to the Wilderness Act (78 Stat. 890) of the Act of January 3, 1975 (88 Stat. 2096), and rivers or areas proposed by the President for inclusion in the National Wild and Scenic Rivers System or National Wilderness Preservation System; and National Recreation Areas designated by Acts of Congress; and

(4) Naval Petroleum Reserves;

(d) "Fund" means the National Energy Production Trust Fund;

(e) "Indian lands" means all lands, including mineral interests, within the exterior boundaries of any Indian reservation notwithstanding the issuance of any patent, and including rights-of-way, and all lands held in trust for or supervised by an Indian tribe;

(f) "Indian tribe" means any Indian tribe, band, group, or community having a governing body recognized by the Secretary of the Interior;

(g) "Member" means a member of the Board other than the Chairman;

(h) "Outer Continental Shelf lands" means the

Outer Continental Shelf as defined in the Outer Continental Shelf Lands Act (67 Stat. 462); and

(i) "Naval Petroleum Reserves" means the Naval Petroleum Reserve Numbered 1 (Elk Hills), located in Kern County, California, established by Executive order of the President of September 2, 1912; Naval Petroleum Reserve Numbered 2 (Buena Vista Hills), located in Kern County, California, established by Executive order of the President of December 31, 1915; Naval Petroleum Reserve Numbered 3 (Teapot Dome), located in Wyoming, established by Executive order of the President of December 13, 1912; and Naval Petroleum Reserve Numbered 4, Alaska, on the north slope of the Brooks Range, established by Executive order of the President of February 27, 1923.

(j) "State" means any State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Canal Zone, and the Trust Territory of the Pacific Islands.

(k) For purposes of title III of this Act, a "proven technology" shall mean a technology for which, as determined by the Administrator of the Energy Research and Development Administration, operating experience

has been gained from one or more commercial-sized plants or undertakings sufficient to demonstrate the engineering and economic viability of the technology in further applications.

TITLE I—NATIONAL ENERGY MOBILIZATION BOARD

SEC. 101. ESTABLISHMENT.—(a) There is hereby established in the executive branch a special agency to be known as the National Energy Mobilization Board (hereinafter in this Act referred to as the "Board").

(b) The Board shall consist of a Chairman and four members appointed by the President, by and with the advice and consent of the Senate. The Chairman and the members of the Board shall be persons who, as a result of their training, experience, and attainments in academia, industry, commerce, the labor movement, consumer representation, and/or government, are exceptionally well qualified to formulate, recommend, carry out, and monitor plans and programs to achieve the purposes of this Act. Appointments of the Chairman and members pursuant to this subsection shall be made in such a manner that not more than three members of the Board including the Chairman shall be members of the same political party. The Chairman and each member shall serve for a term of five years, except that of the Chairman and members first appointed to the Board;

one shall serve for one year, one for two years, one for three years, one for four years, and one for five years, to be designated by the President at the time of appointment.

(c) In addition to the members appointed by the President, the Secretary of the Interior, the Secretary of Commerce, the Secretary of Labor, the Administrator of the Environmental Protection Agency, and the Chairman of the Council on Environmental Quality shall serve as nonvoting members of the Board ex officio.

(d) The Chairman of the Board shall receive compensation at the rate prescribed for offices and positions at level I of the Executive Schedule (5 U.S.C. 5312). The members of the Board shall receive compensation at the rate prescribed for offices and positions at level II of the Executive Schedule (5 U.S.C. 5313). The Board shall be administered under the supervision and direction of the Chairman. Neither the Chairman nor any member other than members ex officio of the Board shall—

(1) engage in any other employment or hold any other position in the executive branch during the period of his appointment;

(2) have any financial interest or relationship, direct or indirect, with any person engaged in the exploration, production, storage, processing, conversion, transportation, distribution, or marketing of coal, ura-

nium, natural gas, crude oil, petroleum products, electricity, or other primary energy forms;

(3) after his service on the Board has ended, represent anyone other than the United States in connection with a matter in which the Board is a party or has an interest and in which he participated personally and substantially for the Board; or

(4) receive any emoluments, salary, or supplementation of his Government salary, from a private source as compensation for his services to the Board.

SEC. 102. VACANCIES.—Vacancies in the membership of the Board shall not affect the power of the remaining members to execute the functions of the Board and shall be filled in the same manner as in the case of original appointment.

SEC. 103. VICE CHAIRMAN.—The Board shall select a Vice Chairman from among its members. The Vice Chairman shall act in the place and stead of the Chairman in the absence of the Chairman.

SEC. 104. GENERAL COUNSEL.—There shall be a General Counsel to the Board who shall be appointed by the President, by and with the advice and consent of the Senate, and who shall receive compensation at the rate prescribed for offices and positions at level III of the Executive Schedule (5 U.S.C. 5314).

SEC. 105. MEETING AND ORGANIZATION.—(a) The Board is authorized to sit and act at such places and times as it may determine, and upon a vote of a majority of its members, to require by subpena or otherwise the attendance of such witnesses and the production of such books, papers, and documents, to administer such oaths and affirmations, to take such testimony, to procure such printing and binding, and to make such administrative expenditures, as it deems advisable. The Board may make such rules respecting its organization and procedures as it deems necessary, except that no recommendation shall be reported from the Board without an opportunity for dissenting members to present their views. Subpenas may be issued over the signature of the Chairman of the Board, or of any voting members designated by him or by the Board, and may be served by such person or persons as may be designated by such Chairman or members. The Chairman of the Board or any member thereof may administer oaths or affirmations to witnesses.

(b) The Chairman may appoint, with the approval of the Board, an executive director who shall exercise such powers and duties as may be delegated to him by the Board. The Executive Director shall receive basic pay at the rate provided for level III of the Executive Schedule (5 U.S.C. 5314).

SEC. 106. POWER AND AUTHORITY.—(a) The Board

shall have the authority, subject to the provisions of this Act and, within the limits of available appropriations, to do all things necessary to carry out the purposes of this Act, including the authority to—

(1) make full use of competent personnel and organizations outside the Board, public or private, and form advisory committees, special ad hoc interagency task forces, and make other personnel arrangements in accord with Federal law, as the Board determines to be appropriate;

(2) enter into contracts or other arrangements as may be necessary for the conduct of the work of the Board with any agency or instrumentality of the United States, with any State, territory, or possession or any political subdivision thereof, or with any person, firm, association, corporation, or educational institution, with or without reimbursement, with or without performance or other bonds, and with or without regard to section 5 of title 41, United States Code;

(3) make advance, progress, and other payments which relate to the functions of the Board without regard to the provisions of section 529 of title 31, United States Code;

(4) accept and utilize the services of voluntary and uncompensated personnel necessary for the con-

duct of the work of the Board and provide transportation and subsistence as authorized by section 5703 of title 5, United States Code, for persons serving without compensation;

(5) acquire by purchase, lease, loan, or gift, and hold and dispose of by sale, lease, or loan, real and personal property of all kinds necessary for or resulting from the exercise of authority granted by this Act; and

(6) prescribe such rules and regulations as it deems necessary governing the operation and organization of the Board.

(b) Contractors and other parties entering into contracts and other arrangements under this section which involve costs to the Government shall maintain such books and related records as will facilitate an effective audit of the execution of such contracts or arrangements in such detail and in such manner as shall be prescribed by the Board, and such books and records (and related documents and papers) shall be available to the Board and the Comptroller General of the United States, or any of their duly authorized representatives, for the purpose of such audit and examination.

(c) The Board is authorized to secure directly from any executive department or agency information, suggestions, estimates, statistics, and technical assistance for the purpose

of carrying out its functions under this Act. Each such executive department or agency shall furnish the information, suggestions, estimates, statistics, and technical assistance directly to the Board upon its request.

(d) On request of the Board, the head of any executive department or agency may detail, with or without reimbursement, any of its personnel to assist the Board in carrying out its functions under this section.

(e) The Chairman shall, in accordance with such policies as the Board shall prescribe, appoint and fix the compensation of such personnel as may be necessary to carry out the provisions of this Act, and obtain services of experts and consultants in accordance with section 3109 of title 5, United States Code.

TITLE II—AUTHORIZED ENERGY PROGRAMS

SEC. 201. TARGETS TO INCREASE SELF-SUFFICIENCY, MONITORING, ASSESSMENT, AND REPORTS.—(a) In addition to the specified duties assigned to the Board in other sections of this title and in titles III, IV, and V of this Act the Board is authorized and directed to:

(1) establish, after consultation with other appropriate Federal agencies, specific targets to meet national goals for domestic energy production, storage, conversion, and transportation, in accordance with national energy policy objectives established by public law. The

specific targets for domestic energy production shall be based on an estimate of future energy needs reflecting conservation programs that can be made effective and a level of imports which is consistent with the national interest. The targets shall be set for the ten-year period following the date of enactment of this Act, and shall specify the necessary domestic production of coal, oil, natural gas, nuclear power, synthetic fuels, and other fuels and forms of energy, the necessary conversion of utilities and industry from oil and natural gas consistent with such domestic production targets, the buildup of specified stockpiles of oil in storage, and the necessary additions to the Nation's energy transportation system;

(2) monitor the activities of private and governmental entities to determine the progress made toward achieving specific energy targets specified in subsection (a). The Board shall specifically monitor:

(A) the status of all activities and programs being conducted by the Board and all other agencies and departments of the Federal Government to increase the production of coal, oil, natural gas, and other fuels and forms of energy resources;

(B) the status of activities and programs being conducted by private enterprise and non-Federal agencies to increase the production of coal, oil, nat-

ural gas, and other fuels and forms of energy from sources within the United States;

(C) the status of activities and programs being conducted outside the United States to increase the production of coal, oil, and natural gas which may influence (i) the availability of energy supplies for the United States or (ii) the availability of personnel, material, and equipment for the exploration, development, and production of domestic energy resources;

(D) the availability of essential materials, equipment, supplies, and trained manpower in the private sector necessary to exploration, development, and production from domestic energy resources; and

(E) any significant delays in domestic energy exploration and production programs which are exclusively or principally the result of regulatory delay or procedural impediments at the Federal, State, or local level.

(3) ascertain whether private and public entities are achieving the energy targets specified in subsection (a), identify the reasons for any shortfalls, enter into agreements, as authorized by this Act, with private and governmental entities to assure that such targets are met, and take other actions authorized under this Act

to achieve the levels of domestic energy production required to meet the specific targets established pursuant to section (a); and

(4) after consultation with the Energy Resources Council, the Board shall report quarterly to the President and to the Congress on the achievement of the purposes of this section.

(b) The Board may obtain such information as it determines in its discretion to be necessary to carry out the purposes of this Act from any private or governmental entity. The Board may issue subpenas to require the production of such information and in case of disobedience to such a subpena, the Board may invoke the aid of any district court of the United States in requiring the production of such information. Any district court of the United States within the jurisdiction where such private or governmental entity is found or transacts business may, in case of contumacy or refusal to obey a subpena issued by the Board, issue an order requiring such private or governmental entity to produce such information; and any failure to obey such order of the court shall be punished by the court as contempt thereof.

(c) Whenever the Board determines or has reason to believe that the specific targets for increased domestic energy production established pursuant to section 201 (a) (1) will not be achieved under the authority granted by this Act the

Board is authorized and directed to recommend legislation for such additional energy programs as the Board determines are necessary to achieve the specific targets established pursuant to section 201 (a) (1).

SEC. 202. MATERIALS ALLOCATION AUTHORITY.—(a) The Board may, by rule or order, require the allocation of, or the performance under contracts or orders (other than contracts of employment) relating to, essential supplies of materials and equipment necessary to maximize domestic energy supplies if the Board makes the findings required by subsection (c) of this section.

(b) The Board shall report to the Congress within ninety days after the date of enactment of this section on the manner in which the authorities contained in paragraph (a) will be administered. This report shall include, but not be limited to the manner in which allocations will be made, the procedure for requests and appeals, and the criteria for determining priorities as between competing requests.

(c) The authority granted in this subsection may not be used to control the distribution of any supplies of materials and equipment in the marketplace unless the Board finds that—

(1) such supplies are scarce, critical, and essential to maintain or further exploration, production, refining, conversion of fuels, transportation, and conservation of

energy supplies or for the construction and maintenance of energy facilities; and

(2) maintenance or furtherance of exploration, production, refining, conversion of fuels, transportation, and conservation of energy supplies and the construction and maintenance of energy facilities cannot reasonably be accomplished without exercising the authority specified in subsection (a) of this section.

(d) During any period when the authority conferred by this subsection is being exercised, the Board shall take such action as may be appropriate to assure that such authority is being exercised in a manner which assures the coordinated administration of such authority with any priorities or allocations established under other provisions of law and in effect during the same period.

SEC. 203. AUTHORITY TO INTERVENE IN STATE AND FEDERAL REGULATORY OR JUDICIAL PROCEEDINGS.—The Board is authorized at its discretion to intervene in any State or Federal regulatory or judicial proceeding involving significant issues of national energy policy for the purpose of providing the regulatory body or the court the Board's views on the subject matter of the proceeding and the relationship of the outcome of the proceeding to the achievement of the purposes of this Act.

SEC. 204. OIL AND GAS RESOURCE ASSESSMENT AND EXPLORATION PROGRAMS.—(a) The Board is authorized and directed to prepare and carry out a Federal oil and gas resource assessment program. The program shall supplement and be in addition to the activities of the private sector and shall provide for an immediate comprehensive assessment of the oil and gas on the public domain and Federal lands of the United States and the Outer Continental Shelf to obtain sufficient data and information to evaluate the extent, location, and potential value for development of the oil and gas resources of said lands. The program shall be designed to—

(1) identify areas on which exploration programs are to be undertaken pursuant to subsection (c) of this section;

(2) improve the information regarding the value of public resources and revenues which should be anticipated from development;

(3) increase competition among producers of oil and gas by providing data and information to all potential developers; and

(4) provide the public with information respecting the probable size of the public resources, the cost of developing specific resources for commercial use, and the value of such resources.

(b) (1) The Board is authorized and directed to identify and undertake exploration programs for such areas of the public domain, other Federal lands and the Outer Continental Shelf, as have a high likelihood of containing significant quantities of economically recoverable oil and/or natural gas but whose leasing to private enterprise under terms of the Mineral Leasing Act of 1920, as amended, or the Outer Continental Shelf Lands Act of 1953, as amended, may not be in the public interest or has been delayed because of land use conflicts, exceptional environmental hazards, opposition from local residents or from State and local authorities, or for other reasons.

(2) In carrying out the exploration programs required by this subsection, the Board is authorized:

(A) to make use of the personnel, equipment, and materials of competent Federal agencies;

(B) to enter into contracts with competent private parties to perform specific services such as geophysical surveys, well drilling, logging; and

(C) to enter into oil and gas exploration contracts with competent private operators, by competitive bidding or negotiations, in which the operator is compensated or reimbursed by the Federal Government in proportion to the volume and quality of economically recoverable oil and/or gas discovered.

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(3) Title to any oil and/or gas discovered as a result of an exploration program implemented pursuant to this subsection shall remain with the United States: *Provided, however,* That an exploration contract executed pursuant to paragraph (2) (C) of this subsection may reserve to the operator a right of first refusal, or an option to purchase at fair market value, any oil or gas he has discovered which the Federal Government determines to market commercially.

(4) Upon concurrence of the Board, the Secretary of the Interior may dispose of any oil or gas discovered pursuant to this subsection either by competitive sale or by competitive lease under terms of the Mineral Leasing Act of 1920, as amended, or the Outer Continental Shelf Lands Act of 1953, subject to any right of first refusal or option to purchase granted in an exploration contract pursuant to paragraphs (2) (C) and (3) of this subsection: *Provided,* That any decision to sell, lease, or otherwise produce or dispose of oil or gas discovered as a result of an exploratory program established pursuant to this subsection, shall be regarded as a major Federal action for purposes of section 102 of the National Environmental Policy Act of 1969.

(c) In carrying out resource assessment and exploration programs the Board is authorized—

(1) to conduct or contract for seismic, geomagnetic,

gravitational, geophysical, or geochemical surveys, or stratigraphic drilling, or to purchase or contract for the results of such resource assessment and exploratory activities from commercial sources;

(2) to conduct or contract for exploratory drilling; and

(3) to procure the necessary facilities, materials, and services.

(d) In carrying out the resource assessment and exploration programs, the Board is directed—

(1) to prepare and publish a projected schedule of resource assessment and exploratory activities and identification of the areas to be assessed or explored;

(2) to consult with affected State and local governments including coordination with coastal management programs being developed by any coastal State for approval pursuant to section 305 of the Coastal Zone Management Act of 1972 (86 Stat. 1280; 16 U.S.C. 1451 et seq.) and the coastal zone management program of any State which has been approved pursuant to section 306 of that Act, with particular reference to the anticipated location of required rights-of-way, transportation, and other on-shore facilities required to implement the programs;

(3) to prepare and publish estimates of the funds, materials, and manpower required to carry out the resource assessment and exploration programs;

(4) to prepare and publish assessments of the availability of the facilities, material, equipment, and manpower required to carry out resource assessment and the exploration programs; and

(5) consult with the Administrator of the Environmental Protection Agency, and with the heads of other concerned or competent agencies, before proceeding with any assessment or exploration program so that they can identify exceptional, unique, or unusual conditions that may require special treatment or precautions to protect the environment or insure safe exploration activities.

SEC. 205. NEGOTIATIONS AND AGREEMENTS WITH FOREIGN GOVERNMENTS ON ENERGY PROJECTS.—(a) The Board is authorized, subject to the provisions of subsections (b) and (c) to negotiate and enter into agreements with foreign governments or persons subject to the jurisdiction of foreign governments for the joint development of conventional energy projects in the United States or in the territory of the foreign government. For the purposes of this section "conventional energy project" means a project designed to increase world energy production through the application of technology to increase the recovery of heavy oils or to develop

commercial projects for the conversion of tar sands, oil shale and coal resources into synthetic fuels.

(b) The Board is authorized to obligate up to $5,000,000 on the joint development of a conventional energy project pursuant to this section. Any expenditure or commitment in excess of this amount for the joint development of a conventional energy project shall first be submitted to the Congress for review pursuant to the procedures set forth in section 304.

(c) The Board shall notify and advise the Secretary of State prior to undertaking any negotiations with any person with respect to activities in a foreign place. The Board may enter into an agreement with any such person, only if the Secretary of State determines and notifies the Board that such agreement would not be contrary to the foreign policy of the United States. The Secretary of State shall advise the Board of any relevant foreign policy considerations with respect to any negotiations and agreements pursuant to this section and shall render such assistance to the Board as may be appropriate.

SEC. 206. ALASKA NAVAL PETROLEUM RESERVE EXPLORATION PROGRAM.—(a) The Board is authorized and directed to prepare and carry out an oil and gas exploration program for Naval Petroleum Reserve Number 4, in Alaska, established by Executive order of the President of Febru-

ary 27, 1923. The exploration shall provide for the immediate commencement of a comprehensive program for the exploration of the reserve for the purpose of obtaining sufficient data and information to evaluate the extent, location, and potential for development and production of the oil and gas resources of the reserve. The exploration program shall be designed to obtain the resource information necessary for determining the quantities of oil and gas present, the geographical extent of any field, and estimates of its recoverable reserves in order to provide a basis for preparing and implementing an oil and gas development and production plan.

(b) The Board is authorized and directed to—

(1) designate a Federal department, agency, or instrumentality that will direct and supervise execution of the exploration program;

(2) prepare a schedule for the conduct of geophysical surveys, geochemical surveys, or stratigraphic drilling;

(3) contract for such geophysical surveys and such exploratory drilling as is determined to be necessary to prove the extent of the resources and to obtain information concerning the geology which may affect the development of the resources;

(4) establish procedures for consultation with offi-

cials of the State of Alaska and affected local governments;

(5) enter into arrangements for procurement by contract or otherwise of the necessary facilities, materials, manpower and equipment required to carry out the exploration program;

(c) The Board is directed to transmit a report on the Naval Petroleum Reserve Number 4 exploration program to the Congress not later than ninety days after the effective date of this Act. The Board shall report quarterly to the Congress on the implementation of this section.

(d) Title to any oil and/or gas discovered as a result of an exploration program implemented pursuant to this section shall remain with the United States.

SEC. 207. PIPELINE FEASIBILITY STUDIES FOR TRANSPORT OF OIL AND NATURAL GAS FROM NAVAL PETROLEUM RESERVE NUMBER 4.—(a) The Board is authorized and directed to study the feasibility of one or more oil and natural gas pipelines from Naval Petroleum Reserve Number 4 in Alaska, to a transshipment point or points in Alaska, or to connect with pipelines delivering oil or natural gas to United States markets from other areas on the North Slope of Alaska. Such study will consider engineering, economic, and environmental factors and may be conducted, in whole or in part, under contract with nongovernmental

sources. The study will be in sufficient detail to support a decision by the Secretary of the Interior designating and granting a right of way for the route or routes oil and natural gas pipelines will follow from the Naval Petroleum Reserve Number 4. The study will be in sufficient detail to support preliminary engineering design of pipelines on the designated routes.

(b) The Board shall submit periodic reports on this study to the House and Senate Committees on Interior and Insular Affairs and Armed Services. A draft of the study required by subsection (a) shall be published for public review and comment not later than one year after the effective date of this Act. A final report shall be published not later than eighteen months after the effective date of this Act.

(c) The Board shall consult with the Secretary of the Interior and the Secretary of the Navy prior to finalizing the plan for the pipeline feasibility study authorized by subsection (a).

(d) All costs associated with making the study authorized by subsection (a) shall be charged to any future applicant who is granted a right-of-way for any of the routes studied.

SEC. 208. FEDERAL FACILITIES ENERGY PROGRAM.—(a) Subject to the provisions of this Act, the Board is

authorized and directed to prepare a Federal Facilities Energy Program. The Federal Facilities Energy Program shall provide for the utilization of idle, underutilized, or surplus facilities, installations, properties, and resources of the Federal Government which could be used to augment the private sector's capacity for the production and fabrication of materials, equipment, and goods essential for the conduct of an accelerated domestic energy exploration, development, and production program.

(b) After consulting with other appropriate Federal departments and agencies the Board shall conduct a survey and prepare a report which shall include—

(1) an inventory and assessment of the capacity of various departments, agencies, and instrumentalities of the Federal Government, including but not limited to the Corps of Engineers of the Department of the Army, the Naval Material Command, Naval Engineering Command, and Naval Ordnance Command of the Department of the Navy, the Bureau of Reclamation of the Department of the Interior, and the General Services Administration to contribute to the achievement of the purposes of this section and this Act:

(2) the identification and designation of idle, underutilized, or surplus Federal facilities and installations capable of, or capable of being adapted to, at reasonable

cost, the production of materials and equipment essential for the production of energy and fuels, including but not limited to drilling platforms, drilling rigs, pipe for drilling operations and pipelines, and mining and transportation equipment, goods, and supplies;

(3) estimates of the cost of equipping, reequipping, tooling, or retooling such facilities and installations for the production of energy-related materials, goods, and equipment; and

(4) recommendations to the Congress for any needed legislation under which appropriate Federal facilities and installations could be made available to the private sector through contract, lease, sale, or other means where it was determined that this would achieve the purposes of this Act.

TITLE III—PROGRAMS AUTHORIZED SUBJECT TO CONGRESSIONAL REVIEW AND RIGHT OF DISAPPROVAL

SEC. 301. GENERAL.—Programs authorized by this title may be carried out by the Board if not disapproved by either House of the Congress pursuant to the congressional review procedure set out in section 305.

SEC. 302. NATIONAL ENERGY PRODUCTION COMPANIES.—(a) The Board shall determine those areas of domestic energy production where energy facilities are

needed to increase the Nation's production of energy, and where entry by private sector companies—either individually or jointly—is difficult or limited due to the large capital required for a commercial-scale facility, the unavailability of technology used and proven on a commercial scale, or the presence of unusual exploratory, economic, technical, or environmental risks. For such areas the Board is authorized to recommend establishment of national energy production companies. These companies will—

(1) be private sector corporations, incorporated in the District of Columbia;

(2) be subject to all laws, rules, regulations, taxes, antitrust provisions applicable to any private sector corporation; and

(3) be funded by loans provided from the National Energy Production Trust Fund (the "fund"). Any such loans to individual national energy production companies may, with the Board's concurrence, have interest payments deferred until the first full calendar year of operation of the given facility, and any loan principal repayments may, with tthe Board's concurrence, be limited to funds generated by the operation of the company.

(4) Equity capital for these companies will be the lesser of 50 per centum of the total investment required to be fully operational, or $100,000,000. At least one-

third of the equity capital is to be subscribed to, individually or jointly, by private sector corporate entities able to provide significant technical, operational, and management expertise to the project. The balance of the equity will be offered to the public. Any unsubscribed shares will be purchased by the fund.

(5) The Federal Government shall be represented on the board of directors of each individual national energy production company in proportion to the equity held by the fund. These director will be from diverse affiliations and background but with experience qualifying them for the position.

(6) The initial private sector corporate shareholders will have the right to purchase at any time the equity shares held by the fund. Such purchase can be made using funds either provided directly by them or with their proportionate dividends accruing from the operation after providing for current debt service. In case of any such purchase, the public shareholders will be offered the right to participate in the purchase of shares in proportion to their holdings. The corporate shareholders will have the right to acquire any shares unsubscribed by the public. Any such shares not acquired by the corporate shareholder or the public will remain with the fund. Such shares will be sold by the fund at

their market or book value, whichever is higher, at the time of sale.

(b) National energy production companies may, using proven technology, be authorized by the Board to produce energy from shale oil, coal gasification, coal liquefaction, solvent coal refining, and geothermal energy, Outer Continental Shelf oil and gas exploration and production, coal mining and refining and the transportation of energy supplies. The Board is authorized to assist in the establishment of such additional companies in such additional fields as it may find desirable.

(c) In establishing these companies, no private sector corporate entity will be precluded from participation as a shareholder, but preference will be given to smaller companies applying for equity participation. Companies may apply for equity participation singly or jointly. If applications are joint, the combined assets of the joint companies will be considered in evaluating their preference position in regard to size.

(d) National energy production companies will be authorized to develop energy resources on either privately owned lands or Federal lands, and lands in the public domain. For energy development on privately owned lands, appropriate leases will be obtained from the private land owners. In the case of Federal land and lands in the public

domain, the Secretary of Interior may assign leases to individual companies at a cost and on terms similar to corresponding leases provided to private sector companies.

(e) In the tenth full year of commercial operation of any individual national energy production company, the Board will sell to the highest bidder any shares in the company then owned by the fund. If a given national energy production company has terminated operations for technical, market, financial, or other reasons, and if its future operations are found by the Board to be uneconomic, the company will be liquidated and the assets sold to the highest bidder.

(f) Prior to the establishment of any national energy production company, the Board shall submit a report for congressional review and approval in accordance with section 305.

SEC. 303. EXPEDITING GOVERNMENT ACTION.—(a) The Board is authorized and directed to review and evaluate the procedures and methods of departments, agencies, independent agencies, regulatory commissions, and other instrumentalities of the Federal Government as they relate to requests for Federal approval, certification, permits, or other forms of Federal authorization for specific projects in the public and private sectors for increasing the exploration, development, production, and transportation of domestic energy resources. The review and evaluation required by this

subsection shall be designed to identify unreasonable procedural delays and impediments resulting from Federal procedures and requirements that signficantly delay decision-making and action on specific projects which are determined to be needed for increasing domestic energy supplies.

(b) Based on the review and evaluation required by subsection (a), the Board is authorized and directed to propose procedures to other instrumentalities of the Federal Government designed to expedite Federal action and overcome procedural delays and institutional impediments: *Provided,* That except as specifically provided for in subsection (c), no provision of this subsection authorizes the Board to propose for implementation any procedure which is not permissible under existing law.

(c) (1) Whenever the Board is advised that prompt Government action respecting a specific activity or project designed to increase the exploration, development, production, or transport of domestic energy resources is of high national priority, and is being unreasonably delayed because of procedural problems or impediments in connection with a Federal approval, certification, permit, or licensing process, the Board may appoint a disinterested special master to inquire into the matter and to report thereon. If, based on the results of such inquiry, the Board determines that the project is of high national priority and that Federal action thereon

should be accelerated, the Board may recommend an expedited procedure for congressional review and approval in accordance with section 305: *Provided,* That the Board may not utilize this subsection to change, amend, modify, or gain an exemption from any substantive standard related to public health, safety, or the quality of the environment: *Provided further,* That use of this expedited procedure in connection with a specific activity or project shall not in any way change, amend, or modify for future activities or projects any Federal approval, certification, permit, or licensing requirements.

(2) Any Board recommendation for expedited procedure shall be in the form of an Expedited Energy Project Procedure Report, which shall be submitted to the Administrator of the Environmental Protection Agency for review and comment and to the head of the Federal department, agency, or instrumentality whose procedures are proposed to be expedited for review and comment, which comments shall form a part of such report. The expedited energy project procedure reports authorized by this section shall:

(A) be limited to a specific activity or project such as a pipeline, an energy facility, or other needed and essential energy project;

(B) justify the need for the use of expedited procedures;

(C) set forth timetables for action in specific cases and programs;

(D) identify exceptions to any departmental and agency review requirements and procedures;

(E) identify exceptions to any regulatory requirements and procedures; and

(F) specify proposed changes to expedite the activity or project.

SEC. 304. ALASKA NAVAL PETROLEUM RESERVE DEVELOPMENT, PRODUCTION, AND TRANSPORTATION PROGRAM.—(a) Upon completion of the exploration program and pipeline feasibility studies authorized in sections 206 and 207 and after a determination by the Board that commercial quantities of oil and gas have been discovered, the Board is authorized and directed to prepare an oil and gas development production, and transportation program for Naval Petroleum Reserve Number 4, in Alaska, established by Executive order of the President of February 27, 1923. The program shall be in the form of a report to the President and the Congress and shall deal with all necessary arrangements for the immediate commencement of development, production, and transportation of the oil and gas resources of the reserve.

(b) In preparing the report required by subsection (a) the Board shall—

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(1) designate a Federal department, agency, or instrumentality that will direct, supervise, and manage the development program;

(2) establish schedules for the production of oil and gas;

(3) propose procedures and arrangements under which the private sector will, by competitive bidding or negotiations, be afforded an opportunity to perform drilling, construction, transportation, and other essential functions on a contract basis;

(4) establish procedures for consultation with officials of affected State local governments;

(5) propose arrangements for procurement, by contract or otherwise, of the necessary facilities, materials, manpower, and equipment required to carry out the exploration program;

(6) propose arrangements for the sale, exchange, storage, or other disposition of the oil and gas produced from the reserve. Such arrangements shall take into consideration the requirements of a national strategic petroleum reserve and the requirements of national security and the armed services; and

(7) consult with the Administrator of the Environmental Protection Agency, and with the heads of

other concerned or competent agencies so that they can identify exceptional, unique, or unusual conditions that may require special treatment or precautions to protect the environment or insure safe exploration activities.

SEC. 305. CONGRESSIONAL REVIEW AND APPROVAL.—(a) Subject to the availability of funds under the authorization of appropriations contained in section 602 of this Act, the Board may proceed to implement any program prepared under the authority of this title at the end of the first period of sixty calendar days after the program has been submitted to both Houses of the Congress. Each House shall have the opportunity to disapprove of any such program within sixty days of the receipt of the proposal, pursuant to the procedures provided for in sections 906 (a), (b), and (c), 908, 909, 910, 911, 912, and 913 of title 5, United States Code, except that for the purposes of this section any reference in such sections to "reorganization plan" shall be deemed to be a reference to the particular program submitted by the Board under the authority of this title. If a program is disapproved by either House within the sixty-day review period, no officer or agency shall have authority to take the action proposed in that program.

(b) If a program is disapproved by either House, the Board is authorized to modify the initially proposed pro-

gram, taking due note of reasons for the disapproval, and may resubmit a revised program in accordance with the provisions of subsection (a).

TITLE IV—PROGRAMS REQUIRING EXPRESS LEGISLATIVE AUTHORIZATION

SEC. 401. GENERAL.—The Board is authorized and directed to formulate, develop and recommend to the Congress in the form of proposed legislation specific action programs as set forth in this title to increase the production of domestic energy resources and strengthen energy transportation systems. Each proposed legislative action program transmitted to the Congress pursuant to this title shall be accompanied by a report which meets the requirements of this Act and which provides background and analytical information relevant to a reasoned decision on the proposed legislative program by the Congress.

SEC. 402. COAL PRODUCTION.—The Board shall prepare a Federal Coal Production Program. The Federal Coal Production Program shall consist of a legislative recommendation for the accelerated exploration, development, and production of coal under private lands, under existing Federal leases, and from the public domain and Federal lands of the United States, a timetable for the execution of such a program, and an accompanying report which specifies in detail:

(a) the present and projected levels of domestic

coal production and the anticipated domestic demand if the country converts all new and, where feasible, existing electrical utilities and heavy industrial boilers from the use of oil and natural gas to coal;

(b) the need, nature, and extent of a direct Federal role in opening new mines, transportation systems, and otherwise engaging in activities to increase domestic coal production;

(c) the location, type, and extent of the recoverable coal resources covered by the program;

(d) the adequacy and capacity of existing and available facilities for production, transportation, and processing the required coal;

(e) assessment of the need for new facilities required to extract, transport and process the required coal;

(f) anticipated location of required production, right-of-way, transportation and other facilities needed to produce and transport the required coal; and

(g) procedures for consultation with affected State and local governments.

SEC. 403. ENERGY TRANSPORTATION SYSTEMS.—(a) The Board shall prepare a Federal Energy Transportation System Improvement Program after consultation with the United States Railway Association and the Department of

Transportation. The Federal energy transportation systems improvement program shall consist of a legislative recommendation for programs to assure the development on an urgent basis of new and the improvement of existing railroad systems, pipelines, maritime systems, electrical transmission systems, and other energy transportation systems necessary to assure the timely, safe, and efficient movement of coal and other fuels from mines and other production areas throughout the Nation to electrical powerplants, industrial users, and residential consumers.

(b) The Board's recommendations shall include a timetable for the development of such transportation systems, and an accompanying report which specifies in detail:

(1) an analysis and assessment of the present capacity and projected requirements for the Nation's railroads and other energy transportation systems for the transport of coal and other fuels from producing areas in the Western States, Appalachia, and other areas to the principal electric utility, industrial users, and other major consuming markets throughout the Nation;

(2) deficiencies in the present railroad and other energy transportation systems;

(3) the need, nature, and extent, if any, of a direct Federal role in rebuilding railroad beds, improving and developing new energy transportation systems, and

otherwise engaging in activities to facilitate the timely, safe, and economical transport of domestic fuels;

(4) specific projects when needed for the improvement, rehabilitation, or augmentation of existing railroad facilities, rights-of-way, rolling stock and operations required to assure the safe and efficient movement of coal and other energy resources;

(5) specific projects for the establishment of new railroad, pipeline, and other energy transportation systems;

(6) proposed arrangements with existing railroads for the improvement and augmentation of their energy transportation rights-of-way, facilities, and equipment;

(7) the location and extent of rights-of-way, facilities, and equipment included in the program;

(8) proposals for the coordination of existing railroad and other transportation system operations in furtherance of the objectives of this Act;

(9) estimates of the new employment opportunities to be created under the program, including number, location, and nature of same, and recommendations for necessary retraining programs; and

(10) an estimate of the amount of steel and other materials the Board's recommendations would require, including estimates of whether such requirements would

exceed production capacity for steel and other materials in light of other demands on such resources.

SEC. 404. TRANSMITTAL OF PROGRAMS FOR CONGRESSIONAL AUTHORIZATION.—(a) No part of the programs authorized by this title shall be carried out until a report containing a full and complete description of that part of the program has been transmitted to the Congress, and the execution of that part of the program has been expressly authorized by legislation thereafter enacted by the Congress.

(b) The Federal Coal Production Program, and the Federal Energy Transportation Improvement Program and the Board's recommendations for legislation to implement said programs shall be submitted to the President for transmittal to the Congress not later than nine months after the effective date of this section.

TITLE V—ENERGY CAPITAL INVESTMENT PROGRAM FOR ESSENTIAL ENERGY FACILITIES

SEC. 501. LEGISLATIVE RECOMMENDATIONS.—(a) In furtherance of the purposes of this Act the Board is authorized to prepare an Energy Capital Investment Program, with legislative recommendations, designed to assure the availability of adequate capital for investment in the production, development and transportation of conventional energy supplies. The Energy Capital Investment Program shall include—

(1) Estimates of the amount of capital that will be required in the next ten years in each of the following areas:

(A) Increased utilization of coal, including the opening of new mines;

(B) Conversion of electrical powerplants pursuant to Federal directive;

(C) Exploration and development of oil and gas on the Outer Continental Shelf and in Alaska, and the development of enhanced recovery techniques;

(D) Improvement and expansion of energy transportation systems, including railroads and oil and gas pipelines; and

(E) Other essential energy projects.

(2) Estimates of the ability of the private sector to meet the energy capital needs in each of these areas;

(3) Recommendations on the priority uses of capital for such investment in conventional energy sources;

(4) Recommendations as to the proper role of all the concerned Federal departments and agencies in a coordinated program to guarantee the availability of adequate capital for energy investment; and

(5) Consideration of the proper role for the Federal Government in assuring an adequate supply of capi-

tal for domestic energy projects, including the necessity or desirability of Federal financial assistance by means of—

(A) low interest loans;

(B) loan guarantees;

(C) leasing arrangements;

(D) equity investments; or

(E) minimum price supports

in order to guarantee adequate capital investment in energy projects of high national priority designed to accelerate the production and assure the efficient movement of conventional energy supplies.

(b) The Board shall include in the Energy Capital Investment Program an assessment, evaluation and report with recommendations on a project-by-project basis of those proposals of the private sector and of appropriate Federal agencies which, in the determination of the Board, may require Federal financial assistance to assure adequate capital investment in the production, development, and transportation of conventional energy supplies necessary for meeting the Nation's energy requirements. The report of the Board shall include—

(1) a description of the project;

(2) the nature and amount of Federal financial assistance contemplated;

(3) the alternatives, if any, to such Federal assistance;

(4) the impact of the project on the supply of conventional domestic energy resources;

(5) the competing uses of such energy capital investment;

(6) the prospects for repayment of the loan or return of the investment to the Federal Government; and

(7) the recommendation of the Board with respect to such project.

(c) The Board shall submit the Energy Capital Investment Program to the President for transmittal to Congress not later than nine months after the effective date of this section. Thereafter the reports of the Board required by subsection (b) shall be submitted to the President for transmittal to Congress at the discretion of the Board, but in any event such reports must be made on an annual basis.

SEC. 502. FEDERAL ENERGY FINANCING PROGRAM.—(a) Pending submission of the Energy Capital Investment Program provided for in section 501, the Board is authorized and directed to review and evaluate the status of existing or proposed energy projects of high national priority designed to assure adequate supplies and the efficient movement of conventional energy resources which are or may be un-

reasonably delayed by financing problems or impediments to capital investment.

(b) Based on the review and evaluation required by subsection (a) the Board is authorized to submit to the Congress on a project-by-project basis specific programs of Federal financial assistance, subject to the provisions of this section, designed to assure the early undertaking or speedy completion of energy projects essential for maintaining adequate supplies and the efficient movement of conventional energy resources. Such Federal financial assistance may include but need not be limited to loans and loan guarantees, commitments to purchase supplies, agreements to share loss, equity investments or the granting of leases.

(c) No financial assistance under this section may be granted unless the Board submits to the Congress written findings that—

(1) the assistance is necessary to carry out the purpose of this Act;

(2) financing is not otherwise available on reasonable terms and conditions from any source, public or private;

(3) there is reasonable assurance of repayment of the Federal funds granted;

(4) a failure to provide financial assistance under the authority of this section would significantly delay

the early undertaking or speedy completion of the project; and

(5) the assistance to be provided will be applied to productive purposes which are necessary to assure the nation adequate supplies of conventional energy and the efficient movement of such supplies: *Provided,* That the Board may not grant Federal assistance for the purpose of funding any one project within any one year in excess of $100,000,000 without the express authorization of Congress: *Provided further,* That the Board shall formulate, develop and recommend to the Congress in the form of proposed legislation specific financing programs for projects which may require Federal assistance in excess of such amounts.

(d) (1) The Board shall require such security as it deems appropriate for the financial assistance granted under the authority of this section, and shall consult, as necessary, with each recipient of financial assistance concerning any matter which may bear upon the ability of the recipient to repay such assistance within the time fixed therefore.

(2) Responsibility for the administration of financial programs which are implemented in accordance with subsection (e) of this section shall be undertaken by the Secretary of the Treasury subject to policies and guidelines established by the Board.

(3) The termination of this section and the authority conferred thereunder shall not affect the disbursement of funds under, or the carrying out of, any contract, guarantee, commitment, or other obligation entered into pursuant to this section prior to such termination, or the taking of any action necessary to preserve or protect the interests of the United States in any amounts advanced or paid out pursuant to this section.

(c) (1) Subject to the availability of funds under the authorization of appropriations contained in section 602 of this Act, the Board may implement specific financing programs at the end of the first period of sixty calendar days after the program has been submitted to both Houses of the Congress for review on a project-by-project basis. Each House shall have the opportunity to disapprove of such program within sixty days of the receipt of the proposal pursuant to the procedures provided for in sections 906 (a), (b), and (c), 908, 909, 910, 911, 912, and 913 of title 5, United States Code, except that for the purposes of this section any reference in such sections to "reorganization plan" shall be deemed to be a reference to a Federal Energy Financing Program. If any program is disapproved by either House within the sixty-day review period, no officer or agency shall have authority to take the action proposed in that program.

(2) If a program is disapproved by either House, the

Board is authorized to modify the initially proposed program, taking due note of reasons for the disapproval, and may resubmit a revised program in accordance with the procedures of the preceding paragraph.

(f) The Board is directed to transmit the Federal Energy Financing Program to the Congress not later than six months after the effective date of this section.

TITLE VI—NATIONAL ENERGY PRODUCTION TRUST FUND

SEC. 601. ESTABLISHMENT OF FUND.—To carry out the provisions of this Act, there is hereby established in the Treasury of the United States a special fund to be known as the National Energy Production Trust Fund (hereafter referred to as the "Fund"). During the period commencing July 1, 1975, and ending June 30, 1985, there shall be covered into such Fund $1,000,000,000 annually for fiscal year 1976 and $2,000,000,000 annually thereafter from revenues due and payable to the United States under the Outer Continental Shelf Lands Act (67 Stat. 462, 469), as amended (43 U.S.C. 1338), which otherwise would be credited to the miscellaneous receipts of the Treasury.

SEC. 602. APPROPRIATIONS AND USE OF REVENUES IN THE FUND.—(a) All revenues paid into the Fund shall be used only to carry out the purposes of this Act. Revenues covered into the Fund shall be available for expenditure only

when appropriated therefor by the Congress. Any revenues not appropriated shall remain available in the Fund until appropriated for said purposes: *Provided,* That appropriations made pursuant to this paragraph may be made without fiscal year limitation.

(b) In the event there are insufficient moneys in the Fund to meet the obligations and requirements of the Board, there are hereby authorized to be appropriated to the Board such additional funds as are necessary for implementation of the provisions of this Act.

SEC. 603. BOARD'S AUTHORITY.—All revenues appropriated from the Fund shall be available to the Board for expenditure or transfer to other Federal agencies to achieve the purposes of this Act.

TITLE VII—ADVISORY COMMITTEES AND INTERAGENCY COORDINATION

SEC. 701. ENERGY ACTION PROGRAM ADVISORY COMMITTEES.—(a) With respect to each domestic energy production program proposed or undertaken by the Board, the Board is authorized to establish special program advisory committees which shall consult with the Board during the development of the program and shall provide advice and information to the Board concerning all aspects of the program, including the relationship of the program to the in-

terests represented by the members of such special committees.

(b) The program advisory committees shall provide for the representation of the following interests and such other interests as the Board may deem necessary or desirable:

(1) State and local governments;

(2) representatives of affected elements of the energy industry;

(3) representatives of affected elements of the transportation industry;

(4) representatives of affected elements of the public utility industry;

(5) representatives of affected elements of industrial energy users;

(6) representatives of labor;

(7) representatives of small business;

(8) representatives of environmental organizations; and

(9) consumer representatives.

(c) The program advisory committees authorized by this section and such other advisory boards, committees, and councils as may be established by the Board shall be subject to the provisions of the Federal Advisory Committee Act (86 Stat. 770, title 5 App. U.S.C.).

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SEC. 702. INTERAGENCY COORDINATION.—(a) The Energy Resources Council (42 U.S.C. 5818) shall provide assistance to the Board at the Board's request and shall be responsible for insuring communication and coordination among the Departments and agencies of the Federal Government which are assigned responsibilities for the implementation and administration of programs to increase domestic supply pursuant to titles II, III, IV, and V of this Act.

(b) The President shall designate such additional members and ex-officio members from Federal Departments and agencies to serve on the Energy Resources Council as are necessary to carry out the provisions of this Act.

(c) Members of the Energy Resources Council shall, upon request of the Board—

(1) initiate proposals for additional domestic energy programs to achieve the purposes of this Act;

(2) review and make recommendations to the Board respecting programs proposed by the Board for achieving the purposes of this Act;

(3) utilize the resources and expertise of their respective agencies in the formulation and review of programs to achieve the purposes of this Act; and

(4) undertake such additional related tasks as the Board may request.

TITLE VIII—GENERAL PROVISIONS

SEC. 801. SEPARABILITY.—If any part of this Act is declared unconstitutional, or the applicability thereof to any person or circumstances is held invalid, the applicability of such part to other persons and circumstances and the constitutionality or validity of every other part of the Act shall not be affected thereby.

SEC. 802 AFFIRMATIVE ACTION PLAN.—The Board shall develop such affirmative action programs as are necessary to assure that no person shall, on the grounds of race, creed, color, national origin, or sex, be excluded from participating in any program or activity initiated by the Board pursuant to the authorities contained in this Act. Such affirmative action programs shall assure maximum minority participation. The Board shall promulgate such rules as are necessary to carry out the purposes of this section and the enforcement of this section, and any rules promulgated under the section, through provisions and rules which shall be similar to those established and in effect under title VI of the Civil Rights Act of 1964.

SEC. 803. EFFECTIVE DATE; TERMINATION DATE.—(a) This Act shall take effect on the date of its enactment.

(b) This Act shall terminate September 30, 1980.

Senator FANNIN. We are pleased to have with us this morning, Mr. John Hill. I want to welcome you to the committee again. I appreciate your willingness to give us the benefit of your comments on the bill, and would you give us the name of the gentleman with you?

Mr. HILL. Yes, Mr. Chairman, Donald Craven, Acting Assistant Administrator for Energy Resource Development.

Senator FANNIN. Mr. Craven, we are very pleased to have you with us also.

Mr. CRAVEN. Thank you, sir.

Senator FANNIN. Mr. Hill you can proceed as you desire. Do you have a prepared statement?

Mr. HILL. Yes, I do, Mr. Chairman. With your approval, I would like to submit it for the record, make some general comments and answer whatever questions you may have.

Senator FANNIN. Your complete statement will be made a part of the record and you may proceed to outline it as you so desire.

STATEMENT OF HON. JOHN HILL, DEPUTY ADMINISTRATOR, FEDERAL ENERGY ADMINISTRATION, ACCOMPANIED BY DONALD CRAVEN, ACTING ASSISTANT ADMINISTRATOR FOR ENERGY RESOURCE DEVELOPMENT

Mr. HILL. Let me say at the outset that I think S. 740 is a very difficult bill to respond to because there are so many inherent difficulties in the bill itself. It also has what I would consider a very large set of contradictory assumptions. It is hard to know what to say and what not to say on this, but I think most of my remarks are laid out in my testimony.

I would like to focus on what I think some of the major difficulties are and provide some general comments. I would also like to associate myself with the remarks that you have quoted this morning of Miss Heller and Mr. Jeffrey Knight. I think we share those sentiments at FEA absolutely.

One of the major contradictions in S. 740 that I would like to spend some time on has to do with the very purpose of the bill. I think there is a lot of tension and contradiction in those purposes.

On the one hand, for example, the bill is based on the general proposition that we, as a nation, are not doing everything we can to increase our energy supplies. That is one theme that runs through the entire exercise. If that is the case, if we are not doing all that we can as a nation to incresase our energy supplies, it is probably due to the lack of proper incentives or sufficient economic resources in the private sector to achieve that end.

On the other hand, however, S. 740 implies that the incentives are not only sufficient but they are probably too large and are being captured by a small group of companies who are using those incentives, and the profits gained therefrom, for some reason other than the national well-being.

In order to solve that problem, S. 740 implies that we need a National Energy Production Board which will, in some sense, keep that industry honest and do things that they are currently not doing. Under S. 740 we would achieve that by spawning a series of national energy

production series, the purpose of which is to bring down profits to some kind of reasonable level by sharing competition.

I think these two general propositions are at odds with each other. If profits are unduly high in this industry, then the first proposition, that we are not doing all as we can as a nation to increase energy supplies, is false. I think that is a very simple matter of economic and business theory.

If the profits are not too high, then I think the underlying ground for the second proposition, that we somehow need to spawn companies to bring these profits down to some reasonable levels, is false.

To begin with, if you were going to focus on how to improve this bill, you would have to take out that tension. We are either doing all we can, or we need to do more. And we need to understand the reasons why we are not doing all we can do. I am sure if you were to proceed with this general bill, that you would not go into energy production companies to achieve something that is, in fact, unnecessary.

I think there is evidence that the industry is responding in a major way to our energy situation. I would like to cite a few statistics.

In the years 1971 through 1973, there were approximately 1,100 to 1,200 gas and oil drilling rigs being used in the country. During that period, we drilled about 26,000 to 27,000 wells per year. In 1974, following the embargo and increase in oil prices, the working rig count reads 1,664 and over 32,000 wells were drilled.

From our evidence, it is clear all available drills were put to use and the producers of tubular goods and other oilfield equipment were strained to keep up with demand. They instituted programs to expand their manufacturing capacity during this period. In short, it is our assessment that about all that could be done was, in fact, done during that period. That, of course, is the type of response we would not only expect from this industry, but the one that we would want.

The situation in 1975 may not be as encouraging as it was in 1974, there is no doubt about that. I don't think we ought to let that particular change, if it is deteriorating, lead us easily and quickly into the National Energy Production Board. Looking at 1975, there have been over 1,600 rigs operating in the country for most of this year but some rigs have been idled in recent months, particularly the last 2 to 3 months.

The problem in our mind is twofold. It is due, in part, to the loss of the depletion allowance which has effectively reduced the cash flow causing some companies to reduce planned expenditures for drilling operations.

The decrease in drilling activity is also due to the very unstable situation caused by the lack of a national energy policy and the widely divergent attitudes being expressed by Government today as to what that policy should be. On the one hand, the private sector is encouraged that new crude oil will be allowed to seek free market value; but further down Pennsylvania Avenue there is talk of a price rollback. Second, it is common knowledge in the industry that a profits tax is being considered, and a plowback provision may or may not be included.

Finally, in the midst of much talk about the need for additional investment in exploration, the depletion allowance is reduced and in

some instances removed. The continued uncertainty, coupled with the fear of potential measures that could adversely affect profit, makes it very difficult and very risky for the private sector to plan investment. Many prudent investors have decided on a "wait and see" policy until some form of Government policy emerges.

Given a stable national energy policy, the private sector can be expected to respond as it did during 1973 and 1974; maximum utilization of drilling equipment will result and the manufacture of additional equipment will be encouraged. A Government-sponsored "mobilization" effort should then be unnecessary.

Let me turn from the general discussion of whether or not the industry will respond to several other parts of S. 740. I think as Ms. Heller has pointed out, the National Energy Production Board would very much duplicate many of the existing responsibilities and activities of the current agency lineup in the energy game.

Let me run through a few of the responsibilities and mandates of the National Energy Production Board that are outlined in title 2. The Board would be authorized, for example, and directed to establish specific targets for a 10-year period to meet our national goals for domestic energy production, storage, conversion, and transportation.

Let me focus on that one for a minute. That is also the mandate and responsibility of the Federal Energy Administration and of the Energy Resources Council. I think it should be abundantly clear that we have already performed such a task for the Government and for the Congress to date. That has been reflected in the establishment of targets by the administration. Those targets were outlined in the President's State of the Union message. I might talk about those briefly and bring them to your attention again.

First, we propose to reduce our imports to no more than 5.8 million barrels per day by 1977. That is about a 2-million-barrel-per-day decrease over where it would be otherwise.

Second, we propose to reduce our imports to 3 to 5 million barrels per day by 1985. In the event of loss, most of the 3 to 5 million barrels per day of imports could be made up by a storage program and emergency conservation measures. Thus we, have a vulnerability target of virtually zero by 1985.

Third, we propose, as a long-term goal, to have this country return to its 1950 and early 1960 situation of energy predominance in the world markets.

These are specific targets that the President has established and recommended to the Congress. I don't think we need a National Energy Production Board to do anymore than that. The Energy Production Board might come up with a different set of targets. However, the Energy Production Board would be in the same situation the President is in and the FEA is in, by having to get congressional approval of those targets.

If there are any charges that need to be made, I would argue that it would probably be done in work with the Congress and not by any institution like thae National Energy Production Board. The Energy Production Board would also be responsible for submitting programs to achieve those energy targets to the Congress. I would submit that is the same thing that the President has already done.

As you will recall, Mr. Chairman, in reaching our 1977 goal of 5.8 million barrels per day imports, we proposed three specific programs to achieve that end, production of 300,000 barrels a day from NPR # 1 by the end of 1977, a savings of 300,000 barrels a day by the end of 1977 from the coal conversion program and a comprehensive tax and decontrol program. The latter program would reduce consumption of energy products and save another 1.6 million barrels per day by the end of 1977.

We have proposed policy and legislative actions necessary to achieve these targets if they are approved by Congress.

We do not think that the National Energy Production Board could do any better at setting the targets than we have to date. Nor do we think that it would have anymore success in getting those targets approved by the Congress as well as specific programs to achieve those targets, than we have to date.

Keep in mind that the Board can set the targets but most of the programs that would be necessary to achieve those targets would require legislative and congressional action, as is the case today.

That is just one area of potential overlap with existing agencies and existing administration operations. The FEA has also been required and directed to monitor the activities of governmental and private entities in the energy sector, which we did, and we report regularly both to Congress and to the President on trends and what is occurring.

FEA also pays specific attention to the status of all Federal and private activities aimed at increasing domestic production. We do the same in conjunction with the Department of State on the international side of this equation. We also work with other agencies, particularly the Department of Labor, in assessing the availability of manpower and equipment necessary to meet goals and targets. This would be another area of overlap with the Energy Production Board.

The material allocation authority of the National Energy Production Board, while certainly a major and heavy kind of task laid on the National Energy Production Board, has already given the authority to conduct that kind of activity to the FEA, using the Defense Production Act. I will admit the Defense Production Act authority is a much more limited authority than what is implied for the National Energy Production Board, but we would argue that the Defense Production Act, and the limited nature of its authority, is much more appropriate. It is a matter of public policy and what we see involved in S. 740.

Intervention into State, Federal and Federal regulatory or judicial proceedings would be a function of the Board. FEA and GSA are already involved in such interventions in almost the exact same kind of context that the Board would be involed in.

For your information, I could provide for the record a list of the interventions that we have made to date as a Federal agency to give our views.

Senator FANNIN. Mr. Hill, that would be appreciated if you would.

[Subsequent to the hearing the following information was received:]

FEA has intervened in the following proceedings:

(1) State of New York, Public Service Commission; Case 26806—Proceeding on motion of The Commission as to Rate Design for Electric Corporations. FEA filed a petition to intervene in the above generic proceeding and became a party. FEA will submit a brief on August 11 and testify in oral hearings in September. *Contact:* Douglas Bauer, 961–8665

(2) State of California, Public Utility Commission; Application #54279–81—Application of the Pacific Gas and Electric Company for authorization to increase rates and charges for electric and gas services. FEA filed a brief on April 2, 1975, in the above proceeding, in support of the rate structure concept of peak load pricing. *Contact:* Douglas Bauer, 961–8665

Mr. HILL. I would like to point out that we do intervene only in those cases where we think there are issues of major national energy policy involved. We don't intervene to talk about whether the rate of return ought to be 12.3 or 15.8 or 9.6, or whatever. We only intervene in those State and local agencies when there are issues of major national concern.

If you also look at other parts of title 2, you see the responsibility in the Board for doing oil and gas assessment programs. It is clear, in light of the major report we have just provided the Congress that FEA and the Department of the Interior already perform that function. They would also have the authority to enter into exploration programs. Whether or not that is a good idea, I think is basically moot in the context of S. 740 because the Department of the Interior already has that responsibility.

I could go on and on, Mr. Chairman, about the duplication and overlaps in the function of the National Energy Production Board with that of existing agencies but I don't think it is necessary. In closing, however, I would like to point out one major and fundamental difference between that overlap and duplication.

Whereas FEA, Interior, ERDA and other agencies are involved in all of these activities, none of us are involved to the extent that the National Energy Production Board would be involved. It is clear that the National Energy Production Board would, in effect, in many ways have a battle ax. It can move into any situation and take whatever action is necessary to resolve a problem. I think we, in FEA, would be concerned with that kind of broad authority. We believe that the authority the Government already has in this area is sufficient and may adequately reflect a much more democratic process.

FEA would feel very uncomfortable, for example, about steamrolling the Environmental Protection Agency, a local government or a State government if that agency, or that government, did not do what we wanted them to do. We would rather work through the normal processes here and try to work out the agreements on the basis of the facts and reasonableness and not use a steamroller.

We would have major objections to any institution and government having that kind of authority to supersede and override the legitimate functions of other agencies in other levels of government. Thank you.

Senator FANNIN. Thank you very much, Mr. Hill. I recall when we had earlier hearings, in fact when we were considering the establishment of FEA, that we discussed the obligations of the FEA and the Department. I am not sure whether you were at some of these meetings.

As I recall, the charge was practically what has been incorporated in the National Energy Mobilization Act. Do you have that information?

Mr. HILL. I think that is correct, Mr. Chairman. The charge and the mandate read very much like that of the FEA. There is a lot of the same language at many points. That is particularly true if you add the Department of Interior and ERDA to the matrix. As I said, there is one difference. I don't think we have anywhere near the kind of authority, in FEA and Interior to override. We don't have that kind of mandate, but I think we would feel that is inappropriate anyway.

Senator FANNIN. As far as meeting the challenge we have in the shortage of energy, I do feel that the same charge was given FEA that now is incorporated in S. 740. As has been stated in the testimony we received, there would be confusion and a waste of manpower and money if we had another layer of bureaucracy placed over the agencies now responsible for these mandates to Congress.

One issue that seems to be continuously before the Congress is whether we will be benefited by some of the recommendations that have been made in relationship to meeting the challenges of the OPEC countries. Don't you feel that increased production from a free market—a freer market in the presence of the phaseout—would help considerably in convincing OPEC that we are serious about what they intend to do?

Mr. HILL. Absolutely. It is my own personal feeling that a proper economic climate that puts the maximum incentive into the marketplace for increasing exploration and development and production of new sources will get us to your goal of having an effective counterploy to OPEC much faster with much less hassle and distortions than would something like the National Energy Production Board. It would do so, I think, in a way that is consistent with the missions and objectives of other agencies like EPA.

Seator FANNIN. The passing of legislation that would create the National Energy Mobilization Board would, I think, indicate to the OPEC countries that we have not been successful in our endeavors with the FEA and that we are making yet another attempt to meet that objective but I don't think it would be very convincing.

The FEA has been closely supervising what has been taking place as far as drilling and the incentives that are needed to increase it. There were 1,664 rigs in operation, I think, in 1974.

Mr. HILL. Right.

Senator FANNIN. Now you say approximately 1,600, but how many have been idle?

Mr. HILL. We are trying to get a fix on that right now. I think you have probably been hearing and reading in the press some of the same reports we have. We have also been talking to some of the companies on this, that there are rigs lying idle or in the process of being brought into lying idle. We don't have the exact count yet. To date, we have an estimate of between 20 and 70. We are trying to determine what that number is but it is increasing.

Senator FANNIN. From the reports we have had from some States like Texas that has been of great consequence. If that is true throughout other States, this is an alarming development, especially when we were making so much progress.

One thing I think has created the desire to have another bureaucratic layer of Government participation has been the misunderstanding of the time involved in the drilling and production of oil. I think it would be very beneficial if we could have information regarding just what has resulted from the new drilling. Would that information be available?

Mr. HILL. We could make that available.

[Subsequent to the hearing the following information was received:]

SUBJECT: Effect on Drilling Rig Activity Based upon Revocation of Depletion Allowance

ISSUE: Has a significant decrease in well-drilling activity resulted since revoking the depletion allowance since March 29, 1975?

Figure 1 displays the number of operational drill rigs as a function of time covering the period April 1973 through the present. Inspection of the figure indicates an increase in drilling activity from an initial level of 828 operational in April 1973 to approximately 1,625 operational at present. This expansion in operational drilling rigs over the past 2½ years was made possible by utilization of all existing rigs, withdrawal from other countries, i.e., Canada, refurbishing old rigs and pressing into service marginal rigs that would normally have been retired. As is shown in Figure 1, for the past six months, activity has remained at this high level and relatively constant in the area of 1,625 operational rigs. This sustained high rate of operational rigs, assuming a total fleet of approximately 1,750 drill rigs, indicates an operational availability factor of 93 percent. Anything above 85 percent is favorable. However, if one projects a straight-line growth rate of ten rigs per month, one would expect to see about 100 more rigs in operation. This would imply a softening in drilling activities.

Some spot stacking of rigs may be occurring in the Rocky Mountain area and Louisiana, but there are many reasons or possible causes for this. These possible causes include weather, maintenance problems, attrition rate, replacement of old, tired

rigs with new rigs from recent production in order to get greater production from the limited number of experienced drilling crews, and the removal of the depletion allowance. Figure 2 displays total feet drilled as a function of time. Very large month-to-month variations are present, but the 5-month moving average line indicates a gradual increase in total feet drilled.

In summary the data indicates that no conclusive evidence exists that the revocation of the depletion allowance has had a significant adverse effect on drill-rig activity. This is not to say that some of the stacked rigs are not a result of cash flow problems caused by the revocation.

It should be noted that in the past six months there has been a decline of about 10 percent in the drill rigs utilized for gas and an increase of about 25 percent in the drill rigs utilized for oil.

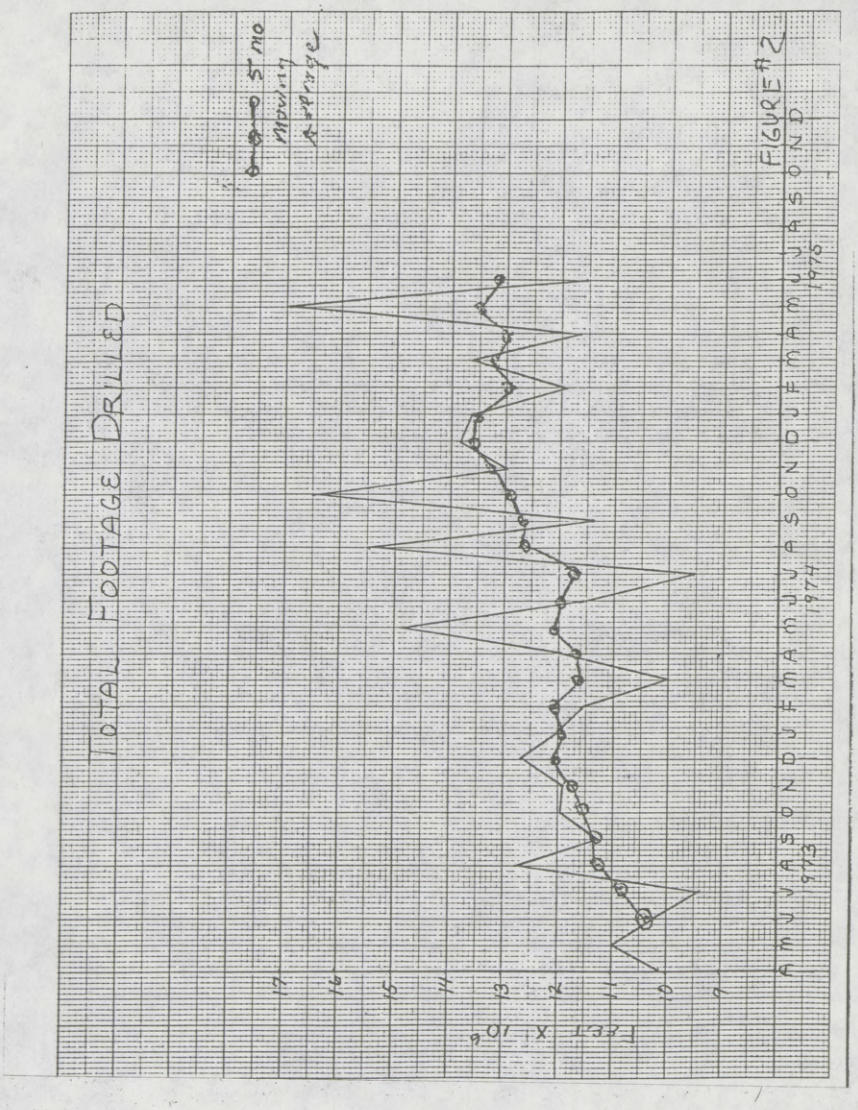
TOTAL FOOTAGE DRILLED
6 mo Moving Average
FEET X 10⁶
17
16
15
14
13
12
11
10
9
8
A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1973
1974
1975
1976

FIGURE #2

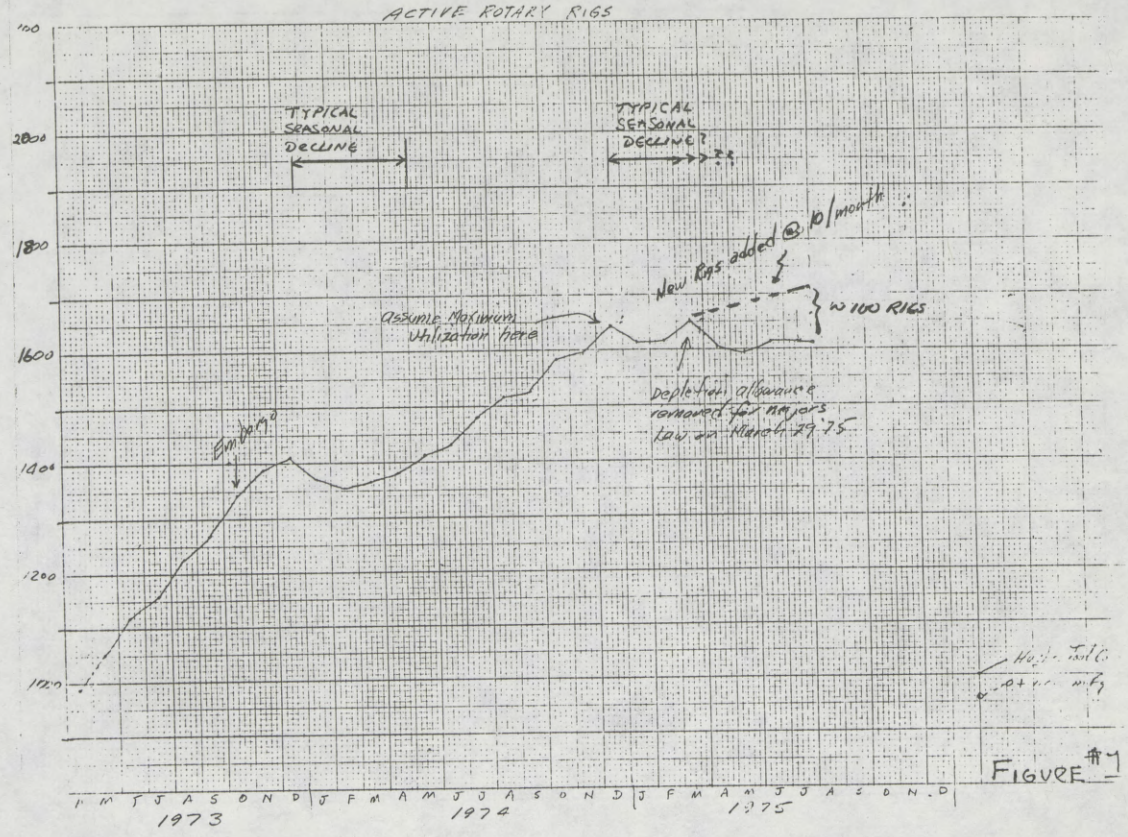
ACTIVE ROTARY RIGS
2000
1800
1600
1400
1200
1000
TYPICAL SEASONAL DECLINE
TYPICAL SEASONAL DECLINE?
New Rigs added @ 10/month
≈ 100 RIGS
Assume Maximum Utilization here
Depletion allowance removed for majors Jan. or March 1975
Embargo
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1973
1974
1975

FIGURE #7

Senator FANNIN. We know the dropoff, the line of production, was dropping considerably from one year to the next. Then it has started levelling out somewhat but we have still not reached the point where it is no longer falling. The drillings that took place in 1974 must have had some effect on what is happening. Some of the old wells are running out. Now we see secondary and tertiary recovery coming in and we have estimates there is probably double the amount of oil that can be recovered at a certain price as has been recovered to date from many of the wells. What do you feel would be the effect of the rollback in the prices of oil that is now being advocated and written into some of the legislation being considered?

Mr. HILL. We have recently completed, Mr. Chairman, a large study of the economics and production and supply and demand aspects of decontrol. In the context of that study, we have compared several different rollback plans to the decontrol scenario.

I might mention in this context that production is still continuing to decline in this country, about 8.5 percent a year, or at least that has been the experience of the last 12 months. We have estimated all along that in the absence of decontrol, production would continue to decline. We have also estimated that if we were to have immediate decontrol, production would continue to decline in that context probably from anywhere from 18 to 24 months before it began to bottom out and come up.

The study we have provided to every member of the Congress last week indicates that, with decontrol, we would have an additional 1.4 million barrels a day production by 1985.

Senator FANNIN. Increased production.

Mr. HILL. Yes, increased production by 1985. That includes not only making up for declining fields now, but adding to the rate where you would actually have 1.4 million barrels production more in 1985 than you have today. In that study, however, we have provided, as I indicated, what would happen to both consumption and supply and to imports if we either did not decontrol or we went to any of the various rollback plans being considered in Congress today, such as the Eckhardt amendment in the House.

Senator FANNIN. To be specific on the legislation that I understand will probably be vetoed today or tomorrow, H.R. 4035——

Mr. HILL. That will be vetoed this morning.

Senator FANNIN. And S. 621 in the Senate. This veto will be sent to the Senate and the House today. We would like to have the figures as to what effect that particular action will have on production, since it does have a rollback provision. Have you calculated any definite figures on that?

Mr. HILL. I think we have calculated that, but I forget the exact number. We do know it would raise consumption by 1977 another 360,000 barrels a day, due to the lower prices. We also had a supply number as well which I will be glad to provide, but I don't remember it offhand.

Senator FANNIN. This will be of importance in sustaining the veto. I would hope that you could have that information available so that it could be utilized on the floor of the Senate. We want to give the facts to the members for their consideration before they act.

One matter that I think is important to all of us is what we are going to be able to do about the OPEC threat of increased prices in September or October. It may be from $1 to $3, and even $4 has been mentioned. That would be drastic—it would be devastating to some nations and certainly a drastic situation for us.

If we fail to act on legislation, don't you think it would be a reason for their going forward with these increases and feeling since we are not going to do anything anyway they might as well hit the maximum?

Mr. HILL. I think that is the case. I think OPEC's belief that they can continue to get away with further price increases is probably most closely related to the fact that the U.S. Government to date has not been able to sort out an energy policy which would shield this country from that cartel over time. That is very clear in discussions that we have around the world.

Basically, the thinking is, "Let's sock them with another increase because there's nothing they can do about it. They can't get together over there and as long as that is the case, we can continue to milk that cow dry."

Senator FANNIN. I know that your Department has been carefully analyzing what is taking place not only in this Nation but also developments in the North Sea, the African countries, and many other areas where there is a good prospect for increased production of some magnitude. How many years do you feel that OPEC can prevail with these extremely high prices?

Mr. HILL. It is hard to give an exact number but I would imagine that with an appropriate U.S. policy here at home, one which yields maximum supply consistent with our other national concerns like the environment, and with new finds occurring elsewhere in the world, somewhere around 1980 or 1982, the cartel will have very serious difficulty in keeping itself glued together.

That assumes, of course, that these other finds do in fact come in to the degree that people estimate they will and that those supplies are available in the world market. But in the absence of undue intervention by government and the use of that supply between now and 1980 or 1982, I think the cartel will have real difficulties.

Senator FANNIN. In this Nation and around the world, we have had some very serious monetary problems and fiscal problems. Perhaps our most serious time period is the next 3 to 5 years. So you feel that perhaps the OPEC countries will not be seriously affected in that time period?

Mr. HILL. I doubt that OPEC and the cartel will be seriously affected to the degree that it is no longer held together but it doesn't mean that we shouldn't take actions to reduce our dependency on that cartel. We should reduce the impact of the cartel. Otherwise, the situation can continually weaken the country during that period.

Senator FANNIN. There has been, perhaps, a false assumption that if we get by the next 2 or 3 years that we will have the North Sea production coming in, we will have increased production from other areas of the world that might alleviate this situation. We even talk about China but that is quite some time in the future.

Mr. HILL. Yes; it is, quite some time.

[Subsequent to the hearing the following information was submitted:]

FEDERAL ENERGY ADMINISTRATION,
Washington, D.C., August 26, 1975.

Hon. DEWEY F. BARTLETT,
U.S. Senate, Washington, D.C.

DEAR SENATOR BARTLETT: During the question and answer session following my testimnoy on July 21, 1975, concerning S. 740, you requested a price history of wholesale and retail petroleum products since the enactment of the Emergency Petroleum Allocation Act of 1973. Enclosed as Table I is a list of wholesale and retail prices for the two largest petroleum commodities, namely, motor gasoline and No. 2 fuel oil (home heating oil). The prices are reported on a monthly basis commencing November 1973, the month that the Emergency Petroleum Allocation Act was signed into law.

If you have additional questions or need further information, we will be happy to respond.

Sincerely,

JOHN A. HILL, *Deputy Administrator.*

Enclosure.

TABLE I.—WHOLESALE AND RETAIL PRICES FOR MOTOR GASOLINE AND NO. 2 FUEL OIL

[In cents per gallon]

	Motor gasoline (reguiar)		No. 2 fuel oil (residential)	
	Wholesale	Retail	Wholesale	Retail
November 1973	21.6	41.3	18.2	26.0
December 1973	23.1	43.3	19.9	27.4
January 1974	25.2	46.3	23.4	31.1
February	27.5	48.8	25.4	32.8
March	29.2	52.3	25.9	33.8
April	30.5	53.4	25.9	34.0
May	31.9	54.7	26.8	35.1
June	32.6	55.1	27.5	35.3
July	32.8	55.2	28.1	35.2
August	32.9	54.9	28.1	35.8
September	32.6	54.2	28.7	36.3
October	31.2	52.4	28.9	35.6
November	31.0	52.0	29.1	37.9
December 1974	31.1	52.0	29.1	36.3
January 1975	31.2	52.4	28.8	36.2
February	31.3	52.5		
March	31.8	52.8		
April	32.7	53.5		
May	33.8	54.3		
June 1975	35.1	55.6		

Sources: FEA from November 1973 through December 1974, Lundberg Survey Inc., from January 1975 forward.

Senator FANNIN. Counsel, David Stang, has some questions he would like to ask.

Mr. STANG. Thank you, Mr. Chairman. Mr. Hill, the bill's chief sponsor, the chairman of this committee, last week gave three reasons why he thought this legislation was necessary. His first reason was that the domestic petroleum industry of the United States was just not producing enough energy in this country to meet domestic demand. Therefore, the National Energy Production Board was necessary to create.

Although I think there is general agreement that the domestic industry is not producing enough energy to meet domestic demand——

Mr. HILL. That is hard to dispute.

Mr. STANG [continuing]. It would seem questionable as to the necessity of a National Energy Production Board when one would look at

the reasons why the domestic industry is not producing enough energy to meet domestic demand. Do you believe that the legislative policies of the Congress in refusing to provide wellhead price control relief in the production of natural gas and its insistence upon maintaining the Emergency Petroleum Allocation Act with its regulatory controls, including price controls, on the industry and its recent legislative efforts consisting among others of H.R. 4035 is not the real reason why the domestic industry is not producing sufficient energy to meet domestic demand?

Mr. HILL. I think you have to answer that question by examining or evaluating the various time frames. I do not believe it is the case, Mr. Stang, that the industry is not producing more oil today and tomorrow because of that control program. It is absolutely the case that they will not be producing more in the future than they otherwise could if we continue that program.

So I would not want to mislead anyone that removal of those controls today means a hell of a lot more oil tomorrow. That is not possible given the long leadtimes and lag times. But I can assure you, as have many other people who have testified before this committee, that if we do not get out of that control program our current situation of not having enough to meet domestic supply will continue, ad infinitum.

If we don't decontrol today, we will be in the same position today or worse in 1979. If we do decontrol today and start that process, we are clearly going to be better off in 1979 and 1980 in terms of how much energy the domestic industry can produce.

Mr. STANG. Is it not true that the legislative program to which I made earlier reference is having an impact today by the fact that those who are trying to determine how much investment they will be able to make are torn by this atmosphere of uncertainty and are frequently at a loss in being able to make informed commitments with respect to investments related to increasing energy exploration and production?

Mr. HILL. If that is the case, I would put it, in terms of its importance, at a higher level than the control program we currently have. The number one problem we have is not one that will be resolved by a National Energy Production Board. It is one that could only be resolved by the satisfactory conclusion of a national comprehensive energy policy, one that is stable, so that industry and government know what the ground rules are going to be.

Until we have reached that agreement with the Congress and the administration, we are not going to have the kind of climate in my mind that will insure the optimum level of investment by the industry. They are going to continue, if they are prudent, and they are not foolish, to tread very cautiously in this area before they commit large amounts of capital to any energy producing exercise.

In the absence of that stable energy policy, I see very little that can occur and the National Energy Production Board is certainly not going to solve that problem on the absense of that policy. With a policy, I think the problem will be resolved by itself.

Senator FANNIN. Senator Bartlett.

Senator BARTLETT. Mr. Chairman, gentlemen. Could you tell me what the incremental markup in price has been in the wholesale and retail end of the industry since the Federal Energy Act passed and how that increase would relate to other price increases in oil or oil

products? What I am getting at is the fact that apparently the marketing end of the oil industry has enjoyed a rather healthy increase in price. I am receiving complaints from people who are aware of the fact that the service is not as good as it used to be and apparently profits are greater. It appears that, in the efforts to maintain marginal operators, wholesale and retail, that business is leading to fat profits. Can you enlighten me on this?

Mr. HILL. I would be glad to provide the price history at the retail level and the wholesale level since the establishment of the Allocation Act and the Federal Energy Administration. I don't have the exact numbers on the tip of my tongue. It is true, Senator, that those prices have increased quite significantly since the Congress passed the Allocation Act. Gasoline prices are up roughly 20 cents a gallon over and above the time when the Allocation Act was finally written into law.

I am not sure that you can go from that fact and agree or conclude that profits, at least in the refining end of this business, have risen commensurately. This is largely because we have not allowed the refining end of this industry and the marketing end of this industry to increase their nonproduct cost appreciably over what they were prior to this act.

We have allowed them to pass through on a dollar-for-dollar basis the increase in their product cost. But refiners are entities in and of themselves and have not been able to raise their profit margins in that context.

Senator BARTLETT. Does the entitlement program include a subsidy paid by every purchaser of gasoline in the country to subsidize the high cost of imports of distillate and fuel oil on the east coast?

Mr. HILL. Yes; the entitlement program subsidizes several people. It subsidizes foreign sellers and foreign producers of oil to this country. It subsidizes some refiners at the expense of other refiners and it subsidizes various parts of the country at the expense of other parts of the country. It is a clear subsidy program that works to the benefit of foreign governments, foreign countries, the east coast, and to certain refiners.

Senator BARTLETT. In the subsidy to the importers, those who import more oil are subsidized, is that correct?

Mr. HILL. That is correct.

Senator BARTLETT. Would Amerada Hess be making a lot of money out of its imports because of the subsidy program?

Mr. HILL. I think the situation with Amerada Hess is fairly clear. You can review each month since we started the entitlements program as we have published the amount of entitlements sold or purchased by each company each month. Amerada Hess is one of the largest sellers of entitlements, hence receiving by definition, one of the larger subsidies under this entitlements program than other companies. This is because either they import substantial amounts of product derived from foreign crude or they import substantial amounts of foreign crude.

Senator BARTLETT. Would it be correct that a significant part of the subsidies that exist would not exist in a free market or an uncontrolled market? What I am saying is, if the controls went off, for a moment forgetting about the fact that the price of crude oil would undoubtedly

rise, would the other prices, because of the subsidies no longer being utilized, would they go down?

Mr. HILL. Would the prices that are now being subsidized go down?

Senator BARTLETT. Would the loss of the subsidy affect a lowering of the price, just as the subsidy itself is concerned?

Mr. HILL. In the near term, I think the loss of the subsidy would work to increase the price of the products of those marketers who are receiving the subsidy.

Senator BARTLETT. The loss of the subsidy would increase the price?

Mr. HILL. It would increase the price to those currently benefiting from the subsidy. The loss of the subsidy would lower the price of those currently paying the subsidy.

Senator BARTLETT. But overall, would there not be a decrease in price to the consumer? Doesn't the subsidy result from the vagaries of price control and result in an overall increase in total prices?

Mr. HILL. I think that is probably the case in the current petroleum market and the current situation. We had a situation prior to the beginning of the entitlements program where there were a number of sellers in the market who derived their product from $5.25 oil, old oil. They were able to sell their products in the marketplace at a substantially lower price than those marketers who were deriving their product from high cost, either new oil or foreign oil.

So, in many areas of the country, they were setting the market price of the product much lower than it otherwise would have been. The people who were having to import or rely on the high cost crude for their products were hence not able to passthrough the full cost of those products, the higher priced crude, in the marketplace. They started building, under our regulations, banks that they were allowed under the law to passthrough to the market but could not.

As soon as we started the entitlements program, we started raising the product cost of the company that historically relied on low cost, domestically controlled crude. As they started to inch up in terms of their market prices, the high cost product, people were able to passthrough more of these costs.

It is clear in my mind that some of the gasoline price increases we have seen in the last 60 days were related to the fact that some people historically had low cost product, and we were raising their prices, and that enabled the other people to passthrough more of their bank costs to the marketplace. That is clearly the case in our current petroleum market.

Senator BARTLETT. I went to them over the weekend and visited with a fellow who assured me that if oil price controls went up, the incremental amounts currently taken by the people in the marketing end of the petroleum industry are greater than would be possible under a competitive situation, completely competitive.

I realize that a number of the marketers could pass on more legally if the current market was stronger and not as soft as it is. He was saying, even with the current demand in his opinion, as far as the incremental increases of those in marketing are concerned, if the Petroleum Allocation Act was not extended, there would be a decrease in the markup of price. Hence, as far as the subsidies you are talking

about and the guaranteed markups, there would be a reduction. He said a rather significant one.

Mr. HILL. That could well be the case. In many situations, I do believe that the extent to which we have price controls, we are pricing energy lower than it would be in an uncontrolled situation. This means that there is higher consumption now than there would be in an uncontrolled or decontrolled situation. If prices went up and reduced demand, which it would in our mind, there would be a squeeze on dealer markets which would all be competing for a reduced market in terms of their sales.

I think in the sense of lowering demand relative to supply it would put a squeeze in many situations on the profit margins.

Senator BARTLETT. Weren't the incremental margins created at a time of lesser total demand?

Mr. HILL. That's correct, slightly less.

Senator BARTLETT. To get more to the point of this hearing, do you feel that the Federal Government can play a significant role in the delivery of energy anymore than it can in the delivery of the mail?

Mr. HILL. I think the most significant role, perhaps the only truly significant role that the Federal Government can play in a positive sense, and I can envision the Government playing a negative role in lots of things in the energy business, is to stabilize the national energy policy and finally decide what the policies of this Government are going to be regarding the petroleum industry, regarding prices, regarding profits, regarding the consumer. If the Government will sort out those policies, I think it will make a compelling contribution to our energy situation because it will then set the stage for the people who have historically done this kind of work, and done it very well, to solve our problems.

In the absence of stable energy policy, I don't see that anything is really going to resolve this fundamental problem we are facing. Certainly not the National Energy Production Board.

Senator BARTLETT. In other words, you don't see that Senate bill 740 would stabilize the efforts toward increasing energy sufficiency and reducing the domestic energy shortage?

Mr. HILL. No; I don't.

Senator BARTLETT. To consider the extension of the Petroleum Allocation Act versus letting it expire August 31, which one would tend to stabilize the energy situation more?

Mr. HILL. I think both actions would probably stabilize the policy. If the administration were to agree today to continue the Petroleum Allocation Act forever, then the signals would go out and we would have a stable policy. It might not be the best policy but at least it would be stable because it would be agreed to and understood. I think it would certainly be an appropriate kind of policy in the sense that it would entail higher consumption, less domestic production and much higher imports than with the elimination of that bill on August 31. Both would be stable but one would be better from an energy consumption and production point of view than the other.

Senator BARTLETT. If the act expired, then you are saying this would reduce the demand and tend to increase the supply, and would tend to less reliance on foreign imports?

Mr. HILL. That is correct.

Senator BARTLETT. It would tend to give the OPEC countries less leverage in setting a cartel price; would that be correct?

Mr. HILL. Yes.

Senator BARTLETT. Mr. Chairman, thank you very much. Mr. Hill, thank you.

Senator FANNIN. Thank you, Senator Bartlett. Counsel has several questions.

Mr. STANG. Mr. Hill, we were talking about the case the chairman made in the justification for the need for this legislation. We discussed his first argument that since the private sector is not producing sufficient energy to meet domestic demand, a national energy mobilization board should do it and we discussed that the real reason why domestic supply was not up to demand was a proliferation of inhibitions to investment in the private sector.

The second reason the chairman stated was that since most of the yet untapped energy resources in this country underlie public lands, and since the Government is the trustee for the people of this public land, the Government should automatically ipso facto develop these resources in its capacity as trustee for the people. Some might argue that that argument is a non sequitur inasmuch as at the turn of the century, there were many ranchers, farmers, and cattlemen in the great southwest raising longhorns. Suddenly oil was discovered and that oil underlaid the ground upon which the longhorns trod. It seems to me that at that time, the ranchers, rather than trying to drill their own holes, leased out their lands for the purposes of exploration and development of petroleum. It seems to me, and I don't want to influence your answer, that there is no more reason for the Government to develop the energy resources simply because they underlie public lands than there was for the ranchers themselves to develop the energy resources themselves. Do you agree with that line of reasoning?

Mr. HILL. I think that is basically correct, Mr. Stang. I do agree with the first part of the chairman's statement. A good part of the hydrocarbon resources left in this Nation, do underlie Federal land. They are the property of the citizens of this counrty. I also agree with the assessment that these resources ought to be developed in the context of the public interest; that the citizens have ownership of these resources and that ownership ought to be protected and the development of these resources should be in the best interest of this Nation. I think that is something we all agree to. I would find it difficult if someone did not agree to that. But this does not mean, ergo, the Government itself needs to actually go in and do the exploration, do the development and do the production, the marking and the refining.

I think a compelling case could be made that the public interest would be better served by having the Government do something about 180 degrees away from that kind of approach.

What we need here is a national resource policy that insures that those resources are actually developed and utilized. It is certainly in the public interest that they are developed and utilized in a way that is compatible with our other national concerns, like the environment, and that they are developed and brought into the marketplace at the least possible cost.

I would argue that the Federal Government does not need to do the actual work to achieve that end. I think we have been achieving that end rather well without the Federal Government doing that. Where we have had difficulties may be more related to the fact that the Government might be in there doing something it ought not be doing anyway.

Mr. STANG. The third reason and justification for the need for this legislation presented by the chairman was that there are a plethora of Government agencies, all dealing with energy with fragmented authority. He must have been making reference to the Federal Energy Administration, the Nuclear Regulation Commission, the Energy Research and Development Administration, all of which were created by legislation offered by the chairman within the past year or two. Does this line of reasoning make any sense to you, Mr. Hill?

If the argument is that there is too much fragmentation among already existing agencies responsible for developing energy policy, does it make sense to create another one? In other words, some have said, particularly some in the private sector, that the Congress has created too many monsters already intervening in the marketplace and trying to regulate the production of energy.

Therefore, would the creation of a supermonster really solve the problem?

Mr. HILL. There certainly are some monsters laying around this town, no doubt about that. I personally have difficulty believing that what is needed right now to solve the Nation's energy problem is some sort of organizational fix here in Washington that we have not had today. I do personally believe that we already have too many agencies involved in the energy game and I believe that that ought to be sorted out. I don't think the way to sort it out is to create another energy agency, a superagency with quite dramatic powers. I think it would be much more appropriate to sort out and redefine what we already have.

But I don't think a redefinition and reorganization of what we already have will solve the problems we are facing as a Nation. What is going to solve the problems is establishment of a national energy policy. Sorting out the organizational dilemmas we have today in Government would help implement that policy but first you have to get the national energy policies established and under way.

Mr. STANG. One final question, Mr. Hill, consistent with your recently delivered statement. It is argued by some who propose that the Government should develop our energy resources, that if the Government does it, the Government does not have to make a profit and therefore, the Government can deliver the energy more cheaply than can the private sector. It is sometimes almost implied that if the Government does it, then the people will get something for nothing. Does that make any sense to you?

Mr. HILL. I think, as a matter of theory, you can argue that line. You assume that the Government has the same ability and authority to do something, to carry on some type of business enterprise. It has the same kind of freedom, the same kind of flexibility in terms of hiring, firing, motivation, profit incentives. Making all those assumptions, that you would end up in a situation probably where the people came out as a nation slightly better off because you would have that

small piece of the cost called profits missing. But if you move from the theory to the real world, I have never seen a situation which anyone could effectively argue that to be the case.

I made a number of studies and some earlier reincarnations of the difference between private and Government enterprises, doing a strict examination of how much it cost the public in terms of having the public operation versus having a private operation do it. Even when you took out the profit from the public sector operation, the unit cost of the output was much higher. Granted this was not in the oil business where these studies were performed but I would imagine it to be much the same.

You had a very different kind of personnel situation in Government, you had political aspects involved where Government was trying to do more than just deliver a unit of output at the lowest possible cost. It was trying to do other things, many times performing some type of welfare function, and that sort. I have never seen a situation in which the Federal Government or any government could, in fact, do it cheaper than the private sector, even including fairly healthy rates of return on the private sector.

The incentives just do not exist in the Government to the degree that they do on the private sector to reduce the costs and to maximize profits. In the absence of those incentives, you will never get that kind of outcome.

We have made a limited study at FEA trying to compare private companies around the world with Government operations around the world. We have tried to narrow the range of the study down to like cases. We have tried to look at this on the basis of common assumptions. I might give you some of the results of this limited effort to date.

If you look at net income as a percent of either sales or stockholders' equity, our studies show that private companies normally return about 8.4 percent net income, net income as compared to sales, whereas Government companies achieve 3.1 percent. Net income as a percent of stockholders' equity, private companies return 12.3, Government companies return 3.5.

If you look at a couple of other indicators as measurements of this, if you look at million dollars per employee in terms of yearly sales, private companies turn out $135 million per employee per year, Government companies turn out $43 million in sales per year. If you look at the real bottom line in this equation, barrels per day production, private companies turn out 44.2 barrels per day per employee, Government companies 6.6 per employee. That is about a sevenfold difference in the activity of the manpower in this regard. It is about a 3-to-1 ratio in the refining sector.

I think it is clearly the case. Once you move from a theory on this thing to the real world and you look at the incentives and the constraints that both private and government operations operate within, the argument that it would be cheaper with government is false.

Mr. STANG. Thank you, Mr. Hill. Mr. Chairman, I have no further questions.

Senator FANNIN. Thank you, Mr. Stang. Mr. Hill, we appreciate very much your being here this morning. You made yourself very clear

on this legislation and I am in agreement with you. If we just take the title of the bill, "To assure early development of domestic energy resources in order to overcome the dependence of the United States on foreign nations for energy supplies which are essential to national security, commerce, and a full employment economy, and for other purposes," I think we read the charge that we have already given to your agency.

If we look over the table of contents, I don't see any programs or suggestions that are going to be effective and beneficial that are not now being carried out by FEA. I would assume that if some of these programs are needed, you would be asking for legislation; is that correct?

Mr. HILL. That is correct.

Senator FANNIN. Thank you very much, Mr. Hill, for being with us this morning. Your testimony has been very valuable and we appreciate your very frank answers to the questions.

Mr. HILL. Thank you, Mr. Chairman.

[The prepared statement of Mr. Hill follows:]

STATEMENT

of

JOHN A. HILL
DEPUTY ADMINISTRATOR
FEDERAL ENERGY ADMINISTRATION

Before the

Senate Committee on Interior and Insular Affairs

July 21, 1975

Mr. Chairman, Members of the Committee, I appreciate the opportunity to present the views of the Federal Energy Administration (FEA) on S. 740, the "National Energy Mobilization Act of 1975." The proposed bill is very extensive and contains many provisions concerning Government involvement in energy development. Accordingly, we would like first to comment on the bill in general and then to examine some of its specific requirements.

The overriding theme of the proposed bill seems to be that the present private and Government efforts are not satisfactory for managing and promoting this country's resource development and that a Government sponsored "mobilization" effort is needed to ensure that certain energy objectives are accomplished.

The implication that the private sector may not be responding to the necessary task of energy resource development--is ill-founded. We believe that, given a stable National energy policy with clearly defined economic motivation, the private sector will meet the challenge for developing our domestic energy resources.

The willingness and ability of private enterprise to respond to our energy challenge, given a favorable economic climate, is evident from its activities over the past few years. In the years 1971 through 1973, approximately 1,100 to 1,200 oil and gas drilling rigs were utilized in this country on the average, and 26,000 to 27,000 wells were drilled per year. In 1974, due primarily to the increased price for new crude oil, the working rig count reached 1,664 and over 32,000 wells were drilled. All available rigs were put to use, and producers of tubular goods and other oil field equipment were strained to keep up with demand.

Oil field equipment and facility manufacturers increased production to full capacity and instituted programs to increase manufacturing capacity during this period. In short, about all that could be done was done. This is, of course, the type of response we are looking for from the private sector.

The situation in 1975 is not so encouraging as that in 1974. There have been over 1,600 rigs operating in the country for most of this year, but some rigs have been idled in recent months. The problem is twofold. It is due, in part, to the loss of the oil depletion allowance which effectively has reduced cash flow causing some companies to reduce planned expenditures for drilling operations.

The decrease in drilling activity is also due to the very unstable situation caused by the lack of a National energy policy and the widely divergent attitudes toward the industry expressed by Government officials. On one hand, the private sector is encouraged that new crude oil will be allowed to seek free market value; but further down Pennsylvania Avenue there is talk of a price rollback. Secondly, it is common knowledge in the industry that a profits tax is being considered, a plowback provision may or may not be included. Finally, in the midst of much talk about the need for additional investment in exploration, the depletion allowance is reduced and in some instances removed. The continued uncertainty, coupled with the fear of potential measures that could adversely affect profit, makes it very difficult and very risky for the private sector to plan investment. Many prudent investors have decided on a "wait and see" policy until some form of Government policy emerges.

Given a stable National energy policy, the private sector can be expected to respond as it did during 1973 and 1974; maximum utilization of drilling equipment will result and the manufacture of additional equipment will be encouraged. A Government-sponsored "mobilization" effort should then be unnecessary.

Our second very basic objection to the proposed National Energy Mobilization Act is that it would create yet another Federal Government entity, namely, a "National Energy Mobilization Board," to manage and monitor energy development in the country. The bill authorizes and directs the Board to initiate Government participation in oil and gas exploration and overall energy development. The Board is also directed to submit several comprehensive reports, some on a frequent and continuing basis.

The creation of a board to monitor and manage energy affairs represents a further fragmentation of energy policy and authority in the Federal Government. A principal purpose of the Federal Energy Administration Act of 1974 was to concentrate energy responsibility in the Federal Government into one agency. The addition of a new Government agency with energy-related functions at this point can only frustrate this effort.

Having highlighted our fundamental objections to the subject bill, I will now discuss briefly some of its more specific provisions.

Reporting Requirements

In Section 201 of the bill, the Board is directed to establish targets to increase energy self-sufficiency, monitor and assess energy development, and submit various reports. FEA has performed and is continuing to accomplish most of the requirements set forth in this section. Project Independence Blueprint was a major part of this effort.

The FEA and several other agencies collect and report, at the present time, a massive amount of information pertaining to energy development and production. Attached as Appendix I is a list of 58 reports formally issued by FEA thru January of this year. A revised list indicating all of the FEA publications is due to be released this week. We will forward a copy of that list to you when it becomes available. Many of these reports are continuing or periodic reports that are issued on a monthly or quarterly basis. This past month the FEA forwarded to the Congress two major reports, namely the "Initial Report on Oil and Gas Resources, Reserves, and Productive Capacities;" and our first "Annual Report 1974-75" submitted in compliance with Section 15(c) of the Federal Energy Administration Act of 1974.

In summary, we are anxious to work with the Congress in identifying additional data acquisition and reporting which would be constructive. But, simply stated, we see no reason to attempt to duplicate existing efforts and accomplishments.

Government Enterprise

Another major thrust of the proposed bill is an attempt to solve our energy problems by injecting the Government into energy development and production. There may be some application for Government involvement in nonconventional sources of energy, but for development of the traditional sources of energy (oil, coal, and gas) we think it would be a tragedy to encourage Government intervention.

The advisability of Government involvement has been widely debated and is indeed controversial. We have studied at great length the relative merits of increased Government involvement in the oil business. The most effective way of evaluating the performance potential of a Government-operated oil company, in a quantitative fashion, is to compare the historical performance of foreign Government-owned oil companies with that of private oil companies.

To make a meaningful comparison between Government-owned oil companies and private companies, it is necessary to establish the following bases:

1. Time Period - Use a period of average performance extending over at least 3 years (1971-72-73) to minimize any unusual situations.
2. Scope of Activity - Compare only those companies which are engaged in the same phases of the industry including exploration, production, refining, transportation and marketing.
3. Experience - Compare only those companies which have been in business over a period of several years.

Most of the Government companies involved in the comparison are in direct competition with the private companies and are selling at the same prices in a common market. There are one or two exceptions, such as Mexico's Pemex which operates as a monopoly.

A table displaying key performance factors for several private and Government companies is located in Appendix II. An analysis, which is summarized below, reveals the difference between six private international companies and six Government oil companies.

	Net income as a % of	
	Sales	Stockholders equity
Private Companies	8.4	12.3
Government Companies	3.1	3.5

Two other indicators which reflect efficiency in financial areas are as follows:

	M$ per employee of	
	Yearly Sales	Total Assets
Private Companies	135	168
Government Companies	43	73

In terms of operational efficiency, comparisons can be drawn in the producing and refining phases of operation:

	Bbls per day per employee	
	Production	Refining
Private Companies	44.2	36.4
Government Companies	6.6	14.1

These comparisons indicate that in every foreign country where a Government oil company has been created and where sufficient data is available, without exception the performance of these entities has been markedly inferior to that of competing private companies. That such operations are grossly inefficient is evident in the number of employees per barrel of throughput and the return realized on investment. In some instances, without Government subsidies and/or greatly reduced tax rates, the Government-owned companies would have to close down operation due to lack of cash flow.

It was our intention to compare several national oil companies with several private companies, but all that is apparent is a contrast, and a pathetic one at that.

Our primary concern here is that all available equipment and facilities will be utilized by the private sector if this country adopts a comprehensive energy policy which will create an economic atmosphere conducive to energy development. Government involvement in energy development and production will not supplement the private sector, it would instead replace a part of the private sector. If the Government operation were less efficient than the private sector as indicated above for other national companies, then Government involvement would actually impede energy development.

Government Sponsored Exploration

Sec. 204 of the proposed bill mandates that a resource assessment program be conducted which, among other things, shall "provide the public with information respecting the probable size of the public resources, the cost of developing specific resources for commercial use, and the value of such resources." This Section would have the Federal Government explore Federal lands before they are leased by the Department of the Interior.

This requirement is apparently based upon two presumptions: that it would enable the Government to obtain a higher value for leased lands, and that it would provide the Government with information so that the Government could expedite the necessary energy development effort.

In regard to the first assumption, the Department of the Interior has performed several analyses addressing the subject of increasing revenues from Federal lands. They are presently conducting a cost analysis on lands already leased to determine if exploration, prior to leasing, would have been more advisable. We have also been informed that some private independent firms are conducting similar analyses. We will review these studies, as well as our own analyses, and make our recommendation to the Energy Resources Council. If exploratory drilling prior to leasing is found to be advisable it can be accomplished utilizing present legislative provisions.

With respect to the second concern, we have deep reservations about the Government being able to increase energy development for the reasons noted above in the discussion on Government enterprise.

Exploring for oil is a complex and risky business and any endeavor the Government may contemplate in this area must be carefully analyzed. As you gentlemen know, to explore a structure you do not merely drill one hole and determine whether there is oil present or not.

A group of associated producing reservoirs known as a field may be located in a particular geologic structure. However, a large percentage of the total structure is usually void of any significant quantity of oil. As noted in the examples below, many wells may have to be drilled on any given structure before oil is finally discovered. . . if ever.

It is an often demonstrated fact of life in the oil business that the biggest, most technically sophisticated, most successful major oil companies drill many dry holes. The Bay Marchand field in the Gulf of Mexico, the largest field found in the Gulf to date, was found after 12 dry holes were drilled in succession. The prolific Williston Basin in the Northern U. S. was the site of more than 200 dry holes before the Beaver Lodge find was made.

The Destin Anticline off the Florida Coast was the largest untested structure in or near the lower 48 States. In July 1974 when the first hole was spudded, and since then, that hole and 7 others have been completed as dry holes. The private sector has invested over $900 million in the exploration activities on the Destin Anticline to date.

In 1974, there was a total of 6,710 wildcat wells drilled. There were 5,725 dry holes, 532 that became gas producers, and 453 that yielded oil. These figures indicate that about 1 out of 7 new field exploratory wells is commercially successful. However, only about 1 in 40 exploratory wells actually results in the discovery of a significant field.

It is barely conceivable that a "friendly" Congress could tolerate a Federal Corporation drilling a string of 7 successive dry holes, much less than 200.

Development of Naval Petroleum Reserve Number 4

In Sections 206 and 207 of the proposed bill it is mandated that the Board "prepare and carry out an oil and gas exploration program for Naval Petroleum Reserve Number 4, in Alaska," and prepare a study for an oil and gas pipeline system that will be in sufficient detail to support a decision by the Secretary of the Interior designating and granting a pipeline right of way. The first draft of the distribution system report must be completed within one year of enactment of the bill. The exploration program is to be designed to obtain the resource information necessary for determining the quantities of oil and gas present, the geographical extent of any field and estimates of its its recoverable reserves.

As discussed previously, the drilling program for a new area can be very erratic. The discovery of a field requires many additional wells to be drilled in order to establish the quantity of contained oil and the extent of the field. Thus, a prolific structure may result in a doubling or tripling of the number of wells originally planned. Furthermore, it takes a number of years to fully explore an area as large as NPR-4. In order to do a pipeline study, one would have to know the approximate quantity of oil and gas to be delivered, the location of those quantities and the nature of the oil and gas. The requirement that a definitive pipeline study be completed within a year after exploration planning commences is naive. Furthermore, to forego development of NPR-4 until the exploration program and pipeline feasibility studies are completed, as suggested in Sec. 304, may substantially delay the ultimate delivery of the contained oil and gas to consumers.

The Administration has already proposed a plan for development of NPR-4. In his State of the Union Message, the President urged quick action on the legislation necessary to allow use of the NPR's to increase domestic oil supplies. Title I of the Energy Independence Act of 1975 would authorize the President to explore, develop and produce NPR-4 through competitive leasing, competitively negotiated contracts or other business arrangements that provide for rapid development of NPR-4, while providing adequate compensation to the United States for the hydrocarbons it contains.

Financial Incentives

Title V of the proposed bill provides for an energy capital investment program for essential energy facilities. Sections 501 and 502 of that Title, like other sections of the bill, call for the acquisition of data and submission of reports that have already been prepared by FEA and other agencies over the past 2 years.

Profit incentive and investment capital are the most important aspects of resource development. In fact, we have a vast data base on the subject and we have made solid proposals, based upon that data, to resolve various financial problems. What we need now is action on these proposals by the Congress, not more studies.

Federal involvement may be required in certain synthetic fuels projects and solar energy projects which require massive capital investments. The Administration has conducted an interagency task force effort on this subject and is expected to submit a report and proposal on the matter this month.

Conclusion

I think our position should be clear at this point. It is our firm conviction that energy resource development can best be accomplished by the private sector. The Government's role should be supportive of private industry by providing an economic climate conducive to investment in energy development. We appreciate that the mobilization

program outlined in the proposed bill is intended to "supplement and be an addition to the activities of the private sector." Simply stated, we feel that the proposed legislation not only fails to supplement energy development efforts of the private sector; but that it would, in fact, hinder that development. The bill would essentially "reinvent the wheel" and then place it in mud so that it is difficult to maneuver.

What is needed, in our opinion, is a stable comprehensive National energy policy. The President has proposed such a program and we endorse it. After a comprehensive energy policy has been implemented, the FEA will closely monitor energy development and recommend more assertive Government action where needed. This would appear to us to be the most logical and effective way to promote and manage our domestic energy development.

Mr. Chairman, I will be pleased to try and answer any questions you may have at this time.

APPENDIX I

1/27/75

FEA MAJOR PUBLICATIONS

Topical Publications and Reports	Frequency
Trends in Refinery Capacity and Utilization 12/72 with update 06/74	Revisions by policy decision
Petroleum Supply & Demand in the Non-Communist World - 5/74 for 1972	Ongoing
Petroleum Market Shares: A Progress Report on the Retailing of Gasoline	Ongoing study
Petroleum Market Shares: A Report on the Federal Energy Administration Survey of Refiners and Importers of Gasoline	Ongoing study
A Catalogue of State Energy Organizations, Prepared for the National Energy Data Workshop, Lafayette, Indiana	One-time with revisions as needed
Proceedings of the National Energy Data Workshop, October 30-31, 1974	One-time
Advance Indicators of Oil and Gas Exploration and Drilling Activity	One-time
Results of the Interagency Task Force on Energy Information	One-time
Index on Sources of Energy Data at the Federal Level	One-time with revisions as needed
Interim Report of the Integrated Petroleum Reporting System Study	One-time

FEA MAJOR PUBLICATIONS

Topical Publications and Reports	Frequency
An Analysis of the Relative Profitability of the American Petroleum Industry, 1963-1973 (in response to request by Senator Hubert H. Humphrey)	Revisions by policy decisions
An Estimate of Required Petroleum Industry Profits, 1974-1985 (in response to request by Senator Hubert H. Humphrey)	One-time
Tips for Motorists	One-time
1975 Gas Mileage Guide for New Car Buyers	One-time
National Petroleum Supply and Demand - October 1974-1975	One-time
Electricity Rates and the Energy Crisis - A Conference Report, August 1974	One-time
Report to Congress on Petrochemicals	Required by FEA Act of 1974
Report of Subcommittee on LP Gas Supply and Demand, June 1974	One-time
Agriculture - Handling Fuel Problems	One-time
Tips for Energy Savers	One-time

FEA MAJOR PUBLICATIONS

Topical Publications and Reports	Frequency
Lighting and Thermal Operations: "Energy Management Action Program for Commercial, Public Buildings:	One-time
Potential for Energy Conservation in Nine Selected Industries - The Data Base, Volume I, June 1974	One-time
Hydroelectric Generating Facilities Report, September 1974	Required by FEA Act of 1974
Electric Utilities and Project Independence	One-time
The National Energy Information Center	One-time
A Program Report on Retailing of Gasoline, August 6, 1974	One-time
A Report on the Federal Energy Administration Survey of Refiners and Imports of Gasoline, August 28, 1974	One-time
Periodic Publications	
Weekly Petroleum Situation Report	Weekly
Weekly Petroleum Statistics Report	Weekly
Monthly Energy Review	Monthly

FEA MAJOR PUBLICATIONS

Periodic Publications	Frequency
Preliminary Monthly Asphalt Situation Report	Monthly
PIMS U.S. OPEC Petroleum Report (Organization of Petroleum Exporting Countries) 01/74 for first 9 months of 1973; 07/01/74 for all year 1973	Revisions as decided by policy
Quarterly Report of Energy Information Reported to Congress as Required by Public Law 93-319	Quarterly
Federal Energy Reduction Program - Third Quarterly Report, January - March 1975	Quarterly
Federal Energy Management Program	Annual

FEA MAJOR PUBLICATIONS

Project Independence Publications	GPO Number	Frequency
Project Independence Report November, 1974	4118-0029	One-time
Project Independence -- A Summary	4118-0028	One-time
Task Force Reports, November, 1974		
Coal	4118-00010	One-time
Facilities	4118-00018	One-time
Nuclear Energy	4118-00013	One-time
Oil: Possible Levels of Future Production	4118-00017	One-time
Natural Gas	4118-00014	One-time
Coal	4118-00015	One-time
Geothermal Energy	4118-00011	One-time
Potential Future Role of Oil Shale-- Prospects and Constraints	4118-00016	One-time
Solar Energy	4118-00012	One-time
Availabilities, Requirements, and Constraints on Materials, Equipment, and Construction	4118-00020	One-time
Analysis of Requirements and Constraints on the Transport of Energy Materials--Volume I	4118-00025	One-time

FEA MAJOR PUBLICATIONS

Project Independence Publication	GPO Number	Frequency
Inputs to the Project Independence Evaluation System Integration Model for the Transport of Energy Materials--Volume II	4118-00030	One-time
Financing Project Independences, Financing Requirements of the Energy Industries, and Capital Needs and Policy Choices in the Energy Industries	4118-00024	One-time
An Historical Perspective	4118-00026	One-time
Labor Report	4118-00019	One-time
Water Requirements, Availabilities, Constraints, and Recommended Federal Actions	4118-00036	One-time
Transcripts of Project Independence Hearings		
Transcript of First Public Hearing, Denver Colorado, August 6-9, 1974	4118-00006	One-time
Transcript of Second Public Hearing, New York, New York, August 19-22,1974	4118-00009	One-time
Transcript of Third Public Hearing, Boston, Massachusetts, August 26-29, 1974	4118-00032	One-time
Appendix to Boston Hearing	4118-00007	One-time
Transcript of Fifth Public Hearing, Chicago, Illinois, September 9-13, 1974	4118-00033	One-time

APPENDIX II
1971-72-
Key Performance Factors

Six Private Internationals	Net Income as a % of Sales	Net Income as a % of Equity	Bbls Per Day/Employee Production	Bbls Per Day/Employee Refining	M$ Per Year Per Employee Sales	M$ Per Employee Assets
Exxon	8.5	14.3	34.5	38.2	152	159
Texaco	11.2	15.6	50.0	39.2	122	161
Gulf	7.6	9.4	56.4	34.4	124	174
Socal	10.2	11.8	73.5	50.2	152	200
Arco	6.0	8.8	23.3	26.6	131	185
Mobil	6.8	13.9	27.5	29.7	128	127
Average	8.4	12.3	44.2	36.4	135	168
Government Oil Companies						
Pemex (Mexico)	0.5	0.5	5.8	7.1	18	33
Petrobras (Brazil)	8.6	8.9	4.8	17.2	47	72
YPF (Argentina)	Loss*	Loss*	7.9	-	26	36
ENI (Italy)	0.7	1.2	3.8	6.9	39	93
ELF (France)	3.6	8.0	15.3	33.6	114	156
Pertamina (Indonesia)	5.1**	2.5**	2.1	5.7	14	45
Average	3.1	3.5	6.6	14.1	43	73

* Only two years data available
** Only one years data available

Note: Petrobras income was available only on a pretax basis, therefore it was adjusted for a tax equivalent to U.S. corporation taxes.

Senator FANNIN. There will be several witnesses filing statements who could not be with us. The record will be open until August 15 for that purpose. Anyone wishing to file a statement can do so.

I would like at this time to enter into the record a statement from Mr. Herbert Stein, one of the leading economists of the country, who could not be with us today but has sent us his statement. I would at this time like to just read two paragraphs from his statement because I think that they follow the testimony that has been given by Mr. Hill, the Deputy Administrator of FEA. I will just read the statement:

We have in the United States an effective system for producing energy. That is a network of thousands of enterprises, mainly private businesses, engaged in exploring for energy of all kinds, and in producing, refining, transporting and marketing it. The network includes research facilities and financial institutions. The enterprises in the network have highly-developed, specialized know-how, capital equipment and personnel. They are linked together by a sophisticated market. They are guided and motivated by the effort to earn income by producing what this market wants.

This energy-producing system is part of a larger free-market system. But I am not here paying a tribute, however well-deserved, to the free-market system. I am simply calling attention to the existence of an elaborate, working, effective mechanism for getting energy. That mechanism has given the American people an enormous quantity of energy to work with, at a cost which has been declining, relative to other costs, over most of the past century.

If there were a different mechanism in place for getting energy, whether a governmental system or a mixed system, with the proven effectiveness which the private system has, I would recommend that in the present critical situation we should rely on it. I would recommend that even though, for a variety of reasons, I might prefer a different system, I do not think this is the time to make an ideological decision about energy. We know as a simple matter of fact that our capability is overwhelmingly in the existing private system. We should rely on it.

The statement continues on explaining his position in regard to S. 740. This statement will be made a part of the record.

[The statement of Mr. Stein follows:]

STATEMENT OF HERBERT STEIN, A WILLIS ROBERTSON PROFESSOR OF ECONOMICS, UNIVERSITY OF VIRGINIA

Almost 21 months have passed since the Arab oil embargo demonstrated the danger which the oil weapon creates for the security of the United States. In that period we have not developed a national strategy and program for dealing with the problem. It is of the greatest urgency that we should do so promptly.

I fully support the underlying purpose of S. 740, which is stated as "to overcome the dependence of the United States on foreign nations for energy supplies which are essential to national security, commerce, and a full employment economy." If I thought that enactment of S. 740 would on balance help to accomplish that purpose I would be in favor of it, even though the particular methods proposed might not be the most efficient or otherwise most preferable. However, I believe that S. 740 would not contribute to achievement of its stated goal but would in fact impede it.

We have in the United States an effective system for producing energy. That is a network of thousands of enterprises, mainly private businesses, engaged in exploring for energy of all kinds, and in producing, refining, transporting and marketing it. The network includes research facilities and financial institutions. The enterprises in the network have highly developed, specialized know-how, capital equipment and personnel. They are linked together by a sophisticated market. They are guided and motivated by the effort to earn income by producing what this market wants.

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Our present difficulties, the fact of dependence and the danger of increasing dependence, do not reflect any inadequacy of the existing private energy system. Basically, public policy failed to give that system the signals which would mobilize it for strengthening America's energy security. In the late 1960's and early 1970's public policy turned to give more emphasis to cheap energy than to secure energy. By reducing restraints on imports, and later by putting ceilings on domestic energy prices, the Government gave the signal that more foreign oil was desired. The private system delivered that. The rise in the OPEC oil price has changed the signal and stimulated the system to concentrate more on domestic development. However, public policy, notably the price controls, have muffled that signal and so deterred the response.

In a superficial sense the bill, S. 740, recognizes the need to rely mainly on the existing, private system. It seems to propose only that the government should guide the working of the system by setting targets and supplement the system where it is not achieving the targets. In fact, however, the effect of the bill would be to prevent the existing system from making its maximum contribution.

If the private system is to do its maximum to mobilize our domestic energy resources it must operate within a secure, stable and potentially profitable environment. The energy business is inevitably a risky one for physical and technological reason. The OPEC cartel has introduced new uncertainties into the situation. The policy of our own government should not add further uncertainties. But it does so at present. Important matters of price controls, taxation and import policy are highly uncertain.

Rather than removing these impediments to maximum development of our domestic energy resources, the provisions of S. 740 would add new uncertainties. The main operational features of the bill would permit the government to engage in exploration, permit government-created enterprises to engage in energy production, and permit the government to give financial assistance to "private" enterprises. All of this would be in competition with completely private enterprises. It would have two adverse results:

First, it would lead many people, including many in Congress, to believe that steps to create reasonable conditions for private initiative are unnecessary because the government will fill any gaps in energy development left by private initiative. Thus, it will reduce the likelihood of getting rid of present obstacles.

Second, it would create a new obstacle in the form of a risk to any private participant in the energy business that it will be damaged by the competition of a government entity which does not have to meet ordinary tests of profitability. This risk would be intensified by the provision of the bill which would create an extremely large fund of money available to finance such Federal competition. We would have with a vengeance the kind of situation complained of in the 1930's when the threat of government competition held up the expansion of private electric power facilities.

The result will not be that the government or government-sponsored enterprises do what private enterprise fail to do. The result will be that private enterprise is deterred from doing what it might and the government does not fill the gap. Anyone who has observed government programs knows that it will be years before the government energy programs envisaged by the bill get off the ground, if, indeed, they ever do get off the ground. But the effect in discouraging private efforts will be immediate.

In will be said that the intent of the bill is that the government should engage in exploration, or energy production, or energy financing only in cases where private activity promises to be inadequate. Three comments should be made on that:

First, restrictive price controls and burdensome taxation can assure that the private activity is inadequate. That will not demonstrate the need for government supplementation. It may only show the need for a more reasonable price and tax system.

Second, the decision about the inadequacy of private activity would be made by a government agency which will almost certainly have more confidence in itself than in the private market. That is the natural tendency of government agencies. The bill provides that in some cases Congress should have the opportunity to disapprove Federal energy exploration, production or financing projects proposed by the agency. However, it is unrealistic to think that Congress could effectively review proposals in so technical an area.

Third, the deterrence to private energy development would come not only from the Federal energy projects actually undertaken but also from the much wider range of cases in which Federal intervention is threatened or possible.

We cannot be confident of full mobilization of our domestic energy resources until we make two basic decisions. We must decide not to suppress the price of domestically-produced energy. We must decide not to tax income from domestic energy production more heavily than income from other sources. Unless we do those two things we will not be using the most powerful guiding and motivating force in the American economy—the drive of individuals and businesses to earn income by producing what the market wants.

A price ceiling on domestically-produced oil is especially damaging today when one of our main objectives is to hold down the importation of oil and so reduce our dependency. The present price control system operates as a subsidy to imported oil. All crude oil sells in the United States today at a price which is the average of the uncontrolled price of imported oil and some domestic oil and the controlled, lower, price of "old" domestic oil which is most of the domestic oil. Thus, the imported oil sells at a price which is less than the importer paid for it, the difference being made up by the relatively low price of controlled oil. This makes the American consumer willing to buy more imported oil than he would if he had to pay its full price. It also enables the OPEC cartel to sell more at its established price than if the U.S. domestic price were uncontrolled. This makes it easier for the cartel to maintain its high price. In our zeal to insure that domestic sellers do not get "too much" for their oil we are assisting foreign sellers in getting even more.

I do not suggest that free prices and nondiscriminatory taxation by themselves will do everything needed to bring about achievable, economical energy security for the United States. Probably the most important thing needed in addition is a program for building up a larger reserve of crude oil and products in the United States. Whether we need a tariff on imported oil is a more debatable question, but I am inclined to think that we do. We surely need to resolve some of the conflicts between protection of the environment and development of energy supplies in a way that reflects the present critical nature of our energy problem. Some of the specific provisions of S. 740 may be helpful, especially those to expedite decisions about Naval Petroleum Reserve Number 4 in Alaska and to increase the information about the availability of oil and gas on the public domain and Federal lands and the Outer Continental Shelf. However, I fear that the main provisions of this bill, authorizing widespread entry of the Federal government as an operator in the energy business would impede rather than assist movement toward the goal of energy security.

Senator FANNIN. There are several witnesses scheduled to be here today. Mr. James Hunt and Mr. Sterling McKittrick, who would testify at this time, were delayed and will not be able to be here until 1 p.m. So the hearing will recess until 1 p.m.

[Whereupon, at 11:25 a.m., the hearing was recessed, to reconvene at 1 p.m.]

AFTERNOON SESSION

Senator FANNIN. The hearing will come to order. We are pleased to have with us this afternoon Mr. James Hunt, partner, Kalb, Voorhis & Co., New York; and Mr. Sterling McKittrick, partner, Ingalls & Snyder, also New York.

Gentlemen, you may proceed as you desire. Your complete statements will be made a part of the record, and you can digest them or just handle your testimony as you think best.

STATEMENT OF JAMES HUNT, PARTNER, KALB, VOORHIS & CO., NEW YORK, N.Y.

Mr. HUNT. Good afternoon. My name is James Hunt. I am a partner of Kalb, Voorhis & Co. I specialize in the financial analysis of the petroleum industry. I am also a director of J. Ray McDermott & Co., a firm specializing in offshore construction for the petroleum industry. I am president of the Oil Analysts Group of New York. With me is Sterling McKittrick, Jr., who will introduce himself later.

We appear here today in a personal capacity, not on behalf of the organizations with which we are associated. There was no time between our receipt of the bill July 10 and the present to coordinate our views with those of the members of our respective organizations. We do believe, however, that these views are representative of the majority of our members. We appreciate this opportunity to present our views on S. 740, "National Energy Mobilization Act of 1975."

S. 740, which is designed to promote the general welfare and so forth by establishing a National Energy Mobilization Board, should be rejected by this committee. We disagree strongly with the point that the way to achieve the objective of greater domestic self-sufficiency is to establish one more Federal effort to oversee the project. Basically, we feel that the private sector is fully capable of solving the energy crisis if undue Government interference now in force is removed. Before discussing the specific points raised in this bill, we would like to examine some of the philosophy which appears to be the reason for its need at this time.

This bill, as with many others, seeks to find a solution to the energy crisis. We will not bore you with a lengthy review of this matter. However, if we have an energy crisis, and I prefer to think of it as an energy problem, then we find the Government has in the main been the culprit. Through the mechanism of price fixing of natural gas, we have had a vast misallocation of energy resources. Cheap natural gas made all other fuels cheap, causing a misuse of energy, as well as a misallocation of fuels. Cheap gasoline bred gas guzzlers. Those who doubt this efficiency of the price mechanism need only to look at the U.S. versus foreign auto industries (including U.S. manufacturers)—gas guzzlers versus economy cars. The Government, having created the problem, now seeks to create yet another bureaucracy to solve it.

What are the problems the bill seeks to solve? As we see it, the bill identifies two major and a host of minor problems which it would like to solve. The major problems are:

(1) Carrying out energy exploration and exploitation which the industry cannot. This is explained in section 204(b)(1).

> The Board is authorized and directed to identify and undertake exploration programs for such areas of the public domain, other Federal lands and the Outer Continental Shelf, as have a high likelihood of containing significant quantities of economically recoverable oil and/or natural gas but whose leasing to private enterprise under terms of the Mineral Leasing Act of 1920, as amended, or the Outer Continental Shelf Lands Act of 1953, as amended, may not be in the public interest or has been delayed because of land use conflicts exceptional environmental hazards, opposition from local residents or from State and local authorities, or for other reasons.

So the problem No. 1, the inability of private industry to explore and produce energy resources because it is "not in the public interest" or

delayed because of "exceptional environmental hazards," or "opposition from local residents" is to be solved by forming a Government oil company which, with a wave of a wand, can dissipate these opposing forces. While we are as concerned about the environment as anyone else, we lack the credentials to comment on this matter. However, on July 14, the testimony of Barbara M. Heller of the Environmental Policy Center contained this comment on such a policy:

> If the development of public resources by private companies is not in the public interest, the development of such resources by the Federal Government will be less in the public interest. Much as we dislike the policies of the industry, we do not believe that the Federal Government can develop energy more safely or more efficiently.

We find we must endorse these comments insofar as they relate to Government's record in protecting property or human rights is no better and, in many cases, worse than that of the private sector.

CAPITAL SHORTAGE

(2) The bill seeks to supply capital where it appears the private sector is unable or unwilling to commit funds for energy ventures. Various arms of government, Federal, State and local, have had at it, where it concerns the energy industries. The Congress has been heard to exclaim over profits, obscene and otherwise, it has done away with percentage depletion for the major and not so major oil companies, while retaining it for the not so small private or independent oil companies. After impairing an industry's ability to raise cash flow sufficient to carry out its obligations to supply energy, the Government uses this weakened condition as an argument to go into competition with the private sector.

We think this is unfair treatment of an industry which has more than demonstrated its willingness to take risks. As an example, Exxon, Mobil, and Champlin acquired leases on the Destin Anticline recently for $632 million. After the expenditure of more than $15 millon for seven dryholes, it was decided that the venture held very little prospect for success. In another venture, Exxon in 1968 paid $140 million for leases offshore Louisiana. The industry in total spent $540 million. Exxon, after drilling 22 dryholes, abandoned the leases. The industry to date has little to show for the remainder of the expenditures. What Congressman wants to report these kinds of results to the public? Indeed, is it necessary? What can a governmental oil company do that the private sector is not doing? Indeed, what has been the record of the private sector versus the Government sector in the past 50 years? We have prepared a table, appendix I, which traces some relevant statistics. We have attempted to trace the growth of population, GNP, value of energy consumed, and taxes paid to all governments. Examination of the table indicates a constantly declining cost of energy consumed as percentage of GNP through 1970. Thus, the energy industry from 1925 through 1970 took an increasingly smaller percentage of per capita GNP. By comparison, governmental cost as a percentage of GNP nearly trebled. Thus in 45 years the cost of energy declined by a third, while the cost of Government trebled.

What of the record of government oil companies in other countries? Good comparative numbers are not readily available, but the consensus

seems to be that they are run at little or no profit and with a much higher employment than comparable private sector companies.

If a Government oil exploration effort were to be attempted where would the Government go for employees? Of a certainty, it must hire them away from the private sector companies. This would not augment, but supplant, the efforts of the private sector.

Thus, of the two major problems this bill seeks to attack, we find that (1) that of having the Government explore where the private sector is unwanted appears to be almost naive in its thinking that Government would welcome where industry is not; (2) that of Government investing capital where industry cannot or will not does not appear justified at this time. There is no evidence that industry has avoided risky ventures. Quite the contrary. The Government has impaired the industry's capital generating ability. It is estimated that the loss of percentage depletion will cost the industry $2 billion in 1975. This contrasts with total capital expenditures of $11.5 billion and exploration and development expenditures of $8.1 billion in 1974.

If the Congress wants to aid the effort toward self-sufficiency, it should reexamine some of its attitudes which are acting to delay meaningful progress toward that goal. Thank you.

Now Mr. McKittrick will have some comments about specific parts of this bill.

Senator FANNIN. Thank you very much, Mr. Hunt. Before you start, Mr. McKittrick, I do want to express appreciation for you gentlemen being here. We are very fortunate to have men of your experience and knowledge to testify on this very important matter. Important from the standpoint, I believe, of not adopting this legislation. Others have different opinions in that regard. The vote that we have recorded on the clock will be in just a few minutes and it will be necessary for me to run over and vote but we will try to have another Senator here. If not, counsel, with your permission, will ask questions while I am gone.

We do want to have all of your testimony made a full part of the record. So any questions asked will be included in the record and will be available to other members of the committee.

Mr. McKittrick, if you want to start your statement before I have to leave and then I will get back, as I say, or Senator Bartlett might be here and be available to take testimony.

STATEMENT OF STERLING McKITTRICK, PARTNER, INGALLS AND SNYDER, NEW YORK, N.Y.

Mr. MCKITTRICK. Thank you, Senator. My name is Sterling McKittrick, Jr. I am a partner of Ingalls and Snyder, a brokerage firm in New York City. For over 20 years, I have specialized as a security analyst in the study of oil and gas companies and the industry. I am a chartered financial analyst and am currently serving as president of the National Association of Petroleum Investment Analyst, an organization with a membership of over 300 people.

I concur with the remarks that Mr. Hunt has just made and would now like to make some brief comments on specific sections of S. 740.

Section 201, subhead (1) makes reference to the need to establish specific targets to meet national goals for domestic energy preservation, storage and conversion and transportation. Extensive studies

have already been made of this subject. We do not need new targets when it is obvious that dependence on foreign oil should be reduced without hamstringing our economy.

Subhead (2) of the section suggests monitoring of activities of both private and Government entities in the energy area. This is already under way and we do not think further inspection is required or will be needed if the necessary capital incentives to move forward are provided.

Section (e) of subhead (2) refers to correction of delays or procedural impediments for energy development at the Federal, State or local level. I believe such mechanisms already exist; as a matter of fact, the Energy Research and Development Administration has a substantial annual budget and certainly could carry out this effort as it is needed.

Section 202 refers to the Board's having materials allocation authority. Gentlemen, I believe that the powers inherent in this section would be an unconscionable invasion of the private sector, particularly in a peacetime era. A shortfall of equipment did exist some months ago, but it has now been corrected and I believe all the necessary materials for the development of energy will be available if, as I again reiterate, the necessary incentives exist. It is my understanding that rigs are now available and it is tragic to have to say that they are available because operators do not know where they stand as to the status of proposed investments.

Section 203 gives the proposed board the right to intervene in regulatory or judicial proceedings regarding energy. I believe this would be a duplicative effort that would be wasteful.

Section 204 authorizes the Board to carry out a resource assessment program. Such an effort would also duplicate work that has been done in the past, and should it be needed again for some reason, I think it can be accomplished by private enterprise.

Senator FANNIN. Mr. McKittrick, it will be necessary for me to leave but I will be back. If you could please stop at that point and then have questions from counsel, we will pick up when I get back. I apologize for having to leave but we do have a vote. Thank you very much.

Mr. MCKITTRICK. Thank you, Senator.

Mr. STANG. At this time, I would like to address questions to either of you or both of you, whomever sees fit to answer, please feel free to do so.

Mr. Hunt, in your testimony you state that you are president of the Oil Analysts Group of New York and Mr. McKittrick, you state that you are president of the National Association of Petroleum Investment Analysts. In that capacity, do either of you represent the oil industry per se?

Mr. HUNT. No; not at all.

Mr. STANG. Is it fair to say that inasmuch as you do not represent the oil industry, you are simply objective outside observers whose ability to earn a living depends primarily upon your awareness of what is going on within the industry and how it operates?

Mr. MCKITTRICK. That is correct.

Mr. HUNT. Absolutely.

Mr. STANG. Based on that experience, I believe you have had the opportunity to read the opening statement of the chairman of this

committee presented last week, as a matter of fact, 1 week ago today, outlining the three major reasons why he feels S. 740 is necessary. I would like to outline each of those reasons for you and ask you to express your views on the validity of the reasoning.

His first argument was that the domestic petroleum industry is not producing enough energy domestically to meet demand. Therefore, he concluded that the Government had to step in and do it. Although I think that anyone familiar with the industry and the level of domestic production would stipulate that, owing to the increasing amount of imported oil, the domestic industry is not domestically producing sufficient energy to meet the domestic demand.

The conclusion suggested by the chairman which follows that statement is therefore, the Government must step in. Both of you in your testimony have presented reasons as to why the domestic industry is not producing sufficient energy. Would you care to elaborate on those reasons?

Mr. HUNT. Sure. Insofar as the industry's inability to meet total domestic demand, I think I touched on it briefly. I think if we look back to the price fixing of natural gas which resulted in setting a price for all energy, and which in the past 10 years has allowed the production cost of energy to creep up while the price of energy did nothing in the United States, at least and until the Arab oil embargo of 1973. You cannot have increasing production without increasing price where production costs are going up.

Where the Government is impairing the price structure, where the Government is sitting on the price structure. The present price control program, there is a lot of oil or gas to be found but not at the prices that the Government is willing to let the industry recover for it. I don't see that the Government will sell it for those low prices if and when they would be successful to get into exploration on their own.

Indeed, their record with the Post Office indicates otherwise.

Mr. STANG. You might have heard that the President announced on Saturday that he intends to veto today a bill bearing the number H.R. 4035. That bill has been the principal alternative to the President's energy program passed by the Congress to date. That bill contains the following provisions.

It provides that the stripper well exemption to price controls should be repealed and that all new, released and stripper oil prices should be rolled back to $11.28 a barrel. Second, it provides for no higher than a 50 cent per barrel increase on old oil prices without congressional review and veto procedures. H.R. 4035 prohibits, without congressional review and veto procedures, the administration from raising old oil prices beyond $5.75 a barrel.

The bill also provides that Congress' opportunity to review any price control actions by the administration which cause an increase in prices or attempt to exempt any category of oil from price controls or allocation controls, and that such actions shall be submitted to the Congress and the Congress shall have 20 days to review such proposed increases and that the Congress shall be given an opportunity to veto any such proposed price increase. What is your opinion of the merits of this legislation insofar as its impact on stimulating domestic supply is concerned and its ability to reduce increased dependence on imported oil?

Mr. McKittrick. My own feeling is that the bill, as you have outlined it, is quite restrictive. Generally, these restrictions would hamper the further development of oil in this country.

Mr. Hunt. I would have to say that it seems like it is designed to guarantee an incremental gain in foreign imports and the repression of U.S. industry production. You cannot roll these prices back without finding that you are going to run against some wells where it just does not pay to keep them going or to do the work.

I think there is a misunderstanding about the oil industry. A lot of people think you merely punch a hole down in the ground and there is a big can in there and you suck them out. These wells need workovers. Where you are limiting the price on this, a man sees a limit on the price that he is going to get back for what he puts down and he will not put money down. I can't see that this would do anything than guarantee a more rapidly declining rate of production in the United States and a more rapid increase of foreign oil.

Mr. Stang. One of the most popular arguments in favor of continuation of domestic price controls made by the sponsors of the legislation that I have just outlined is that the power of the OPEC cartel has increased so dramatically in recent years that it has the existing opportunity and power to control U.S. uncontrolled domestic prices.

Therefore, the argument goes, that since OPEC is having a primary influence in setting domestic energy prices, the U.S. Government rather than foreign governments should step in to control energy prices and that OPEC should not be permitted to dictate the price of U.S. domestic oil.

Would you care to comment your views on the validity of that argument?

Mr. Hunt. I don't see how U.S. price controls can affect what the OPEC countries decide that they want to charge for what becomes the marginal value of oil. The fact that we would control oil prices at whatever price level, say 7½, say 9, say 11, would make no difference to them and their own price range. It does not guarantee that we are going to increase our production.

As I stated before, it certainly guarantees that our production will decline more rapidly and that their prices can go up more rapidly if we are more dependent on their oil than we are today. Price controls have taught us that price controls have not brought about any increase in the supply of U.S. oil since price controls went on. We have watched a rapid decline since.

Mr. Stang. Is it also true to say that U.S. price controls caused an increasing dependence on imported oil in this country?

Mr. Hunt. Absolutely, because with price controls, you still have—you have not had a sufficient impact of price on the consumer to make him decides that he will use less oil. He is still married to his big car. He has cheap gasoline, why not?

Mr. McKittrick. I fail to see why we should have U.S. controls because OPEC has controls. That does not make sense to me.

Senator Fannin. Mr. McKittrick, do you want to complete your statement?

Mr. McKittrick. Thank you, Senator.

Section 204, (b) (1), is particularly disturbing because it presumes that a Government agency might have rights over others that are not

applicable to entities that are better suited to conduct the search. I don't believe that State and local authorities should be overridden by fiat and I do not believe it is in the public interest for a Government agency to conduct a project when private sources have the capability. To my way of thinking, the Government should not become involved in energy matters that can be dealt with by the private sector.

Section 204(2)(c) is designed to permit the Board to enter oil and gas exploration contracts with competent private parties who would have the right to buy back oil and gas discoveries. Again this appears to me to be a further invasion of the private sector. Should this bill become law, I wonder what assurance exists that the Federal Government will not try to enter the refining and marketing business on top of this current effort to get into the production of oil and gas.

Section 205 covers the Board's ability to negotiate with foreign governments. The United States should only involve itself to the extent of commitment guarantees should such be required by a foreign government. In another part of this section, specific energy projects are covered and there might be some merit in this suggestion under the aegis of some other agency than this Board such as the Department of the Interior.

Section 206 involves exploration and development of Naval Petroleum Reserve No. 4 and this can certainly be carried out without setting up a new Government agency.

Section 208 covers Government-owned equipment disposal. This can be handled by an existing Government agency, in this case, the General Services Administration in our opinion.

Section 302 envisages the creation of national energy production companies that contemplate joint private-Government funding for companies to develop projects. I see no need to establish companies for this purpose, but I would have no objection to specific Government loans at low interest for the purpose of energy development by private companies. I fail to see the need for the U.S. Government to play a part in the administration of these companies beyond its role as a lender.

Section 303 covering the subject of expediting Government action on energy matters has a good deal of merit except that I do not believe a board is needed to do it. Anything that will be of help to the companies in this area is worthwhile in my opinion.

Section 304 covers the development of Naval Petroleum Reserve No. 4, an action capable of being accomplished by the private sector in my opinion as I said before. Frankly, I'm not sure that funds spent there would yield more worthwhile results than in the lower 48 States at this time.

Title 4 and its related sections discuss programs requiring express legislation to set up coal and transportation programs. I do not believe another Government agency is needed to implement these efforts.

Section 501 recommends legislation designed to assure the availability of adequate capital for investment in the production, development, and transportation of energy supplies. Again I would reiterate that capital will be available if economic incentives are there. I wonder if judgments can be made as to the availability of capital for investment without guaranteeing rate of return and therefore quasi-regulation.

Section 601 calls for financing the Board with $1 billion in the first year and $2 billion annually for the following 9 years. This is a great deal of money, and I would like to see some of the reasoning behind

the determination of the amount. Further, I feel that elimination of deficit financing should be a goal of Congress and not expansion. Taking funds in this magnitude from the U.S. Treasury would be detrimental in my opinion. At the present time energy supervision costs something over $8 billion for just five agencies: FEA, ERDA, Interior Department, FPC, NRC. That is close to $40 per capita which contrasts with total energy costs of $246 per capita.

In closing I would like to point out that it is my opinion that this bill would create a government agency that would impair the abilities of the U.S. oil industry to correct and solve the energy crisis that is very much upon us.

Thank you very much.

Senator FANNIN. Thank you, gentlemen. I do want you to know that your statements will be placed in the Congressional Record so that all the Members of Congress will have the benefit of your recommendations. You clearly reviewed the bill involved and I think made some very fine statements in regard to the legislation. I am really concerned, as your statements indicate you are concerned, regarding the possible nationalizations. I think you alluded to that possibility because of the steps that would be taken if this legislation is approved.

We talk about capital shortage and after all, the greatest reason for capital shortage is the lack of opportunity for a profit. Do you feel that the lack of knowledge of just what the Congress is going to do is at issue at this time?

Mr. MCKITTRICK. I certainly do, sir.

Senator FANNIN. The depletion allowance change, in your opinion, does it make a difference in the bill?

Mr. HUNT. Absolutely. If you look to the fact that the industry will lose $2 billion this year, this contrasts with capital expenditures of $11½ billion last year. It is one-sixth of the funds that they had available.

Senator FANNIN. I think it is very plain that the assistance you have given the industry over the years has been very productive. The action taken by Congress, as you have stated, has proven detrimental. I am concerned with what might happen. We have several bills before us now which are in the same category removing the incentives for additional exploration and development. Fortunately today, the President is vetoing S. 621 and we hope that we can uphold the veto.

Gentlemen, I do have a telephone call, an emergency telephone call. Counsel will have some further questions and I will try to get back as quickly as possible. If you finish, I want to express my appreciation to you for being here and to let you know that your statements will be made available to all the Members of Congress.

Mr. STANG. Earlier, during the testimony, we were reviewing the reasons propounded by the author of S. 740 in justification of the necessity of the bill. The first reason we reviewed was that the domestic industry was not doing the job and therefore the Government would have to do it. Your response to that argument was, in effect, that if the industry was not doing the job, it was primarily because of Government controls related to exploration and production of energy including allocation of energy products. Particularly the impact of the depletion allowance and the continued imposition of price controls with the attendant uncertainty for investors.

The second reason propounded by the chairman in support of the need for his legislation was that most of the yet untapped energy resources in this country underlie Federal lands, the public lands onshore, in Alaska and the large Outer Continental Shelf. Do you feel that simply because the Government is the trustee of the energy resources that it is either morally or technically qualified to develop such resources or do you feel, on the other hand, that not unlike the ancient ranchers down in the great southwest at the turn of the century, the most efficient way of producing the energy would be to lease out the land and to let those who are qualified develop the energy resources?

Mr. McKittrick. My own feeling is that the private sector can continue to develop Government lands as they have done in the past. I do not believe that Government efforts would be anywhere near as effective.

Mr. Hunt. I don't see how the Government can get into something like this in an efficient method. The business of government does not relate to the business of industrial production. These two are not the same. We are talking about different efficiencies and different goals. We are talking about different methods of achievement. What is acceptable in government is not acceptable in industry and vice versa as a question of efficiency just for openers. I don't see that the Government can do the job. We have the record of the government oil companies around the world. There is not a winner among them.

Mr. Stang. You gentlemen, due to the fact that you were in transit from New York this morning, missed the opportunity to hear Mr. John Hill, Deputy Administrator of the Federal Energy Administration testify on this same issue. He did a comparative analysis of six private international oil companies versus the six government-owned oil companies, the latter including Pemex, Mexico, YPF, Argentina, ENI, Italy, ELF, France and Petrobras, Brazil, and Petamina, Indonesia. What I would like to do is read to you the comparison presented statistically by Mr. Hill and ask for your comments on what, in your view, caused the disparity between the private effort and the government effort.

As to net income as a percentage of sales, the six private international averaged 8.4 percent. The government companies averaged 3.1 percent. As net income as a percentage of equity, the private internationals averaged 12.3 percent and the government-owned companies 3.5 percent. In terms of barrels per day per employee of production, private internationals averaged 44.2 while the government companies averaged 6.6. Barrels per day refining, 36.4 among the private internationals and 14.1 among the government-owned companies. Millions of dollars per year per employee of sales among the six private internationals was 135 private and among the government companies 43 million. Millions of dollars of assets per employee, among the private companies was 168 million while the government companies averaged 73.

In every case, there is a significant disparity. Would you care to comment on what, in your view, caused such a disparity?

Mr. Hunt. I have not seen the testimony but I would say that if you look at the base you are dividing by, sales per employee, barrels refined per employee, I would guess you would find if you examined these companies, you would find you would have three employees in the public sector for one in the private sector. It is about the fair

norm. In New York City where we are going through our own private fiscal crisis, it is estimated that the cost of just the sanitation workers for the removal of garbage is three times more expensive when the city does it than when the private sector parties do it.

This is the general trend. Here again, I understand we have labor peace out of the Post Office but the labor peace was bought at the price that nobody can be fired during the terms of the contract. This is not the way you get efficiencies.

Mr. STANG. What is it in your view, looking at a government operation, makes it seem inherently the case every time that in contrast to a privately owned operation, there seems to be substantially less motivation to look at the bottom line and more motivation to keep the people happy regardless of cost?

Mr. HUNT. The Government is in the business of politics and politics is keeping people happy or the appearance of being happy and attempting not to upset too many people. You cannot run a business without breaking eggs once in a while.

Mr. STANG. Would you carry that analogy to a Government bureaucrat being authorized to decide where to drill for oil? Do you think the Government bureaucrat in addition to looking at geological prospects would be more inclined to take into account individual person's views who feel that they would prefer to have the job done somewhere else rather than in their own backyard?

Mr. HUNT. I think that is a certainty. If it guaranteed that this would increase employment—this bill reminds me of a dam we were having built in my community upstate. The Army Corps of Engineers was brought in after Hurricane Betsy. We needed a simple small flood control dam and they came back with a flood control dam, a water storage dam and a recreational dam. The editor of the local paper had a suitable comment. He said, there's no way that these three are compatible. If it's for flood storage, it should be empty and if it is for water storage, it should be full.

The Government bureaucrat drilling for oil will not drill the risky prospect. He will more likely drill in the backyard of a gas station because he knows something is down there. The risks will not be taken by the Government in that case and I wouldn't blame the Government.

Mr. STANG. Do you recall what the average rate of success is in wildcat drilling with regard to the ratio between the number of wildcat wells drilled and the number of holes among such wells that turn out to be commercial producers?

Mr. HUNT. You get roughly 1 in 25 that is commercial and you get 1 in 50 that makes a meaningful hit for a field.

Mr. MCKITTRICK. One in seven you find some oil.

Mr. HUNT. On pure wildcats, it is 1 in 25.

Mr. STANG. What would you imagine would happen to those ratios if the National Energy Production Board or the National Energy Mobilization Board were created and decided to drill holes itself in public lands or set up Government corporations to do the drilling?

Mr. HUNT. You might drill holes in proportion to the population of the States. Each State would have to get a certain amount. I would hesitate to guess what would be the number of holes drilled. I think it would be in excess of what is being drilled.

Mr. STANG. You talk about a ratio about 25 to 1 on wildcat wells, that is, out of every 25 drilled, 1 would be commercially producible.

If the Government were doing the job, what do you think its success ratio would be? Less than or more than 1 in 25?

Mr. HUNT. I think that relates back to what kind of wells would be drilled. If you want, you can find oil operators in this country that will get you 98 discoveries out of 100 wells. It doesn't mean that you found more wells, it just means you drilled more wells in the same place. I would guess their success ratio would be much worse but there are ways of making your success ratio look better without improving anything.

Mr. STANG. One final question. The third reason propounded by the Chairman in support of the need for this legislation was that energy agencies have proliferated in this town and it is necessary to establish another one to avoid the problem of fragmented authority. Do you feel the creation of the National Energy Mobilization Board would help or hinder whatever problems exist between agencies already with respect to the coordination of energy policy administration?

Mr. MCKITTRICK. As I understand it, it would add another agency and therefore increase the fragmentation, as far as I can see. The problem here in Washington I think to some extent is the very fragmentation to which you referred. If you have to have this legislation, having one agency handle it would be somewhat more efficient.

Mr. STANG. In other words, you suggest if a change needs to be made, it would be better to consolidate agencies rather than create another one?

Mr. MCKITTRICK. Correct.

Mr. STANG. Thank you, Mr. Chairman. I have no further questions.

Senator FANNIN. Thank you. Gentlemen, I have no further questions other than to commend you and say that I agree with you that the number of agencies that we have watched get involved in energy has been very disturbing. The number of committees that we have watched get involved in energy is as disturbing. We all seem to have a great interest all of a sudden to get into the energy field. It so happened that I was in the petroleum business before I came to the U.S. Senate and before I went to the Governor's office. I was in the marketing part of the industry but at least I knew something about it. I knew enough to know where to go to seek advice for the different problems involved.

Your work is tremendously important in the field in which you are involved because as you have stated, the capital shortage is one of our greatest problems. I feel that this is becoming more serious as we proliferate the legislation, as we keep demanding more and more of industry without giving them an opportunity to prove themselves.

Mr. HUNT. Thank you, Senator.

[The prepared statements of Mr. Hunt and Mr. McKittrick follows:]

STATEMENT OF JAMES A. HUNT, PARTNER KALB VOORHIS & CO.

Good afternoon. My name is James Hunt. I am a partner of Kalb Voorhis and Co. I specialize in the financial analysis of the petroleum industry. I am also a director of J. Ray McDermott and Co., a firm specializing in offshore construction for the petroleum industry. I am president of the Oil Analysts Group of New York. With me is Sterling McKittrick, Jr., who will introduce himself later.

We appear here today in a personal capacity, not on behalf of the organiza-

tions with which we are associated. There was no time between our receipt of the bill July 10 and the present to coordinate our views with those of the members of our respective organizations. We do believe, however, that these views are representative of the majority of our members. We appreciate this opportunity to present our views on S. 740, "National Energy Mobilization Act of 1975."

The Senate Bill S. 740, which is designed to promote the general welfare, etc., by establishing a National Energy Mobilization Board, should be rejected by this Committee. We disagree strongly with the point that the way to achieve the objective of greater domestic self-sufficiency is to establish one more federal effort to oversee the project. Basically, we feel that the private sector is fully capable of solving the energy crisis if undue government interference now in force is removed. Before discussing the specific points raised in this bill, we would like to examine some of the philosophy which appears to be the reason for its need at this time.

This bill, as with many others, seeks to find a solution to the energy crisis. We will not bore you with a lengthy review of this matter. However, if we have an energy crisis, and I prefer to think of it as an energy problem, then we find the government has in the main been the culprit. Through the mechanism of price fixing of natural gas, we have had a vast misallocation of energy resources. Cheap natural gas made all other fuels cheap, causing a misuse of energy, as well as a misallocation of fuels. Cheap gasoline bred gas guzzlers. Those who doubt this efficiency of the price mechanism need only to look at the U.S. versus foreign auto industries (including U.S. manufacturers).—gas guzzlers versus economy cars. The government, having created the problem, now seeks to create yet another bureaucracy to solve it.

What are the problems the bill seeks to solve? As we see it, the bill identifies two major and a host of minor problems which it would like to solve. The major problems are:

(1) *Carrying out energy exploration and exploitation which the industry cannot.* This is explained in Section 204(b)(1). "The Board is authorized and directed to identify and undertake exploration programs for such areas of the public domain, other Federal lands and the Outer Continental Shelf, as have a high likelihood of containing significant quantities of economically recoverable oil and/or natural gas *but whose leasing to private enterprise* under terms of the Mineral Leasing Act of 1920, as amended, or the Outer Continental Shelf Lands Act of 1953, as amended, *may not be in the public interest or has been delayed because of* land use conflicts *exceptional environmental hazards, opposition from local residents* or from State and local authorities, or for other reasons."

So problem number one, the inability of private industry to explore and produce energy resources because it is "not in the public interest" or delayed because of "exceptional environmental hazards," or "opposition from local residents" is to be solved by forming a government oil company which, with a wave of a wand, can dissapate these opposing forces. While we are as concerned about the environment as anyone else, we lack the credentials to comment on this matter. However, on July 14, the testimony of Barbara M. Heller of the Environmental Policy Center contained this comment on such a policy—"If the development of public resources by private companies is not in the public interest, the development of such resources by the Federal government will be *less* in the public interest. Much as we dislike the policies of the industry, we do not believe that the Federal government can develop energy more safely or more efficiently."

We find we must endorse these comments insofar as they relate to government development versus private development. The government's record in protecting property or human rights is no better and, in many cases, worse than that of the private sector.

(2) *Capital Shortage.* The bill seeks to supply capital where it appears the private sector is unable or unwilling to commit funds for energy ventures. Various arms of government, Federal, state and local, have had at it, where it concerns the energy industries. The Congress has been heard to exclaim over profits, obscene and otherwise, it has done away with percentage depletion for the major and not so major oil companies, while retaining it for the not so small private or independent oil companies. After impairing an industry's ability to raise cash flow sufficient to carry out its obligations to supply energy, the government uses this weakened condition as an argument to go into competition with the private sector.

We think this is unfair treatment of an industry which has more than demonstrated its willingness to take risks. As an example, Exxon, Mobil and

Champlin acquired leases on the Destin Anticline recently for 632 million dollars. After the expenditure of more than 15 million dollars for seven dryholes, it was decided that the venture held very little prospect for success. In another venture, Exxon in 1968 paid 140 million dollars for leases offshore Louisiana. The industry in total spent 540 million dollars. Exxon, after drilling 22 dryholes, abandoned the leases. The industry to date has little to show for the remainder of the expenditures. What congressman wants to report these kinds of results to the public? Indeed, is it necessary? What can a governmental oil company do that the private sector is not doing? Indeed, what has been the record of the private sector versus the government sector in the past fifty years? We have prepared a table, *Appendix I*, which traces some relevant statistics. We have attempted to trace the growth of population, GNP, value of energy consumed, and taxes paid to all governments. Examination of the table indicates a constantly declining cost of energy consumed as percentage of GNP through 1970. Thus, the energy industry from 1925 through 1970 took an increasingly smaller percentage of per capita GNP. By comparison, governmental cost as a percentage of GNP nearly trebled. Thus in 45 years the cost of energy declined by a third, while the cost of government trebled.

What of the record of government oil companies in other countries? Good comparative numbers are not readily available, but the consensus seems to be that they are run at little or no profit and with a much higher employment than comparable private sector companies.

If a government oil exploration effort were to be attempted where would the government go for employees? Of a certainty, it must hire them away from the private sector companies. This would not augment, but supplant, the efforts of the private sector.

Thus, of the two major problems this bill seeks to attack, we find that, (1) that of having the government explore where the private sector is unwanted appears to be almost naive in its thinking that government would be welcome where industry is not; (2) that of government investing capital where industry cannot or will not does not appear justified at this time. There is no evidence that industry has avoided risky ventures. Quite the contrary. The government has impaired the industry's capital generating ability. It is estimated that the loss of percentage depletion will cost the industry two billion dollars in 1975. This contrasts with total capital expenditures of 11.5 billion and exploration and development expenditures of 8.1 billion dollars in 1974.

If the Congress wants to aid the effort toward self-sufficiency, it should reexamine some of its attitudes which are acting to delay meaningful progress toward that goal. Thank you. Now Mr. McKittrick will have some comments about specific parts of this bill.

APPENDIX I

SELECTED DATA ON ENERGY, GNP, AND TAXES

	1925	1950	1960	1970	1974
Population (million residents)	115.8	151.9	180.0	203.8	211.3
Gross national product (millions of current dollars)	91.3	284.8	503.7	977.1	1,396.7
Total energy consumption (trillions of Btu's)	[1] 22.4	[1] 35.1	42.9	64.3	[2] 68.9
Value of energy consumed (billions of dollars)	3.0	9.3	12.1	21.2	[2] 51.9
Taxes, all governments (billions of dollars)	[3] 9.5	54.8	126.7	275.0	393.7
Value of energy consumed as percent of GNP	3.2	3.3	2.4	2.1	3.7
Total taxes as percent of GNP	10.3	19.2	25.2	28.1	28.2
Per capita data:					
Gross national product (dollars)	788	1,875	2,799	4,794	6,611
Total energy consumption (millions of Btu's)	190	220	238	315	350
Value of energy consumed (dollars)	26	61	67	104	246
Taxes, all governments (dollars)	82	361	704	1,349	1,863

[1] Includes wood, etc.
[2] Includes coal, oil, and natural gas, totaling 94.2 percent of consumption.
[3] 1927.

STATEMENT OF STERLING MCKITTRICK, PARTNER, INGALLS AND SNYDER, NEW YORK, N.Y.

My name is Sterling McKittrick, Jr. I am a partner of Ingalls and Snyder, a brokerage firm in New York City. For over 20 years, I have specialized as a security analyst in the study of oil and gas companies and the industry. I am a chartered financial analyst and am currently serving as President of the National Association of Petroleum Investment Analysts, an organization with a membership of over 300 people.

I concur with the remarks that Mr. Hunt has just made and would now like to make some brief comments on specific sections of S–740.

Section 201, Subhead (1) makes reference to the need to establish specific targets to meet national goals for domestic energy preservation, storage and conversion and transportation. Extensive studies have already been made of this subject. We do not need new targets when it is obvious that dependence on foreign oil should be reduced without hamstringing our economy.

Subhead (2) of the Section suggests monitoring of activities of both private and government entities in the energy area. This is already under way and we do not think further inspection is required or will be needed if the necessary capital incentives to move forward are provided.

Section e of Subhead (2) refers to correction of delays or procedural impediments for energy development at the federal, state or local level. I believe such mechanisms already exist; as a matter of fact, the Energy Research and Development Administration has a substantial annual budget and certainly could carry out this effort as it is needed.

Section 202 refers to the Board's having materials allocation authority. Gentlemen, I believe that the powers inherent in this section would be an unconscionable invasion of the private sector, particularly in a peacetime era. A shortfall of equipment did exist some months ago, but it has now been corrected and I believe all the necessary materials for the development of energy will be available if, as I again reiterate, the necessary incentives exist. It is my understanding that rigs are now available and it is tragic to have to say that they are available because operators do not know where they stand as to the status of proposed investments.

Section 203 gives the proposed board the right to intervene in regulatory or judicial proceedings regarding energy. I believe this would be a duplicative effort that would be wasteful.

Section 204 authorizes the board to carry out a resource assessment program. Such an effort would also duplicate work that has been done in the past and should it be needed again for some reason, I think it can be accomplished by private enterprise.

Section 204(b)(1), is particularly disturbing because it presumes that a government agency might have rights over others that are not applicable to entities that are better suited to conduct the search. I don't believe that state and local authorities should be overridden by fiat and I do not believe it is in the public interest for a government agency to conduct a project when private sources have the capabiilty. To my way of thinking, the government should not become involved in energy matters that can be dealt with by the private sector.

Section 204(2)(c) is designed to permit the Board to enter oil and gas exploration contracts with competent private parties who would have the right to buy back oil and gas discoveries. Again this appears to me to be a further invasion of the private sector. Should this bill become law, I wonder what assurance exists that the federal government will not try to enter the refining and marketing business on top of this current effort to get into the production of oil and gas.

Section 205 covers the Board's ability to negotiate with foreign governments. The U.S. should only involve itself to the extent of commitment guarantees should such be required by a foreign government. In another part of this section, specific energy projects are covered and there might be some merit in this suggestion under the aegis of some other agency than this Board such as the Department of the Interior.

Section 206 involves exploration and development of Naval Petroleum Reserve No. 4 and this can certainly be carried out without setting up a new government agency.

Section 208 covers government-owned equipment disposal. This can be handled by an existing government agency, in this case, the General Services Administration in our opinion.

Section 302 envisages the creation of national energy production companies that contemplate joint private-government funding for companies to develop projects. I see no need to establish companies for this purpose, but I would have no objection to specific government loans at low interest for the purpose of energy development by private companies. I fail to see the need for the U.S. Government to play a part in the administration of these companies beyond its role as a lender.

Section 303 covering the subject of expediting government action on energy matters has a good deal of merit except that I do not believe a board is needed to do it. Anything that will be of help to the companies in this area is worthwhile in my opinion.

Section 304 covers the development of Naval Petroleum Reserve #4, an action capable of being accomplished by the private sector in my opinion as I said before. Frankly, I'm not sure that funds spent there would yield more worthwile results than in the lower 48 states at this time.

Title 4 and its related sections discuss programs requiring express legislation to set up coal and transportation programs. I do not believe another government agency is needed to implement these efforts.

Section 501 recommends legislation designed to assure the availability of adequate capital for investment in the production, development and transportation of energy supplies. Again I would reiterate that capital will be available if economic incentives are there. I wonder if judgments can be made as to the availability of capital for investment without guaranteeing rate of return and therefore quasi-regulation.

Section 601 calls for financing the Board with 1 billion in the first year and two billion annually for the following nine years. This is a great deal of money, and I would like to see some of the reasoning behind the determination of the amount. Further, I feel that elimination of deficit financing should be a goal of Congress and not expansion. Taking funds in this magnitude from the U.S. treasury would be detrimental in my opinion. At the present time energy supervision costs something over 8 billion dollars from just five agencies: FEA, ERDA, Interior Department, FPC, NRC. That is close to $40 per capita which contrasts with total energy costs of $246 per capita.

In closing I would like to point out that it is my opinion that this bill would create a government agency that would impair the abilities of the U.S. oil industry to correct and solve the energy crisis that is very much upon us.

Senator FANNIN. The next witness will be Dr. Thomas Stauffer, department of economics, research associate, Center for Middle Eastern Studies, Harvard University. Dr. Stauffer, we are very pleased to have you with us today. We appreciate very much your making yourself available to testify on this legislation. I know that you are highly respected in the field of economics in the work that you have done, especially the Middle Eastern studies activities. I look forward to your testimony.

Your complete statement will be made a part of the record and you may summarize as you decide.

STATEMENT OF DR. THOMAS STAUFFER, DEPARTMENT OF ECONOMICS, HARVARD UNIVERSITY

Dr. STAUFFER. Thank you, Senator Fannin, and thank you for the invitation to testify again before this committee. I hope that the chairman will permit me to respond to this invitation in two totally different ways: First, in a purely personal capacity as a citizen, I wish to comment on the spirit and tone of S. 740. Second, in my capacity as an economist and energy analyst, I shall focus on those provisions which concern the exploration for, and production of, oil or gas—those areas where my own experience is least deficient.

Let me turn first to the spirit and thrust of this bill. My first reaction upon reading the bill was simply astonishment. But upon second reading, astonishment turned to disbelief and then horror. The bill, as I interpret it as an economist rather than a lawyer, seems to propose that the Congress should abdicate a cross-section of its constitutional obligations and that it should arrogate these responsibilities to a five-man board appointed by the Executive. This board will have comprehensive, almost all-encompassing, powers to preempt resources, to authorize and spend moneys, and to implement programs throughout major sectors of the U.S. economy. The National Energy Mobilization Board thus becomes an energy junta, armed with broad authority to intervene at its own discretion anywhere within the energy industry. It is even empowered to extend its domain further into any industry which furnishes materials and equipment to the energy industries (section 202).

Moreover, the powers of this energy junta appear to be as unrestrained as they are extensive. We detect scant concern in S. 740 for the strictures of the Administrative Procedures Act or the concept of due process. The bill's sponsors appear equally contemptuous of State and local sovereignties or, more specifically, the corpus of environmental protection legislation—viz. section 204(b)(1).

In short, what has been proposed here is a junior version of the "Ermachtigungsgesetz"—an enabling act to be applied to the energy sector, parallel in principle (but hopefully, not paraellel in precedent) to the act whereby, in 1933, the German Parliament abdicated its responsibilities and consolidated the power of the National Socialists. Other critics, especially the oil industry, have concentrated their concern upon the alleged socialistic overtones of the bill and its emphasis upon active participation by the Government. Much more alarming to my mind are the totalitarian undertones of the bill and its creation of unbridled power. We should not be deceived by the thin camouflage of populist rhetoric.

This bill would convey effectively dictatorial powers upon an appointed board, while relegating the elected Congress to the passive role of bystander—avowedly in the interests of efficiency and expediency. This was the logic used by Mussolini when he tried to get "the trains to run on time." The price then was much too great even if the scheme had worked. Here, too, I hope the committee will agree that the price now is also too great, even if there were any plausible need for Senator Jackson's scheme. This bill reflects a cavalier contempt for democratic order and the democratic process, and I urge this committee to repudiate the bill categorically.

Having indicated my purely personal objections to the tenor of the bill, let me now offer professional comment on certain of the specific programs proposed in the bill. Technically, too, the bill must be faulted, indeed it must be doubly faulted—it offers an array of nonsolutions to a set of nonproblems. The sponsors evidently failed properly to diagnose the energy malaise. Hence, since the symptoms were misdiagnosed, it should be no surprise that the remedies are misspecified. Let us examine the premises which explicity or implicitly underline S. 740.

One: The private sector is unable to find and develop the needed energy resources. The assertion is a patent deception, since it fails to distinguish cause and effect.

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What inhibits development of U.S. domestic hydrocarbons? Oil exploration is hampered by the uncertainties as to the future price of "new oil," by the pace of leasing of Federal acreage, and by the vagaries of the allocation scheme. Natural gas is desperately short because 20 years of Federal price regulation discouraged discovery of new interstate supplies and simultaneously violated conservationist principles, artificially stimulating demand and fostering inefficient uses of gas. Environmental considerations restrict both the production and utilization of coal or the exploration for oil and gas. They also increase energy demand in other sectors by decreasing end-use efficiency.

The problem lies not in the willingness or capability of the private sector; indeed, they might be more fittingly criticized for overzealousness. The problem lies in the fact that the energy industry is hamstrung by conflicting national priorities.

The constraints were imposed by the autonomous arms of government, yet S. 740 contributes nothing to reconciling the conflicting priorities or streamlining the regulatory procedures. Instead, the bill proposes to short circuit and subordinate any such restraints. Yet if the Board is successful in doing this at the policy level, it thereby eliminates the rationale for any Federal exploration activity, since the private sector is then once more able to respond. Success for the Board in the policy area thus renders the Board redundant in the operational area. Conversely, if the Board fails in clarifying policy priorities, the Federal exploration effort is similarly hobbled, and the proposed program is valueless. Thus, in either case, the proposed oil exploration program is without merit.

The central issue is that of establishing policy priorities—trading off perceived energy needs against environmental exigencies. Creation of a Federal exploration and development program does not provide even symptomatic relief to the basic difficulty of reconciling conflicting objectives, since the issue of that conflict remains common to both the case of private and public ownership of the exploration venture.

Thus, it is irrelevant whether the exploration ventures are private or public since common safety and environmental restrictions would be desirable. Viewed differently, if the environmental or other considerations which inhibit energy development are indeed socially justifiable, then they should apply equally well to public-sector operating companies and to private firms. The existence of such constraints in no way necessitates state ownership of operating firms, nor does existence of a state firm facilitate clarification of the environmental policy conflicts.

Two: Since a major fraction of potential energy resources in this country are found on Federal lands, these resources should be developed by Federal entities.

This premise is at best a non sequitur, but it is most probably simply incorrect. The overriding consideration here is the likely technical efficiency of private firms compared with government firms, since any other performance criteria—environmental, safety, or conservation—which might be desirable can be equally imposed upon private and government firms, and the private firms can be compelled to conform.

Thus, a state enterprise would be preferable only if it promised higher net revenues from oil or gas production on public lands than the lease payments, bonuses, royalties, and income taxes collectible from a private firm. The Government can expect the full value of the economic rent from an oil or gas property (producers' rent) provided only that the lease bidding by private firms is competitive.

Indeed, more careful analysis shows that the Government can collect more than the economic rent. Since the private firms' assessments of the value of a lease differ so much and since the lease is awarded to the highest bidder, the successful bid is always greater than the average bid. If the companies' assessments are correct "on the average," then Government receipts will in fact exceed the lease values. Hence, everything else being equal, the Government should gross as much either way—or more under private development.

However, one must recognize the possibility, indeed the certainty that the Government company is less efficient than the private firms. Three important sources of economic inefficiencies can be recognized: Overstaffing: Government enterprises tend to have supernumerary personnel and to be significantly less productive. Any exserviceman can attest to this, and we need not pursue this point.

Indecision and delay: the ethos of the civil service emphasizes self-protection and accountability rather than initiative. Procedure prevails over performance. The decisionmaking process is more cumbersome, involves multiple levels of clearance, and thus is slower in a Government firm. But delays in capital-intensive energy projects become very costly. The fast breeder program is an example of this.

Pork-barrel pressures: the State company is much more vulnerable to political interference, and politics, rather than economics, are more likely to determine the project choices or site selections. Its construction and operating costs may be inflated because of its being obliged to select politically favored contractors.

The U.S. Post Office is a trite but all too appropriate example of both phenomena. In the energy area, one may mention the fast flux test facility which allegedly was sited in response to intensive political maneuverings, thereby adding appreciably to the costs and delays in the fast breeder program. Again, this problem is all too familiar to those on the Washington scene.

Consequently, since both private and State firms may be subjected to the same nonfinancial performance norms, and since the State firm can be presumed to be significantly less efficient, the premise that Federal development is preferable to private development is false. It promises higher costs or lower tax revenues or both.

Three: A third premise implicitly underlines the arguments for establishing Federal exploration and production ventures—the concept that the oil industry is not sufficiently competitive. Three comments are in order:

(1) This contention was invoked some 20 years ago as the principal rationale for regulating the price of natural gas. It was subsequently shown that, if anything, the opposite was true. One must be wary of this kind of claim today; that is, that the natural gas producers were themselves confronted with monopsonistic buyers. This suggests that one might well be wary of any operational implications of such a claim.

(2) Available evidence does not support the claim that the rate of return in the oil industry is greater than that in other industries. Any monopolistic or market power does not appear in the "bottom line," and heretofore must be reflected in unnecessarily high costs—"x-inefficiencies"—which are common to all firms. In other words, any noncompetitive structure yields little or no financial rewards.

(3) Indeed, particularly in the production side of the oil industry, circumstantial evidence suggests the opposite—that is, a remarkable variety of operators of different sizes and with widely different geographical foci and thus different market interests.

Here, too, the proposed remedy is irrelevant and unrelated to the disease, and a diagnostic defect results in the wrong treatment.

I conclude by noting once more that the proposed bill offers nonsolutions to nonproblems, which suffices as grounds for rejection. Still worse is the fact that the bill promises even a partial solution to the real problems only by creating an energy junta with quasi-dictatorial powers. Even this remedy is unlikely to succeed, and the solutions, I believe, become far worse than the problem—the cure is more fearful than the disease—and the bill should be rejected even more strongly on these grounds.

Thank you, Senator.

Senator FANNIN. Thank you, Dr. Stauffer. This is typical of the fine statements you have made before. You made an outstanding presentation to this committee not too many months ago. Your complete statement was made a part of the record and was also printed in the Congressional Record. Along with that, many excerpts were taken from the statement you made and utilized to prove different points of interest to particular members involved and was very effective. We do thank you for coming here today and for the cooperation you have given the committee.

Your statement, nonsolutions to nonproblems, covers the legislation quite well as far as the analysis made by several witnesses today. I am very pleased to have your observation as to what is involved and your feeling that seems to be, as others have testified today, that this might be a first step to something more serious to come. Is that the way you feel if this legislation is adopted?

Dr. STAUFFER. That is my purely visceral reaction, yes, sir.

Senator FANNIN. The statement you made, that perhaps this could lead to nationalization of the oil industry could be a step toward that. Is that the way you look at this particular piece of legislation?

Dr. STAUFFER. I personally would be much less concerned about the threat of nationalization and what it implies for the whole concept of due process and the gratuitous creation of a body with broad, sweeping powers to intervene at will and at its own discretion throughout the economy.

Senator FANNIN. The free market has been very successful throughout the years in not only the oil industry but other industries in our country. Now we find ourselves operating back into a free market in most industries but, of course, we have been up against the problem on natural gas for quite some years.

In other respects, we have had a pretty free market even in the oil industry until more recent years. You referred to the effect that has

come—the detrimental effects that have come about. I don't recall if you used the figure but it was used previously in some of the testimony that we are going downhill as far as the percent of energy that was coming from coal and we are hoping now to start in the other direction. But in the last 5 years, I think it was stated we have dropped from around 22 percent down to 18 percent in energy from coal. It is your feeling that a great deal of that has been brought about by control of natural gas prices. Is that what I read from your statement?

Dr. STAUFFER. I am not sure that I would see an immediate connection between the utilization of coal and natural gas prices.

Senator FANNIN. The natural gas has been at a price where you could generate electricity in many areas quite inexpensively at one time because of the low price of natural gas. Many of those plants were converted from coal to natural gas. Has that been a factor in the changes that have come about?

Dr. STAUFFER. I think there were two distinct elements in that shift from coal to natural gas for electricity generation. The first was the price factor that you mentioned although coal itself is relatively inexpensive until quite recently. However, the other element was the increasing stringency of the restrictions on the emissions of sulfur. That probably caused more fuel switching from coal to gas than price effects themselves, I would believe.

Senator FANNIN. The environmental effects?

Dr. STAUFFER. Yes.

Senator FANNIN. But when we do compare the growth in natural gas utilization as compared to growth, for instance—if you just take one-third percent of the natural gas in 1973 was utilized for the generation of electricity, you would see both in oil and coal a lessening of the utilization of those products. I assume from testimony given earlier, and I also felt from your testimony that perhaps the utilization of oil or coal had been affected but maybe I read that into your statement and it was not intended.

Dr. STAUFFER. There is no question that inefficient uses of gas, which is a premium high quality fuel, were encouraged as a consequence of the artificial low price of gas. That would take away some of the market for oil or coal and electricity generation.

Senator FANNIN. But your greatest concern is almost what you would call the dictatorial power that this Board would have.

Dr. STAUFFER. That is what I see as the most pernicious aspect of this particular bill. The fact that it is useless is almost subordinate to that.

Senator FANNIN. Thank you very much. Does counsel have any questions?

Mr. STANG. Just one question, Mr. Chairman. Those who argue for setting up Government energy companies or setting up National Energy Production Boards to launch the Government into the production of energy argue that the Government can do it more cheaply because it does not need to earn a profit. It seems as though they overlook the sources of capital for such projects which come from taxpayers pockets.

Dr. STAUFFER. It is always possible for any public organization to deceive the public as to what it is spending or what it cost. Typically,

in this kind of operation, the Government will understate the real cost of its programs by undercharging for capital and not recognizing that capital expended elsewhere in the economy would yield income tax. This is true of every State company that I have had occasion to work with.

In the case of the earlier legislation, there were provisions to build such price deceptions into the structure. Broadly speaking, this tends to be true. The State company will understate its real cost because it does not properly reflect the real cost of its capital resources in its own price structure.

Mr. STANG. Others have argued, those that supported the concept of the FOGCO bill, setting up the Government business would provide an adequate yardstick to see if the industry is performing its job efficiently or on the contrary, they say ripping off the public. Would you care to comment on the validity of the National Energy Mobilization Board or a Government oil and gas company serving as a legitimate yardstick against which to test the performance of the private sector?

Dr. STAUFFER. I guess it would provide a yardstick under any conceivable circumstances only in the limiting case in that if the private sector could not produce that lower cost than the State company, one would indeed wonder what was wrong. It is very difficult to conceive of circumstances under which a State company could simply approach, even approach approximately the efficiency of a privately held company. The States' efforts are more efficiently directed toward setting policy guidelines rather than operating large complicated companies.

Mr. STANG. Mr. Chairman, I have no further questions. I would simply like to state to Dr. Stauffer, underscoring your earlier comment, the imagination and scholarliness that Dr. Stauffer has demonstrated before this committee again in a very fine, highly analytical statement presented from the view of a citizen and an expert in energy who in no way has any personal ties or financial interest in the development of energy in this country.

Senator FANNIN. Dr. Stauffer, in your statement where you say the U.S. Post Office is a typical example of this phenomena, I agree with you. I have observed in my own work both as a Governor of a State and here in Washington as a U.S. Senator, the problems of overstaffing, political pressures and all the problems that come about that are certainly anything but productive and efficient. In our own case, we have been working on an energy bill. We were charged in the spring of 1971 and we have S. Res. 45 that provided for this almost crash program in order that we could get underway to solving the energy problems of this Nation. Recommendations were supposed to come forth almost immediately and we watched months pass and years pass. Now, 4 or 5 years later, we still do not have a recommendation from that particular committee, any recommendations of any consequence.

I certainly agree with you that these pressures have brought about a lot of the indecision and delay. You are placed in a good perspective to illustrate what has happened and I am very grateful for the splendid testimony you have given us today and the work you are doing that we can turn this around.

Your statement and the information given us will help in that respect. It is not going to be easy, we have a tremendous job. This is energy week, I think, in Washington. We have bills being vetoed, one bill being vetoed today that we referred to earlier, House bill 4035 which was Senate bill 621, which would roll back prices. We will have the problem given the President of what he has done as far as the phasedown of oil prices and that will be before us. We may have S. 692 which is the natural gas deregulation bill, although the present form is not very much of a deregulation. I think it is almost a continued regulation and an overregulation because it brings up problems that we do not face at the present time.

So although I am very concerned and disturbed about what is taking place, I am encouraged with what you and others have been willing to do, and that is to give your frank testimony. The public is reacting. The problems brought to their attention are certainly of great concern to them.

But I think we can rest assured that if we keep working long and hard that there will be some favorable results, so my great thanks to you for being with us today.

[The prepared statement of Dr. Stauffer follows:]

PREPARED STATEMENT OF DR. THOMAS R. STAUFFER, LECTURER, DEPARTMENT OF ECONOMICS, RESEARCH ASSOCIATE, CENTER FOR MIDDLE EASTERN STUDIES HARVARD UNIVERSITY

I am honored by the invitation to testify again before this committee, and I hope that the chairman will permit me to respond in two quite different capacities. First, in a purely personal capacity as a citizen, I wish to comment on the spirit and tone of S. 740, Second, in my capacity as an economist and energy analyst, I shall focus on those provisions which concern the exploration for and production of oil or gas—those areas where my own experience is least deficient.

Let me turn first to the spirit and thrust of this bill. My first reaction upon reading the bill was simply astonishment.

But upon second reading, astonishment turned to disbelief and then horror. The bill seems to propose that the Congress should abdicate a cross-section of its constitutional obligations and that it should arrogate these responsibilities to a five-man board appointed by the Executive. This board will have comprehensive almost all-encompassing, powers to preempt resources, to authorize and spend monies, and to implement programs throughout major sectors of the U.S. economy. The National Energy Mobilization Board thus becomes an energy junta, armed with broad authority to intervene at its own discretion anywhere within the energy industry, it is even empowered to extend its domain further into any industry which furnishes materials and equipment to the energy industries. (Sec. 202).

Moreover, the powers of this energy junta appear to be as unrestrained as they are extensive. We detect scant concern in S. 740 for the strictures of the Administrative Procedures Act or the concept of due process. The bill's sponsors appear equally contemptuous of State and local sovereignties or, more specifically, the corpus of environmental protection legislation—viz. Sec. 204(b)(1).

In short, what has been proposed here is a junior version of the Ermachtigungsgesetz—an enabling act to be applied to the energy sector, parallel in principle, (but hopefully, not parallel in precedent) to the act whereby in 1933 the German Parliament abdicated its responsibilities and consolidated the power of the National Socialists. Other critics, especially the oil industry, have concentrated their concern upon the alleged socialistic overtones of the bill and its emphasis upon active participation by the Government. Much more alarming to my mind are the totalitarian undertones of the bill and its creation of unbridled power. We should not be deceived by the thin camouflage of populist rhetoric.

This bill would convey effectively dictatorial powers upon an appointed board, while relegating the elected Congress to the passive role of bystander—avowedly

in the interests of efficiency and expediency. This was the logic used by Mussolini when he tried to get "the trains to run on time". The price then was much too great—even if the scheme had worked. Here, too, I hope the committee will agree that the price now is also too great, even if there were any plausible need for Senator Jackson's scheme. This bill reflects a cavalier contempt for democratic order and the democratic process, and I urge this committee to repudiate the bill categorically.

Having indicated my purely personal objections to the tenor of the bill, let me now offer professional comment on certain of the specific programs proposed in the bill. Technically, too, the bill must be faulted, indeed it must be doubly faulted—it offers an array of non-solutions to a set of non-problems. The sponsors evidently failed properly to diagnose the energy malaise. Hence, since the symptons were misdiagnosed, it should be no surprise that the remedies are misspecified. Let us examine the premises which explicitly or implicitly underline S. 740.

1. THE PRIVATE SECTOR IS UNABLE TO FIND AND DEVELOP THE NEEDED ENERGY RESOURCES

The assertion is a patent deception, since it fails to distinguish cause and effect.

What inhibits development of U.S. domestic hydrocarbons? Oil exploration is hampered by the uncertainties as to the future price of "new oil", by the pace of leasing of Federal acreage, and by the vagaries of the allocation scheme. Natural gas is desperately short because 20 years of Federal price regulation discouraged discovery of new interstate supplies and simultaneously violated conservationist principles, artificially stimulating demand and fostering inefficient uses of gas. Environmental considerations restrict both the production and utilization of coal or the exploration for oil and gas. They also increase energy demand in other sectors by decreasing end-use efficiency.

The problem lies not in the willingness or capability of the private sector; indeed, they might be more fittingly criticized for overzealousness. The problem lies in the fact that the energy industry is hamstrung by conflicting national priorities.

The constraints were imposed by the autonomous arms of Government, yet S. 740 contributes nothing to reconciling the conflicting priorities or streamlining the regulatory procedures. Instead, the bill proposes to short-circuit and subordinate any such restraints. Yet, if the Board is successful in doing this at the policy level, it thereby eliminates the rationale for any Federal exploration activity, since the private sector is then once more able to respond. Success for the board in the policy area thus renders the Board redundant in the operational area. Conversely, if the Board fails in clarifying policy priorities, the Federal exploration effort is similarly hobbled, and the proposed program is valueless. Thus, in either case, the proposed oil exploration program is without merit.

The central issue is that of establishing policy priorities—trading off perceived energy needs against environmental exigencies. Creation of a Federal exploration and development program does not provide even symptomatic relief to the basic difficulty of reconciling conflicting objectives, since the issue of that conflict remains common to both the case of private and public ownership of the exploration venture.

Thus, it is irrelevant whether the exploration ventures are private or public since common safety and environmental restrictions would be desirable. Viewed differently, if the environmental or other considerations which inhibit energy development are indeed socially justifiable, then they should apply equally well to public-sector operating companies and to private firms. The existence of such constraints in no way necessitates State ownership of operating firms, nor does existence of a State firm facilitate clarification of the environmental policy conflicts.

2. SINCE A MAJOR FRACTION OF POTENTIAL ENERGY RESOURCES IN THIS COUNTRY ARE FOUND ON FEDERAL LANDS, THESE RESOURCES SHOULD BE DEVELOPED BY FEDERAL ENTITIES

This premise is at best a *non-sequitur*, but it is most probably simply incorrect. The over-riding consideration here is the likely technical efficiency of private firms compared with Government firms, since any other performance criteria—

environmental, safety, or conservation—which might be desirable can be equally imposed upon private and Government firms, and the private firms can be compelled to conform.

Thus, a State enterprise would be preferable only if it promised higher net revenues from oil or gas production on public lands than the lease payments, bonuses, royalties, and income taxes collectible from a private firm. The Government can expect the full value of the economic rent from an oil or gas property (producers' rent) provided only that the lease bidding by private firms is competitive.

Indeed, more careful analysis shows that the Government can collect more than the economic rent. Since the private firms' assessment of the value of a lease differ so much and since the lease is awarded to the highest bidder, the successful bid is always greater than the average bid. If the companies' assessments are correct "on the average", then Government receipts will in fact exceed the lease values.

Hence, everything else being equal, the Government should gross as much either way—or more under private development.

However, one must recognize the possibility, indeed the certainty that the Government company is less efficient than the private firms. Three important sources of economic inefficiencies can be recognized:

Overstaffing.—Government enterprises tend to have supernumerary personnel and to be significantly less productive. Any ex-serviceman can attest to this, and we need not pursue this point.

Indecision and Delay.—The ethos of the Civil Service emphasizes self-protection and accountability rather than initiative. Procedure prevails over performance. The decision-making process is more cumbersome, involves multiple levels of clearance, and thus is slower in a Government firm. But delays in capital-intensive energy projects become very costly. The fast breeder program is an example of this.

Pork-barrel Pressures.—The State company is much more vulnerable to political interference, and politics, rather than economics, are more likely to determine the project choices or site selections. Its construction and operating costs may be inflated because of its being obliged to select politically favoured contractors.

The U.S. Post Office is a trite but all too appropriate example of both phenomena. In the energy area, one way mention the fast flux test facility which allegedly was sited in response to intensive political maneuverings, thereby adding appreciably to the costs and delays in the fast breeder program. Again, this problem is all too familiar to those on the Washington scene.

Consequently, since both private and State firms may be subjected to the same non-financial performance norms, and since the State firm can be presumed to be significantly less efficient, the premise that Federal development is preferable to private development is false. It promises higher costs of lower tax revenues or both.

3. A third premise implicity underlies the arguments for establishing Federal exploration and production ventures—the concept that the oil industry is not sufficiently competitive. Three comments are in order:

1. This contention was invoked some twenty years ago as the principal rationale for regulating the price of natural gas. It was subsequently shown that, if anything, the opposite was true; i.e. that the natural gas producers were themselves confronted with monopsonistic buyers. The suggests that one might well be wary of any operational implications of such a claim.

2. Available evidence does not support the claim that the rate of return in the oil industry is greater than that in other industries. Any monopolistic or market power does not appear in the "bottom line", and heretofore must be reflected in unnecessarily high costs ("x-inefficiencies") which are common to all firms. In other words, any noncompetitive structure yields little or no financial rewards.

3. Indeed, particularly in the production side of the oil industry, circumstantial evidence suggests the opposite—i.e. a remarkable variety of operators of different sizes and with widely different geographical foci and thus different market interests.

Here, too, the proposed remedy is irrelevant and unrelated to the disease, and a diagnostic defect results in the wrong treatment.

I conclude by noting once more that the proposed bill offers non-solutions to non-problems, which suffices as grounds for rejection. Still worse is the fact that the bill promises even a partial solution to the real problems only by creating an energy junta with quasi-dictatorial powers. Even this remedy is unlikely to suc-

ceed, and the solutions, I believe, become far worse than the problem—the cure is more fearful than the disease—and the bill should be rejected even more strongly on these grounds.

Senator FANNIN. Dr. Edward Mitchell of the American Enterprise Institute and Mr. Frank Pitts of Dallas, Tex., cannot be with us this afternoon due to illness. They will file statements and they will be made a part of the record and any others that have statements to file, feel free to do so.

The hearings will adjourn at this time but the record will be kept open until August 15, 1975, for those who want to file statements.

[Whereupon at 2:20 p.m. the hearing was adjourned.]

APPENDIX

Additional Statements and Communications Submitted for the Record

ASSOCIATION OF
AMERICAN RAILROADS
LAW DEPARTMENT
AMERICAN RAILROADS BUILDING · WASHINGTON, D.C. 20036 · 202/293-4088

PHILIP F. WELSH
General Solicitor

August 8, 1975

Honorable Henry M. Jackson
Chairman
Committee on Interior and Insular Affairs
United States Senate
Washington, D. C. 20510

Dear Mr. Chairman:

The Association of American Railroads submits for inclusion in the record on S. 740 - "The National Energy Production Board Act of 1975" - its views about a particular provision of the bill, namely, the provision in Section 403 which would require the National Energy Production Board to prepare an energy transportation systems program consisting of legislative recommendations for participation by the Federal government that would assure the development on an urgent basis of "coal slurry pipelines"(among other forms of transportation).

The railroads oppose that provision because it presupposes that there is affirmative need of such pipelines and of Federal participation in their development. No such need has in fact been demonstrated. That provision in the bill amounts in substance to a directive to the Board to bring back legislative recommendations that favor coal slurry pipelines. The issue should not be prejudged in this way.

The railroads are convinced that there is no need whatsoever for coal slurry pipelines, and they have undertaken to demonstrate this fact before other Congressional Committees that are considering the subject of such pipelines. The creation of coal slurry pipelines with the aid of the Federal Government would be enormously disruptive of the transportation system for coal in the United States. S. 740 tilts the balance in favor of such pipelines on the basis of no showing.

I believe the Committee may be interested in the attached statements that were submitted to the Senate Public Works Committee during hearings held in June 1975 on S. 1777 - The National Petroleum and Natural Gas Conservation and Coal Substitution Act of 1975 - by the Burlington Northern, the Chessie System, and the Union Pacific Railroad. They state the railroad industry's position on coal slurry pipelines.

Sincerely,

Philip F Welsh

CC: Members of the Committee
on Interior and Insular Affairs
United States Senate

BEFORE THE

HOUSE COMMITTEE ON INTERIOR AND INSULAR AFFAIRS*

H.R. 1863, 2220, 2553 and 2896

STATEMENT OF

LOUIS W. MENK

CHAIRMAN & CHIEF EXECUTIVE OFFICER

BURLINGTON NORTHERN INC.

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* This draft of testimony has been filed with the Senate Committee on Public Works before delivery to the House Committee on Interior and Insular Affairs because of the Senate Committee's July 1, 1975, printing deadline. Appropriate arrangements for this submission were made with Chairman Randolph during the hearings of June 11, 1975 (Tr. 182), on GREATER COAL UTILIZATION, S. 1777.

I. INTRODUCTION

My name is L. W. Menk and I am Chairman of the Board and Chief Executive Officer of Burlington Northern Inc. My business address is 176 East Fifth Street, St. Paul, Minnesota.

Burlington Northern Inc., one of the country's principal railway companies, was formed in March 1970 by the consolidation of five predecessor companies. The company and its subsidiaries operate more than 25,000 miles of line in 19 western and midwestern states and two Canadian provinces and employ over 40,000 people. From the standpoint of your interest in the coal slurry line bill, it is important to note that we serve much of the territory in northeastern Wyoming and southeastern Montana in which western coal is mined or is to be mined. Our system map is appended as Exhibit A for your convenient reference.

You have been told of the development of an enormous future demand for western coal, and you have been told that there is so much need for transportation that the railroads probably cannot do the job alone. From that false premise it is concluded that the Nation must confer the power of eminent domain on the coal slurry lines in order that the energy crisis may be met. I assure you that the railroads can do the job.

Our critics are wrong because they have not realistically appraised the size of the task and because the railroads can easily increase their capacity to transport coal. Moreover, the railroads have the ability to respond quickly to the variable needs of coal consumers both large and small. However, as with a pipeline, the efficiency of the railroads bears a close relationship to the volume of traffic available to them and, in turn, anticipated traffic volume is itself the key to the railroads' ability to finance the improvements necessary to permit them to move the coal. Therefore, as I will later explain, the hinge on which this whole controversy turns is the fact that if one or more major slurry lines are constructed due to the adoption of the legislation before you, you will have seriously and perhaps fatally impaired the railroads' ability to finance needed improvements in their properties and equipment. The railroads will thereby lose their ability to provide the kind of transportation service for all coal users which is essential to meet the Nation's long-term energy needs.

II. THE COAL TRANSPORT REVOLUTION

Western coal began to find a place in the mid-western markets when we were able to match the growing need

for low-sulphur fuels with newly realized economics in the long distance operation of unit trains. Ours are truly unit trains because we have obtained near-maximum utilization of equipment by the essentially non-stop operation of high horsepower locomotives and mid-train "slave" units hauling long trains of cars of large capacity. This requires the elimination of all switching, expedited line operations and even the loading and unloading of trains while they are in motion. We normally deliver 10 or 11,000 net tons per train. This service we provide over vast distances frequently 1000 miles or more. In our territory we started and are participating in literally a transportation revolution. Its dimensions are not fully realized by the mining industry, the electric utilities, and perhaps least of all by the proponents of the legislation which you are considering.

Our pioneering activities with unit trains achieved success just about the time the more foresighted electric utility companies and mining firms began to realize both the true dimensions of the energy crunch and that low-sulphur coal would be essential to meet environmental standards.

The present accelerated development of new mines in Montana and Wyoming then began, as did matching plans for the consumption of their production in new electric generating facilities, most of which are west of the Mississippi. Thus, there suddenly was a clamor for a vast increase in our still new long-distance unit train service. We obviously couldn't give instant answers to all questions and the Penn Central debacle was still fresh in everyone's mind. Hence at least two utility companies began to worry about railroad capacity. They studied over-optimistic and varying coal production forecasts and they fretted about car supplies and even concerned themselves about whether other companies elsewhere might get better or more reliable service and, understandably, they started casting about for other modes of coal delivery. This, of course, prompted consideration of the slurry line scheme and culminated in the bills which are before you.

It is only fair to say the difficulties which the utility companies were encountering in planning to meet the energy crisis by the use of western coal reflected themselves in our own preliminary studies of the manner in which we would meet the transportation demands which were produced by the

energy crisis. However, I am pleased to say that the situation has now stabilized to the point where we know within reasonable limits the extent of the transportation service which will be required during the next six years.* We know the new equipment that will be needed and what must be done to improve track and fixed properties. We are satisfied that the job can and will be done. As a result even the National Coal Association - our adversary here and your critic on the Strip Mine Reclamation Bill - should feel a little less urgency about pursuing its improvident efforts to develop a duplicative transport system.

My assurance to the Committee that we can perform the coal transport job is based on an extraordinary amount of research and background work and was possible only because we approached the problem from the direction opposite to that used in the various national studies of future coal production. The latter, by and large, are but expansions of current production statistics based on somebody's estimate of the growth of electric generating facilities after deductions for the use of fuels other than coal. They are neither accurate enough nor specific enough for our purposes. What we did was to isolate

* All western coal production estimates and the projections used herein which are based on production forecasts were made before the decision of the Court of Appeals for the District of Columbia in Sierra Club v. Morton. The precise effect of that decision is not known at this writing.

and identify actual coal production which could move over our lines. This included all the mines in the Fort Union formations in Montana and Wyoming. These, of course, are by far the largest of the mineable western deposits of low-sulphur coal. This exhaustive review was done with the cooperation of the mining companies whose facilities in Montana and Wyoming are or will be serviced by our lines. We and the mining companies on a mine-by-mine basis arrived at our estimates on the basis of proven individual reserves, existing production contracts, executed contracts for future deliveries, proposals for future deliveries and estimates of total long-term production based on the geology of individual mines. In short we learned with accuracy how much coal will be mined in our territory, where and when it will be mined and where it will be shipped and consumed.

On the basis of this extensive information we developed plans for the incremental expansion and improvement of our fixed plant and for the acquisition of needed new equipment. These steps will be timed to meet new requirements as they arise without prematurely committing us to unnecessary capital expenditures. This planning process was very complex,

but was facilitated by the relatively long lead times which are required to open mines and build generating stations. The improvements we will make in plant and equipment will permit us to increase our western unit train coal traffic from 18.2 * million tons in 1974 to 140-150 million tons which will be required by 1980.

In practice, the coal will move from the mines via no less than four of our principal routes, two of which will be supplemented by a new line in Wyoming of 116 miles.** We have prepared computer simulations of increases in train movements based on both expected increases in coal production and the routes which new production will follow. This work has enabled us to develop optimum arrangements for the placement of new rail, ties, ballast and sidings, improved signalling and, in some places, double track. New and improved facilities for the maintenance and repair of cars and locomotives will also be necessary. Our new investment in these fixed properties alone will be $440 million by 1980 (in 1974 dollars) without taking into account the prospect that, when volume finally warrants our doing so, we may electrify important segments of our line.

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* Revised.

** A portion of the latter will be operated jointly by our company and the Chicago and North Western.

When that time comes - if it is not prevented by diversion of business to slurry lines - we will achieve an important cost break-through. Our estimates for the cost of necessary equipment is over $450 million. In short, we know we can and will do the job. Nobody now can reasonably foresee western coal transportation requirements after 1980 because nobody really knows the national needs for steam generation of electric power thereafter. However, if, as seems likely, western coal will still be the subject of increasing demand there remains much room for and plenty of time for any needed further expansion of railroad capacity. One modern double-track line with CTC signalling can alone handle twice the expected 1980 rail movement from the entire Fort Union formation. Yet, as stated, we have four routes by which the traffic will fan out in various directions. Thus basic operational capacity is indeed no obstacle although, as will appear, financing its full development will not be easy, especially if slurry lines are constructed.

III. BURLINGTON NORTHERN STUDIES OF SLURRY LINE SERVICE POTENTIALS AND OPERATING COSTS

My company would have been foolhardy in the extreme to have made the commitments to which I have referred had we

not carefully studied the potential competition from slurry lines. For that matter, as the owner of extensive railroad rights of way which could easily serve as pipeline rights of way, we thoroughly considered this new transport mode not only because of its competitive potential but to appraise the feasibility of our own participation in the coal slurry line business. Important public interest questions involving transport policy and the use of public waters concerned us also. This work was accomplished during a two-year study carried out in cooperation with Bechtel, Inc., a major construction engineering company and one of the companies which, with Lehman Bros., the New York financiers, is joint-venturing Energy Transportation Systems, Inc.* ETSI is perhaps the leading corporate sponsor of the bills before you. We have also examined and remain up to date as to anticipated needs for coal by Middle South Utilities and its subsidiaries. This company, it will be recalled, is another principal corporate sponsor of the eminent domain bills. As I will later explain, Middle South in fact anticipates large rail movements of coal to the very facilities which are said to be the destination of the slurry line to Arkansas. In any event, our joint study-

* Kansas-Nebraska Natural Gas Co., Inc., a pipeline company, recently purchased a 20% interest in ETSI.

which ran the gamut of modern costing techniques, including elaborate computer programs - demonstrated to our satisfaction that, save for possible special situations, coal slurry lines in our territory probably will not be self-supporting in the foreseeable future.* We were impressed, however, with the fact that Bechtel wants very badly to get contracts to build these enormously expensive facilities.

IV. COAL SLURRY LINES ORDINARILY CANNOT BE SELF-SUPPORTING.

In view of the conclusion stated above, the obvious first question will be why we oppose these bills if slurry lines are indeed not economically viable. In response, please note, first, that I said that the pipelines will usually not be economic, not that they will not be built if the Congress passes this legislation. As you know, the bills before you are moving on a surge of unquestioning enthusiasm on the part of certain federal agencies. They conceive the slurry line to be a new transport mode which will make a major contribution toward solution of the energy crisis. This conclusion is repeatedly expressed and endorsed although so far as I can find out no one in the Federal Government has even questioned

* This conclusion has received recent verification through an independent study by the National Science Foundation entitled "The Coal Future: Economic and Technological Analysis of Initiatives and Innovations to Insure Full Supply Independence."

either the premises or the details of the ETSI study. The Project Independence people frankly acknowledge that they have taken Bechtel's figures at face value. It is easy to foresee that, improvident or not, this governmental enthusiasm plus the hard sell of the construction companies will probably result in the building of a number of lines if an eminent domain bill is adopted. Gradual realization of the true costs of the facilities will come about in time and, as certain as the sunrise, a demand will then develop for federal money to protect those who have financed the projects. Therefore, not only will the railroads lose the coal traffic involved; we, as taxpayers, will also be privileged to help pay for the construction and operation of the very slurry lines which will have ruined our vital coal traffic. This same cycle has repeated itself so often in the transport industry, particularly in its maritime, inland waterway and airline segments, that one can almost predict a timetable.

I therefore urge as strongly as I can that, in light of the short-sightedness of the Executive Branch, the Committee and its staff should take a hard look at the fiscal integrity of the whole coal pipeline concept; otherwise, by

favorably reporting an eminent domain bill it will probably turn out that you have set in motion a chain of events which will put the government still deeper into transport subsidies.

A. Pipeline Technology is in its Infancy. Costly Developmental Problems will Impair Projected Transportation Savings.

My discussion of the reasons why the slurry lines cannot usually be financially sound takes as a beginning point the testimony which was offered during the Senate Interior Committee hearings during the 93rd Congress on the assumption that it will be restated here. The statements then submitted by slurry line proponents were to the effect that a 25-million-ton slurry line operating between Wyoming and Arkansas would, over a term of 30 years, produce savings over rail transport amounting to $14 billion. No detailed cost computations were submitted despite a perfunctory response to Senator Haskell's specific request for that data.

Our studies with Bechtel persuaded us that large coal slurry line operations are technically feasible but it also became quite apparent that many mechanical and operational problems remain to be solved. We also satisfied ourselves, notwithstanding ETSI, that the unit train is substantially

more energy-efficient than the slurry line for we find from carefully monitored experience that we can move coal at the rate of 250 BTU's per ton-mile against a theoretical 295 BTU's per ton-mile for the slurry line.

My immediate purpose is to emphasize that ETSI's economic projections do not appear to have taken account of unresolved technical problems involved in pipeline transportation of coal; rather its assumption seems to have been that it can commence smooth operations of a massive line at or near full capacity. Our engineers say it isn't going to be that way. The dewatering process is a difficult one and has never been attempted on the scale proposed. Disposition of the used water raises environmental questions. There is reason to think that it cannot always be evaporated away in the cooling processes used by the utilities as ETSI suggests. Despite ETSI's optimism, there are also unanswered questions as to the abrasive effect which the movement of millions of tons of coal will have on the pipe as the years pass; certainly much depends on the speed at which the slurry is moved. How will the massive load of coal in the pipeline be set in motion

again after pump or power failures? What effect on operations will severe western winters have? What will the utilities do for coal during pipeline shutdowns? Can they stockpile the powdered coal in the light of probable dust problems? A whole host of these kinds of questions remain to be answered. One of the most troublesome of all involves the disposal of powdered coal and water when, because of power failure, the tremendous quantities of slurry in the line must be emptied into settling basins. Major air and ground water pollution possibilities exist. I do not mean to imply that they cannot be resolved, but they can be handled only at a cost - a major cost obviously not reflected in the incredibly optimistic figures which appear in the ETSI study.

B. Environmental, Geographic and other Considerations Require Such Dispersal of Electric Generating Plants as to Preclude the Development of Slurry Lines which are Large Enough to be Economic.

It is entirely clear for other reasons also that ETSI's projected savings figure bears no relationship to reality. This is because neither the projected Wyoming-Arkansas line or any other slurry line will be able in the foreseeable future to reach any market which can use the

25 million annual tons needed to reach the low transportation costs predicted by ETSI. It is true that until recently Middle South Utilities apparently has thought that it would be able in time to use or dispose of tonnage approaching this magnitude in one area. This is no longer true as the Committee will note from the attached article from the Wall Street Journal for October 14, 1974, Exhibit B, which reports that that company and its subsidiaries will be permitted by the Arkansas Public Utility Commission to build only two instead of the planned four proposed 800 megawatt units proposed for a site 30 miles south of Little Rock. (In fact, plans were for 700 megawatt units so that with but two to be built total consumption at this site will be only about 4 or 5 million tons annually.) While the article does not so state, the Arkansas Commission's order, copy attached as Exhibit C, was based on environmental considerations which dictate that major generating stations be widely spaced.

The requirement for dispersing plant sites is not peculiar to Arkansas or Middle South Utilities, although Arkansas' ambient air quality standards are somewhat stricter than those of the federal government. Exhibit D, a map showing

planned new electric utilities in the area which might be considered tributary to the ETSI line, illustrates this same need for dispersal. From it you will also note that the coal consumption potential of planned utilities does not exceed 7.5 million tons annually at any individual site. The latter level of coal use is virtually the planned maximum anywhere save for scattered exceptions which do not exceed 10 million tons. Nevertheless, ETSI was correct in basing its slurry line cost estimate on a volume of 25 million tons. At least, in our territory, a movement of this magnitude is the essential predicate to any pipeline cost study if it is to produce a favorable result. This is because pipeline construction costs do not vary with the size of the line as greatly as does line capacity. In other words, because of right of way, excavation and related costs, a builder has to spend nearly as much to construct a 20-inch line with six million tons capacity as would be true of the ETSI's 38-inch line having 25 million tons capacity. This is a reflection of the fact that line capacity increases in proportion to the square of its diameter. Thus, even if one accepts at face value ETSI's claim that the latter's

38-inch line could deliver coal in Arkansas at 5 mills per ton-mile, the 20-inch line could do the job only at the prohibitive cost of about one cent per ton-mile. The latter figure is from Bechtel's own calculations as submitted to the Project Independence study in the form of the graph attached as Exhibit E, also labeled Figure VII-1. It is plain that if the ETSI line were to be scaled down to meet the actual needs of Middle South's two authorized Arkansas plants its charges for transportation would be unacceptable and greatly in excess of rail rate quotations.

C. Projected Economies of the 25-million-ton line cannot be realized if a distribution network is required.

Exhibit E referred to above will also be useful to you in appraising the probable contention that a 25-million-ton line could economically serve as the main source of supply for a feeder line system. However, I point out that the cost of small slurry lines to serve individual utilities having realistic capacities are so high as not even to have been fully graphed on Exhibit E. The obviously large cost for such a distribution system would dramatically reduce the economies hypothesized for the main slurry line. Two addi-

tional important considerations are first, as shown on Exhibit D, most of the utilities which might theoretically use the ETSI slurry line have indicated their intention to use rail delivery and some have purchased rail cars and made arrangement for rail car unloading facilities and, second, any scheme for distribution of slurry coal by pipeline would require the building of numerous small and relatively inefficient dewatering plants rather than the single large and untried facility apparently envisioned by the Bechtel scheme. It also entails important environmental problems involving the disposition of waste water after its separation from the powdered coal component of the slurry. The powdered coal, moreover, is costly and difficult to handle by conventional transport means should it be supposed that rail or barge distribution service might be employed rather than a series of small slurry lines.

Yet another major element in the cost effectiveness of a major slurry line is the timing and sequence of construction of the utility plants it will serve. As to the ETSI pipeline, the promoter's calculations apparently assume operation at or near full capacity soon after it is completed.

By no stretch of the imagination can this be done. Exhibit D, referred to above, includes the estimated completion dates of those generating plants which might be within reach of the ETSI line. Note that Arkansas Power and Light, Middle South's subsidiary, is committed to rail delivery, a point verified by the Arkansas PSC order, Exhibit C, Page 2.* Assuming that ETSI's facility is completed by 1978, as originally proposed, it is clear from Exhibit D that at least five years will elapse before it can be operated to capacity. While we cannot derive from ETSI's data the effect such a delay in the tonnage build-up would have on 38-inch pipeline economics, the principle involved is illustrated by Exhibit F, a comparative rate study based on a proposal to construct a 27-inch line. It shows an actual company's projected year-by-year burn for a planned station during each year of its 25-year life span. Note the slow peaking followed by a typical fall-off in consumption as the facility ages. Adjoining it is the pipeline promoter's computations of the tonnage needed for its line to produce the stated low transportation charge. Yet the utility's needs for coal are not matched by the relatively flat capacity of the pipeline. The result is that

* The Wall Street Journal for June 26, 1975, reported that the completion of these two plants has been postponed until 1979 and 1981, respectively.

the actual transportation charges would have to be five cents (28.7%) more per million BTU's than the pipeline promoters had projected. With a 25-million-ton line the imbalances and cost inadequacies illustrated by the exhibit will be greatly increased. Put another way, given the present technology and economics, pipeline operation necessarily is bound to the transportation of large fixed volumes of a single commodity moving between one or a few origins and destinations; it is an inflexible monolith which is usable only by the very largest mines and electric utilities, to the exclusion of all other customers. In contrast, the railroads can increase or decrease the volume of their service via gathering and distribution lines so as to meet with precision all shipper needs to move coal from any mine, large or small, to any coal user. At the same time they can serve shippers of all other commodities, and, since alternate routes are available, they can do both jobs without risk of a major accidental service interruption.

V. SLURRY LINE OPERATION WILL REQUIRE LARGE QUANTITIES OF WATER. IN THE WEST THE USE OF THESE SUPPLIES WOULD BE BOTH DIRECTLY AND INDIRECTLY INIMICAL TO AFFECTED AREAS.

Much testimony has been given on this subject and I am informed that the geologists representing the States of South Dakota and Wyoming will make technical presentations on the folly

of taking water for slurry lines from wells which would tap a major aquifer known as the Madison Formation. One of our own geologists has prepared a paper on this subject which will be filed as part of the hearing record. Under the circumstances I will simply emphasize that slurry pipelines require large amounts of water although good water for domestic and agricultural use is extremely scarce in the coal territory and potable groundwater is especially so. ETSI proposes to take Wyoming groundwater near the borders of South Dakota and Nebraska in one of the few places that water is both pure and can be reached at relatively shallow depths. Heavy withdrawals from these wells are likely to increase the mineralization of this good water, possibly to the point of rendering it unfit for domestic and agricultural use. Especially difficult problems are raised by the fact that this groundwater migrates between eastern Wyoming and the surrounding States of Montana, South Dakota and Nebraska; yet there is no Federal regulation of the possible impairment of the water supplies of sister states by Wyoming's decision to authorize ETSI to tap this supply. Water should be allocated to its highest priority. Its production should add a value to the local economy, particularly to agriculturists who must increase their production of food for this nation and

the world. Accordingly, it is a misuse of this scarce resource if it is taken from an arid area like Wyoming as a carrier medium and then discarded or evaporated in a water abundant area like the midsouth. In this view Governor Herschler of that state evidently concurs in light of his announced intention to question the constitutionality of the legislature's authorization of the ETSI wells.

As the principal representative of the railroad serving the northern Wyoming and the Montana mines, I would like to point out also that we expect to be operating in the area long after the mines have been worked out. We hope and expect that the strip mine reclamation legislation will result in restoration of the surface and that appropriate water conservation measures will be practiced so that adequate supplies will be available for local agricultural, municipal and industrial purposes. Thus, while obviously we have a major interest in western mining, I want to emphasize that we have other larger, long-term interests. Certainly we do not wish to be running a railroad through a mined-out wasteland devoid of railroad business but hungry for tax revenues. From our point of view, the need to conserve water in the western mining districts parallels the need for adequate strip mine reclamation

for in some instances that water may be useful or necessary to assure adequate restoration of the surface. Be that as it may, in the long-term interests of maintaining the environment and the economy, groundwater supplies should be retained in the region.

VI. EMPLOYMENT ISSUES VERSUS CAPITAL COSTS

During the last session of Congress, some proponents of the eminent domain bills set out to justify the proposal on the theory that by making the vast investment required, perhaps $700 million, large savings in transportation costs would be realized by the individual consumers of electricity. For the reasons heretofore stated, we believe this conclusion is erroneous; at best the pipeline promises savings only to those served by the few generating stations suited to pipeline delivery. Moreover, even these predictions are based on the hypothesis that continuing inflation will cause a many-fold escalation in rail rates whereas the pipelines will be less affected since after construction they will employ only a few - perhaps 300. To put the matter in perspective, I point out that we estimate that those public utilities which burn western coal spend 20 to 25% of their revenues for fuel,

including all transportation charges. In other words, the man who spends a dollar on his electric bill is paying 20 or 25¢ toward the total cost of fuel laid down at the generating station. Thus, variations in coal transportation charges are of relatively small importance to the individual consumer even though in the aggregate they may be of real significance to the utility which serves. My point is that the slurry line bill should not be permitted to masquerade as a consumer protective device for it is nothing of the sort.

I come then to the policy issue involved in the theory that Government should encourage the investment of large amounts of scarce capital for the sake of making savings in labor costs - and this is ETSI's entire thesis. Would it be a sound public interest decision to deny railroad employment at high wages to thousands of people in times of chronic unemployment? The question answers itself but to permit you to make an informed judgment, I am attaching as Exhibit G our current forecast of railroad people employed or to be employed by Burlington Northern and its subsidiaries in western coal operation. The total by 1980 will be 6471. Another 500 to 1000 new

jobs will necessarily be added by other connecting railroads which will participate in the handling of coal from fields served by our line.

VII. THE CONSTRUCTION OF BUT ONE SLURRY LINE WOULD HAVE A MAJOR AND POSSIBLY FATAL EFFECT ON THE ABILITY OF THIS RAILROAD TO FINANCE THE PHYSICAL IMPROVEMENTS NECESSARY TO PROVIDE ADEQUATE COMMON CARRIAGE OF COAL TO UTILITY CONSUMERS NOT REACHED BY PIPELINE.

The completion of a single slurry pipeline - if it works and if it can find customers for the necessary 25 million tons of coal per year - means that precisely that amount of traffic thereafter will be monopolized by the slurry line and that our railroad and its connections will have that much less business. This very large figure has been used rather casually during the hearings but to give some idea what it means to us in terms of today's average coal rates, 25 million tons would produce gross revenues for Burlington Northern of $150,000,000. This is $25,000,000 more than we earned in 1974 from hauling western coal. How then would the loss of 25 million tons (or some multiple thereof) affect Burlington Northern?

This is a complex story which I can but outline here. Ultimately it involves our profitability which will vitally affect our ability to finance the $440 million in improvements in fixed properties needed by 1980. It should be understood that up to this time our coal operations have not required any major changes or improvements in track and related structures. However, we are reaching the point where substantial ballasting and rail replacement work must be carried out on one route in particular. These costs represent the first increment in our long-range financing and improvement plan. We will have to sell a new, large bond issue (or issues) to raise the necessary funds. The next financing will be accomplished by reliance on our line of credit but shortly thereafter, probably about the time construction begins on the first pipeline (if you pass the eminent domain bill) we will have to make even larger investments to increase the capacity of other segments of our lines to meet the requirements of the heavy operations which will then face us. This is a step we will have to take regardless of the construction of slurry lines. Whether there will be an appropriate return on these interrelated investments depends heavily on our ability to realize anticipated economies of scale. That in turn

depends on whether our volume of traffic increases as predicted.

Both the need to protect our position in the loan negotiations and the uncertainty as to the amount involved precludes me from any detailed discussion of our plans for future financings, but it is abundantly clear that (1) internally generated sources of funds alone will not meet our needs; (2) equity funding, perhaps through a preferred stock issue is a strong possibility if market conditions allow and if, when the issue is offered for sale, the investing public believes our earnings will hold up and improve; and (3) very large direct borrowings from the financial community may be essential until the new facilities are in place and producing the earnings we anticipate. If we are to sell bonds the investors will have to be satisfied that our operations will be sufficiently profitable to service the additional debt. This we can do on the basis of present prospects and possibly it can be done if the eminent domain bill passes, but I ask you to put yourself in our place and then try to visualize how you would raise as much as $440 million with even one slurry line hanging over your head. Mind

you, we are going to have to have most of that sum just to keep going but if our anticipated volume drops by anything like 25 million tons the profitability of the service is going to be regarded by many as problematical. Consider too that the borrowings of which I speak are going to have to be accomplished at times when, unless all signs fail, there will be high interest rates and heated competition for available funds. Indeed, some of that competition may come from pipeline companies.

VI. CONCLUSION

In concluding I would like to ask you a second question: Will you as elected officials, please consider how anyone can justify a public policy which may sacrifice the ability of many of the utilities west of the Mississippi to obtain low-sulphur western coal at low rail rates simply because someone claims it would be nice for a few favorably situated companies to save a fraction of a cent per ton-mile on pipeline coal? The propriety of granting a preference for a few shippers at the expense of many is the ultimate issue. Thus, your vote is not going to be on a mere technical question of eminent domain. On the contrary, it will be one

which will profoundly affect both national transportation policies and national energy policies. I have no hesitation in saying that an affirmative vote will be profoundly wrong. However, a vote against the bill will be a vote for a stronger transport system. It will be a vote for the development and improvement of a rail system which can serve all shippers of all commodities years after the slurry lines have outlived their usefulness.

Dated: May 16, 1975

Respectfully submitted,

L. W. Menk
Chairman & Chief Executive
Officer
Burlington Northern Inc.

EXHIBIT B

THE WALL STREET JOURNAL
Monday, Oct. 14, 1974 21

Arkansas PSC Reduces Coal-Fired Plant Size Of Middle South Unit

Special to THE WALL STREET JOURNAL

LITTLE ROCK, Ark. — The Arkansas Public Service Commission cut back to two units a proposed four-unit, coal-fired generating plant planned by Arkansas Power & Light Co., a subsidiary of Middle South Utilities Inc.

The two authorized units, both 800,000 kilowatts in capacity, are scheduled to go into operation in 1978. The planned four-unit plant was expected to cost $550 million, but the company didn't announce what the two-unit facility would cost.

Arkansas Power said it will announce today if it will appeal the commission's decision. The company also said it's studying other possible locations for construction of the two units for which it didn't receive permission to build. It said the commission's decision doesn't preclude proposing such a relocation.

In authorizing the two-unit plant, planned for a location on the Arkansas River about 30 miles south of Little Rock, the commission refused to require installation of sulphur-dioxide scrubbers, which were demanded by environmental, health and consumer groups. But the commission did instruct the utility to design its plants so that scrubbers can be installed if they are developed to a point of "provable value."


Geographically correct map
of the UNITED STATES issued by
BURLINGTON
NORTHERN
HAWAII
JAPAN
GULF OF MEXICO
PACIFIC OCEAN
ATLANTIC OCEAN
MAIN LINES:
BRANCH LINES:
SCALE OF MILES
Form 22060
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EXHIBIT A

EXHIBIT C

ARKANSAS
PUBLIC SERVICE COMMISSION

IN THE MATTER OF THE APPLICATION OF ARKANSAS POWER AND LIGHT COMPANY FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR CONSTRUCTION OF AN ELECTRIC GENERATING PLANT AND ASSOCIATED FUEL SUPPLY AND OTHER FACILITIES NEAR REDFIELD, JEFFERSON COUNTY, ARKANSAS	)	DOCKET NO. U-2488

O R D E R

On August 17, 1973, Arkansas Power and Light Company, hereinafter called "AP&L", filed an application, pursuant to the provisions of the Utility Facility Environmental Protection Act (Act 164 of 1973; Ark. Stats., Sec. 73-276, et seq), requesting that the Arkansas Public Service Commission, hereinafter called the "Commission", issue a Certificate of Environmental Compatibility and Public Need to construct, maintain and operate a major utility facility as defined in Act 164, consisting of four (4) electric generating units and related cooling towers, intake and discharge facilities, and transportation and other necessary facilities at a site on the west bank of the Arkansas River near Redfield, Jefferson County, Arkansas (hereinafter called the "White Bluff Plant"). Each of the proposed generating units has a gross capacity of 800 megawatts (MW) with each unit to be connected to a stack 750 feet high. There was attached to and made a part of the application an Environmental Impact Statement as required by Section 5(a) (5) of Act 164.

Pursuant to provisions of Act 164, Petitions for Intervention were allowed for the Ecology Center of Arkansas; Arkansas Department of Pollution Control and Ecology; Arkansas State Department of Health; Arkansas Game and Fish Commission; Arkansas Department of Industrial Development; Arkansas Department of Commerce; Arkansas Department of Planning; Arkansas State Highway Department; and Arkansas Community Organizations for Reform Now (ACORN), and limited appearances were filed and/or presented on behalf of League of Women Voters of Pulaski County, League of Women Voters of Pine Bluff, Arkansas Consumer Research, Lillian McGraw Rogers, W. T. Robinson and Mary Thomson.

On June 17, 1974, the Commission commenced hearings on this application which continued until recess on June 21, 1974. On July 18, 1974, the hearings were resumed and continued until adjourned on July 24, 1974. The transcript of the proceeding totaled 3,380 pages and included voluminous exhibits which were admitted into the record.

Section 9 of Act 164 charges the Commission to make certain specific findings and determinations as follows:

A. The basis of the need for the facility.

B. That the facility will serve the public interest, convenience and necessity.

C. The nature of the probable environmental impact.

D. That the facility represents an acceptable adverse environmental impact, considering the state of available technology, the requirements of the customers of the applicant for utility service, the nature and economics of the proposal and the various alternatives, if any, and other pertinent considerations.

E. In the case of an electric transmission line, that such facility is not inconsistent with known plans of other electric systems serving the State which have been filed with the Commission.

F. That the location of the facility as proposed conforms as closely as practicable to applicable State, regional and local laws and regulations issued thereunder.

The Commission is further instructed in Section 9 of Act 164 of 1973 to grant or deny the application as filed, or grant it upon such terms, conditions or modifications of the construction, operation or maintenance of the facility as the Commission may deem appropriate. (Emphasis added)

Having set forth the legal requirements imposed upon it by statute, the Commission therefore proceeds to a discussion of the proposed project and an enumeration of its findings and conclusions with regard thereto.

THE PROPOSAL

The "White Bluff Plant" proposed by AP&L consists of four (4) steam electric generating units and related cooling towers, intake and discharge facilities, and transportation and other necessary facilities at a site on the west bank of the Arkansas River near Redfield, Jefferson County, Arkansas. Each of the four proposed generating units has a gross rated output of 800 megawatts and each unit is to be served by an exhaust tower or stack 750 feet in height.

The site of the proposed plant near Redfield, Arkansas, includes approximately 3,360 acres of land. It lies some twenty-four miles south of Little Rock and seventeen miles north of Pine Bluff. The present estimated cost of the plant is $850,000,000.00. It has been designed to use low-sulphur Wyoming coal to fuel the boilers. A contract has been entered into for the coal needed to fuel the first two of the four proposed generating units, and the coal is to have an average sulphur content of 0.48%. At present, it is contemplated that the coal will be transported to the White Bluff site from Wyoming by rail, each shipment consisting of 110 rail cars having a 100 ton capacity per car. The plant site includes 900 acres reserved for disposal of the ash resulting from the burning of the coal.

During the course of the hearing, AP&L witnesses testified that they were considering a reconfiguration of the proposed plant to provide four units with two 1,000 foot stacks, each stack serving two units. The application was not amended. However, in the memorandum brief filed on behalf of Arkansas Power and Light Company, it is stated that the Company is agreeable to such a modification.

FINDINGS

Based upon the testimony of witnesses presented by various parties, the exhibits introduced, the briefs filed, and other matters, proof, and things of record in this proceeding, the Commission makes the following findings with regard to each specific aspect of the proposed project.

A. The Basis of the Need for the Facility.

The proposed White Bluff Plant would be the largest coal-fired generating facility in the world. At peak capacity, the proposed plant with four units would consume approximately 2,000 tons

of coal per hour, strip-mined in Wyoming and imported on an almost continuous basis by 110 car trains. While AP&L in its written testimony and the Environmental Impact Statement describes the net operating capacity of the White Bluff plant as 700 MW per unit versus the gross capacity of 800 MW, oral testimony of its witnesses establish that the net capacity is substantially in excess of 700 MW although less than the 800 gross MW. AP&L is a wholly owned subsidiary of Middle South Utilities, Inc., which also owns Louisiana Power and Light Company, New Orleans Public Service, Inc., Mississippi Power and Light Company and Arkansas-Missouri Power Company, the latter serving a small part of eastern Arkansas. The planning of generating facilities by AP&L is done as a part of the planning of generating facilities for the Middle South Utilities operating companies as a whole.

Pursuant to long established policy of Middle South Utilities, AP&L has never owned facilities for generating all of the energy sold by it. It has been a net importer of electricity purchased from other Middle South operating companies and other systems, including TVA. For example, in 1973, the actual demand of AP&L was 2,744 MW, while the total owned capacity of AP&L was 2,173 MW. AP&L's net area energy requirements for 1973 were 13,382 gigawatt hours (GWH) of which AP&L generated 8,328 GWH. Thus, in 1973, 38% of AP&L's power requirements were purchased by it. Between 1966 and 1973, purchases ranged from a low of 10% of requirements in 1970 to a high of 51% in 1967. There is no evidence in the record that AP&L cannot and will not continue to purchase substantial quantities of power as, for example, from TVA brought in by its 500 KV grid system from West Memphis.

The White Bluff plant contemplates not only total production of all requirements by AP&L, but also a substantial exporting of energy to other Middle South companies, at least until the early 1980's and, in addition, a contingency reserve of 16% of total load projections. The size of the White Bluff plant is sufficient by itself to meet the maximum 1973 load. AP&L Nuclear One, having a capacity of 850 MW, will be operational this year and Nuclear One, Unit 2, having a capacity of 950 MW, will be operational in 1976. It is perhaps also significant to observe that no coal-fired generating plants are in the definitive planning stage for other Middle South operating companies. Three units of 700 MW each with the plants not named and locations not determined are projected, one unit each in 1981, 1982 and 1983. On the other hand, four nuclear plants, two to be operated by Louisiana Power and Light Company and two by Mississippi Power and Light Company are presently committed with projected operating dates from May, 1979, to January, 1983.

Thus, AP&L, as the Applicant, carries the burden of demonstrating to this Commission that this plant is needed and needed now, that the nature and economics of the plant are consistent with the public need and necessity, and that it can be constructed and operated with acceptable adverse environmental impact in light of available technology.

AP&L Senior Vice-President, J. D. Phillips, testified that all four of the proposed units will be needed during the period of time between 1978 and 1981. Unit 1 is scheduled to go on line in January, 1978, Unit 2 in May, 1978, Unit 3 in January, 1980, and Unit 4 in January, 1981. The exhibits supplied by Mr. Phillips indicate that these units will provide adequate generating capacity along with a 16% reserve.

The testimony of Mr. Phillips is supported by the testimony of Mr. Donald Martin, Regional Engineer with the Federal Power Commission, and Mr. Larry Hoaglan of the Arkansas Public Service Commission staff. However, the testimony of Mr. Martin and Mr. Hoaglan was, by necessity, based upon data supplied by the Company.

Furthermore, Mr. Martin testified that increased electric rates and conservation measures were having some effect upon the amount of electricity consumed by the public and there are cases where utilities in other parts of the country have cut back or cancelled plans to build additional electric generating plants due to such factors.

Therefore, AP&L's forecast is of doubtful reliability in predicting the actual amount of electricity that may be needed in 1981, because this forecast is based on historical load growth and does not take into account factors such as rapidly rising electricity costs and conservation measures which appear to be having widespread effects on electricity consumption throughout the country.

The Commission is nevertheless convinced that by 1978 there will be a need for additional generating facilities which would at least justify the construction of Units 1 and 2 of the proposed White Bluff plant. However, as the Commission has further concluded, as hereinafter set forth in Paragraph C of this Order, that no more than two of the proposed 800 megawatt coal-fired generating units can be constructed at the White Bluff site without creating an unacceptable adverse impact on the environment, it is not necessary to determine in this proceeding whether additional generating facilities will be needed in 1980 or 1981.

Mr. A. Paul Priddy, Vice-President and Chief Power Engineer for the engineering firm retained by AP&L to design the White Bluff plant, testified that AP&L has an additional two or three years more time to build Units 3 and 4 than is required for the construction of Units 1 and 2 since Units 3 and 4 are not scheduled for completion until 1980 and 1981.

Therefore, if AP&L remains of the opinion that such additional generating facilities will be required to meet customer needs in 1980 and 1981, there is sufficient time available to plan, seek approval for, and, if approved, construct such additional facilities so that they may be placed in service at or near the same time projected for completion of Units 3 and 4 of the White Bluff plant as originally proposed. Furthermore, any future proceeding for approval of the construction of such additional facilities would allow the Commission to reach a more informed judgment as to the need for such facilities in 1981 inasmuch as more accurate and current data would be available.

B. The Facility Will Serve the Public Interest, Convenience and Necessity.

As the Commission has therefore found that there is a need for the construction of at least two units of additional generating facilities with a gross capacity of 800 megawatts each to meet customer demands for energy by 1978, it necessarily follows that the construction of such a facility will serve the public interest, convenience and necessity. However, the Commission must also determine whether the proposed use of coal as the fuel for such facility is also consistent with the public interest, convenience and necessity.

The evidence reflects that AP&L has reviewed solar energy, geothermal, tidal and other novel energy systems, and reasonably concluded that, at the present time, these were neither practical nor feasible. Hydro-generation was also considered, but there is not sufficient capacity in the State. Natural gas, a very clean fuel, is not available and, in fact, AP&L cannot get enough natural gas for its existing plants.

Therefore, only three fuels could be considered feasible for use in the White Bluff plant, i.e., nuclear, coal, or oil.

AP&L testified that after serious consideration, it rejected nuclear fuel because the time required to construct a nuclear generating plant is about ten years and that such time was just not available. Further, nuclear plants are considerably more expensive to construct and, to be economical, must be operated at nearly maximum capacity. It should be noted that Unit 1 of AP&L Nuclear One, having a capacity of 850 megawatts, will be operational this year and Nuclear One, Unit 2, having a capacity of 950 megawatts, will be operational in 1976. AP&L, therefore, testified that it concluded that a proper mix of generating capacity would be in the best interest of AP&L's customers.

Fuel oil would not be practical nor economical due to the current situation with regard to low-sulphur fuel oil and the tremendous price currently charged for fuel oil.

Mr. Donald Martin testified that, in his opinion, shortages and increases in prices of petroleum products and natural gas make it necessary that electric utility systems convert to coal-fired generating facilities.

The evidence further reflects that coal exists in sufficient quantities and, due to its relatively low cost, it is a desirable alternative to more expensive and less available fuels for electric generation.

Therefore, the most reasonable choice for a fuel for this generating facility is coal and because of environmental considerations, low-sulphur coal should be used.

This is not to say that all future generating plants constructed in Arkansas must or even should use coal as a fuel. The Commission is confident that the time required for the construction of nuclear plants will be shortened and, therefore, nuclear energy may be a more appropriate fuel for future generating plants in Arkansas. In addition, the Commission is hopeful that new energy sources will become feasible.

However, with regard to the White Bluff plant, the use of coal will best enable AP&L to supply its customers with sufficient energy to meet their needs at the lowest rate practicable, and its use, therefore, is consistent with the public interest, convenience and necessity.

C. The Nature of the Probable Environmental Impact.

Mr. Neil Woomer, a witness for the Department of Pollution Control and Ecology, and Mr. J. D. Patterson, a witness for AP&L, testified that the proposed plant would have adequate water pollution control measures to minimize the effects of discharge to the Arkansas River in the form of cooling tower blowdown and runoff water from the coal storage areas, the ash disposal area and the plant yards.

The record of the hearing also reflects that the proposed plant will be operated within the requirements of State and Federal air pollution control regulations as they relate to particulate emissions, nitrogen oxides and visible emissions. AP&L proposes to control particulate emissions from the stacks with electrostatic precipitators guaranteed by the manufacturer to be 99.5% efficient.

AP&L proposes to meet the State and Federal sulphur dioxide emission regulations by the use of low-sulphur coal together with the use of what is referred to as an Intermittent Control System (ICS). An Intermittent Control System means that the rate of operation of the plant and thus the amount of coal being burned would be reduced during periods of adverse meteorological conditions so as to maintain compliance levels for sulphur dioxides. In this

connection, it should be observed that Section 8 of the Arkansas Air Pollution Control Code allows a maximum ground level concentration of 0.2 parts per million (533 ug/M^3) sulphur dioxide (SO_2) for a 30-minute average. This is a more restrictive regulation than the national secondary ambient air quality standard of 0.50 ppm for three hours. An Intermittent Control System to meet the 30-minute standard of this State would clearly require a highly sophisticated system of continuously monitoring SO_2 emissions and meteorological conditions which, coupled with an automatic data processing center, would permit forecasting of adverse conditions in sufficient time for plant operations to be reduced or shut down to maintain compliance levels. Intermittent Control Systems have been used by certain Tennessee Valley Authority plants, but the applicable standard for those plants is 0.5 ppm for a three hour average, which allows a substantially longer lead time in implementing a load reduction. Moreover, the use of an Intermittent Control System for air pollution control is appropriate only if its projected use would be highly infrequent and of short duration, and where the necessary load reductions would be compatible with the system as a whole.

The question arises whether the plant as proposed with four 800 megawatt units and four 750 foot stacks can meet the Arkansas standard by employing an ICS. The preponderance of the evidence and testimony offered at the hearing is that it cannot. AP&L had the burden of proving that the White Bluff plant will comply with the sulphur dioxide regulation. The record, however, reflects that the proposed plant of four units with four stacks 750 feet high cannot be expected to comply with Section 8 of the Arkansas Air Pollution Control Code, even assuming a sophisticated ICS. AP&L itself receded during the course of the hearing from the configuration of four 750 foot stacks and instead proposed a design change of two stacks 1,000 feet high to serve the four generating units. As hereinafter set forth, AP&L failed to sustain its burden of proof that this modified plant configuration will meet the sulphur dioxide emission limitation of Section 8 of the Air Code.

Ambient concentrations of sulphur dioxide for White Bluff were projected by use of computer simulation modeling. This technique is an accepted approach for predicting the effect of atmospheric processes on the transport and dispersion of contaminants emitted into the environment. Mathematical expressions are used to calculate effective plume rise and subsequent dispersions and diffusion of the plume into the atmosphere under varying meteorological conditions. Many models have been developed and considerable testimony in the record relates to the most appropriate model or models to use in respect to the White Bluff plant. The Walden Research Division of ABCOR, Inc., which prepared the computer modeling studies for AP&L, and the Department of Pollution Control and Ecology both used the models developed by the Tennessee Valley Authority (TVA) to predict SO_2 concentrations under plume "trapping" and "fumigation" conditions. TVA has been in the process of developing simulation models for plume dispersion from large coal-fired plants for over a decade and the model currently used has been verified by extensive empirical data developed in the field. Using the TVA model for predicting 30-minute concentrations of SO_2 under "plume trapping" meteorological conditions with the downwind maximum point of concentration at 3 km. and a temperature gradient of 1.5° C/100 meters, with no time correction factor, all as recommended by TVA, the computer calculations of the Department of Pollution Control and Ecology for four generating units with two 1,000 foot stacks reflected that the State's 30-minute standard of 533 micrograms per cubic meter (ug/m^3) would be exceeded at all operating loads from thirty percent to 110 percent. Where a time correction factor of 1.1 was used, the State standard would still be substantially violated at a fifty percent operating load and above. The summary of calculations by the Department reflect the following for "trapping" conditions:

% Load	Concentration (ug/m^3 - - 30 min.) Time Correction = 1.1	Time Correction = 1.0
110	1188	1307
100	1124	1236
70	894	983
50	710	781
30	490	539

The calculations for "fumigation" or "inversion breakup" conditions using the recommended TVA formula without a time correction factor and with a downwind concentration at 30 km., reflects a projected concentration of a four-unit two-stack configuration of 666 ug/m^3.

The model projections made by Walden deviated from the recommended TVA model for "plume trapping" conditions by using a twenty kilometer downwind concentration point rather than the recommended three kilometers and by using a temperature gradient of 0.64° C/100 meters rather than the recommended 1.15° C/100m. These deviations were not justified by the evidence. Calculations by Walden using the TVA formula without deviation for four units with two stacks each 1,000 feet high, under peak load of 110 percent corresponded very closely with the calculations of the Department of Pollution Control and Ecology. Thus, at 3 Km., Walden found 1120 ug/m^3, at 5 Km. 1050 ug/m^3 and at 10 Km. 960 ug/m^3. All calculations of Walden were made under so-called peak load conditions of "worst case" meteorological conditions. To the extent that this suggests that the State standard would be exceeded only under peak load conditions, it is manifestly incorrect as reflected by the calculations of the Department under loads varying from 30% to 110%, all of which showed violation of the State SO_2 standard under "worst case" weather conditions. AP&L testified that using the 3 Km. downwind maximum concentration point, violations would occur 11.6% of the time for projected violation or 42 days on an annual basis.

The evidence of the Department of Pollution Control and Ecology reflects that a plant configuration of two generating units with one 1,000 foot stack would have approximately fifty to sixty percent of the downwind SO_2 concentration of the four-unit, two-stack configuration. While these projections still reflect the potential for violation of the 533 ug/m^3 limitation, such potential for violation would be considerably lower and less frequent than for a four-unit, two-stack plant and such violations could be more easily avoided by use of an adequate intermittent control system. Unfortunately, AP&L produced no detailed evidence of its proposed design for and operation of an ICS. Responsible officers of the Company did testify that AP&L "would do anything necessary to avoid any violations." The record does reflect that TVA has successfully operated an ICS for control of sulphur dioxide emissions at its generating plants for several years. It further appears that the state of the art would permit the proper design and operation of an ICS adequate to control SO_2 emissions from a plant at White Bluff consisting of no more than two 800 gross megawatt generating units served by one stack 1,000 feet high.

D. That the Facility Represents an Acceptable Environmental Impact Considering the State of Available Technology.

It was suggested by witnesses testifying on behalf of some of the intervenors that stack gas emission controls, popularly known as "scrubbers" should be installed at the White Bluff plant to remove sulphur oxides from the flue gas.

Mr. A. V. Slack, testifying for AP&L, detailed the technological troubles and inefficiencies in sulphur scrubbers, and testified that, in his opinion, scrubbers have not reached a state of technology that would make them practical to install or operate,

and that the expense involved in the installation and operation of such equipment is prohibitive. This, coupled with the testimony of Mr. Jerral Southall that scrubbers are not necessary to avoid violations of existing State or Federal air quality regulations by a two-unit, one-stack configuration convinces the Commission that sulphur scrubbing equipment is not feasible or desirable for use at White Bluff at this time.

However, the Commission realizes that there is considerable research currently being conducted in this field of technology and that sulphur scrubbing may become feasible and desirable at some time in the future. Furthermore, as there exists the possibility that Federal regulatory agencies may require the installation of scrubbers in the future, the Commission concludes that the White Bluff plant must be designed to allow for the future installation of scrubbers should this Commission or some other appropriate authority order their installation.

E. That Such Facility is not Inconsistent with Known Plans of Other Electric Systems Serving the State Which Have Been Filed with the Commission.

The Commission takes administrative notice that no other electric system serving Arkansas has filed any application inconsistent with the location of the plant herein considered or the proposed transmission facilities.

F. That the Location of the Facility as Proposed Conforms to State, Regional and Local Laws.

As noted hereinabove, the proposed facility will conform to all existing standards except the Arkansas 30-minute standard for sulphur dioxide emissions, and the evidence demonstrates that the 30-minute standard may be met by construction of no more than a two-unit plant with a 1,000 foot stack and by operation of an effective intermittent control system.

CONCLUSIONS

Based upon the above findings, the Commission reaches the following conclusions with regard to the proposed project:

1. The Commission has jurisdiction of the subject matter and the parties in this proceeding under the Utility Facility Environmental Protection Act (Act 164 of 1973).

2. There will be a need for at least two units of additional generating facilities, with a gross capacity of 800 megawatts each, to meet AP&L customer demands for energy by 1978.

3. Inasmuch as the construction of a nuclear facility is not possible by 1978, coal is a feasible alternative to natural gas or fuel oil as a boiler fuel for electric generating plants due to its relative availability and comparative low price.

4. The applicant has not shown that the proposed plant with the presently contemplated configuration of four generating units with four 750 foot stacks can meet the requirements of the Arkansas Air Code and, therefore, a certificate allowing the construction of the plant, as proposed, is denied.

5. The Certificate for Construction of the White Bluff plant is granted upon the condition that the White Bluff plant be limited to two 800 gross megawatt generating units served by one stack 1,000 feet high; that said plant be designed for

retrofitting of sulphur oxide scrubbers should future developments in the state of the art indicate the desirability of their installation; and, that AP&L design, install, and operate an Intermittent Control System adequate to insure compliance with Section 8 of the Arkansas Air Pollution Control Code. The issuance of a certificate of environmental compatibility and public need for said modified plant is further conditioned upon the issuance by the Arkansas Department of Pollution Control and Ecology of air, water, and solid waste disposal permits for said facility.

6. AP&L is directed to file reports with this Commission at intervals of six months beginning January 1, 1975, detailing the progress made in the construction of the modified facility and changes made in the Company's load growth forecast; and within one hundred eighty (180) days from completion of construction, the Company shall file with the Commission a report showing the date the project was completed and the cost of construction.

IT IS, THEREFORE, ORDERED:

That Arkansas Power and Light Company be, and it is hereby, granted a Certificate of Environmental Compatibility and Public Need for the construction of a coal fired electric generating plant at the White Bluff site subject to all the modifications and conditions hereinabove set out.

BY ORDER OF THE COMMISSION

This 11th day of October, 1974.

Pat Moran, Chairman

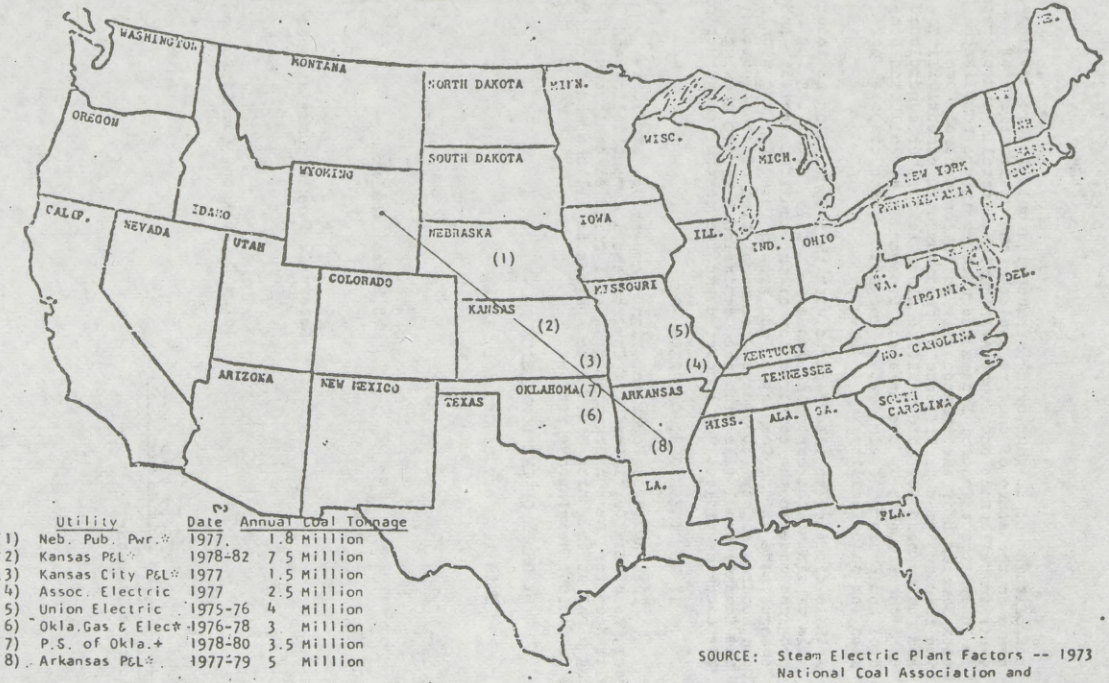
Robert C. Downie, Commissioner

Jerry D. Jackson, Commissioner

Tommie Castillow
Executive Secretary

EXHIBIT D

MAJOR ANNOUNCED COAL-FIRED POWER PLANTS ALONG PROPOSED SLURRY PIPELINE ROUTE



	Utility	Date	Annual Coal Tonnage
1)	Neb. Pub. Pwr.*	1977	1.8 Million
2)	Kansas P&L*	1978-82	7.5 Million
3)	Kansas City P&L*	1977	1.5 Million
4)	Assoc. Electric	1977	2.5 Million
5)	Union Electric	1975-76	4 Million
6)	Okla. Gas & Elec*	1976-78	3 Million
7)	P.S. of Okla.+	1978-80	3.5 Million
8)	Arkansas P&L*	1977-79	5 Million

SOURCE: Steam Electric Plant Factors -- 1973
National Coal Association and
BN Projections

*Rail cars already purchased. Plant will have rail unloading facilities.

+Rail facilities planned.

FIGURE VII - 1 EXHIBIT E

COAL SLURRY PIPELINE

TRANSPORTATION COSTS

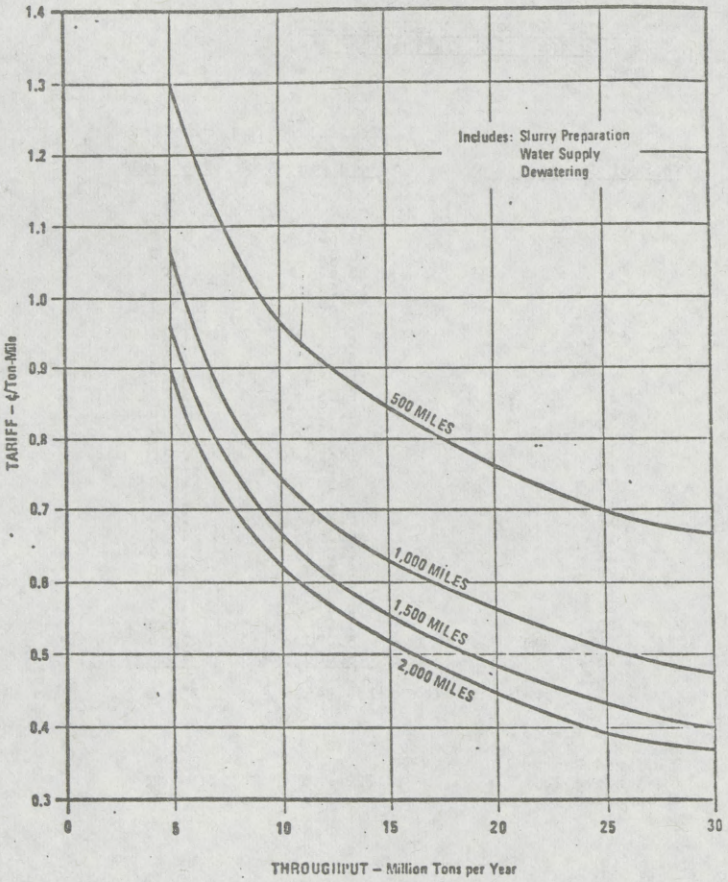


EXHIBIT F

SENSITIVITY OF PIPELINE ECONOMICS
TO VARIATIONS IN THROUGHPUT

Year of Contract	Typical Customer Requirement	Pipeline Company Proposal
1	3.060	5.0
2	6.120	8.0
3	10.625	12.0
4	10.625	12.0
5	10.625	12.0
6	10.085	12.0
7	9.545	12.0
8	8.750	12.0
9	8.750	12.0
10	8.750	12.0
11	8.390	10.0
12	8.030	10.0
13	7.500	10.0
14	7.500	10.0
15	7.500	10.0
16	7.140	10.0
17	6.780	10.0
18	6.250	10.0
19	6.250	10.0
20	6.250	10.0
21	5.890	10.0
22	5.530	10.0
23	5.000	10.0
24	5.000	10.0
25	5.000	10.0
Total	184.945	259.0
Required Charge To Achieve 20% Return on Equity	$.2204/MM BTU	$.1704/MM BTU

STATEMENT OF
JOHN W. HANIFIN, PRESIDENT
AND CHIEF EXECUTIVE OFFICER
OF
THE CHESAPEAKE AND OHIO RAILWAY COMPANY
AND
THE BALTIMORE AND OHIO RAILROAD COMPANY
RELATING TO S. 1777 BEFORE
THE SENATE COMMITTEE ON
PUBLIC WORKS

JUNE 11, 1975

My name is John W. Hanifin and my business address is 3600 Terminal Tower, Cleveland, Ohio. I am President and Chief Executive Officer of The Chesapeake and Ohio Railway Company and The Baltimore and Ohio Railroad Company, which together with the Western Maryland Railway Company and the Chicago South Shore and South Bend Railroad comprise Chessie System lines. The opportunity to appear before your Committee and express the views of the Chessie System lines is greatly appreciated.

We consider S.1777 as very constructive and necessary legislation. If enacted, S.1777 will greatly increase the production and use of steam coal as a primary fuel source and go a long way toward ending this country's dependence upon foreign oil supply sources. It has been projected that S.1777 and related measures will almost double the use of coal in the United States by 1985. For this reason, your Committee is justifiably concerned as to whether sufficient coal will be available to satisfy the sharply increased demand and whether the railroads are capable of providing reliable transportation to move the coal from mine to market. My testimony will be directed to these two questions. Inasmuch as Chessie System lines comprise the largest coal hauling railroad system in the nation, I believe my testimony will be representative or typical of the situation existing on other major coal hauling railroads.

To begin with, there is at present a large reservoir of unused productive capacity in origin mines producing steam coal located on Chessie System lines. On June 5th, I checked with our Coal Traffic Department, which advised that on The Chesapeake and Ohio Railway Company alone 41 mines having a daily production of 30,000 tons of low sulphur coal were not working due to lack of orders. On the same day, C&O had 7,227 empty hopper cars on line. For the period January through May 1975, the unused productive capacity of C&O origin mines aggregated 3.6 million tons of less than one percent sulphur coal. The failure of these mines to work was due entirely to lack of orders and not to hopper car or power shortages on Chessie System. Except during unexpected crises, Chessie System has had the available cars and power to handle the transportation requirements of its customers.

Idle capacity exists on all railroads not just C&O. While I have no means of accurately canvassing the mines located on other railroads, I believe C&O's figures can be multiplied many times over. For instance, I know that there is a large idle productive capacity in mines on B&O although no daily records are maintained.

I have discussed unused productive capacity because I was surprised to read recently the testimony of a senior official of Virginia Electric & Power Company before the Federal Energy

Administration dealing with the same issue of conversion from oil to coal in utility plants. He claimed that his company would not be able to obtain all of its coal requirements due to lack of "availability of sufficient coal to meet increased needs due to prohibition orders" and because "sufficient rolling stock is not available for transporting all the coal that will be required after conversion."

VEPCO was an important user of coal prior to its decision to utilize import oil as a primary fuel source. In 1968, for example, VEPCO burned approximately 5 million tons of coal which originated in nearby producing fields in the States of Virginia and West Virginia served by C&O and the Norfolk and Western. Last year, however, C&O handled only 804,000 tons of coal for the plants in the VEPCO system still remaining on coal. One plant which received 216,000 tons in 1974 has since gone to oil. For this reason, I followed VEPCO's testimony with interest. I believe their representative is misinformed over the availability of coal and the reliability of rail transportation.

The 3.6 million tons of unused production now existing on C&O alone that I have cited would more than cover the coal requirements through May 1975 of all VEPCO utility plant sites presently burning foreign oil in lieu of coal. Moreover, the delivered costs of coal are cheaper than oil. Chessie System

maintains in the normal course of business a running record contrasting the delivered price of steam coal from representative mines to eastern utility destinations with high and low sulphur oil equivalents. Since 1970, the delivered cost of C&O low sulphur coal to utility destinations in the East has been lower than the price levels for low sulphur residual oil. In 1973, low sulphur coal prices also dropped below high sulphur oil prices. A semi-annual comparison of the costs of coal versus oil from June 1969 to date is set forth in Appendix A to my statement. As of May 1975, for example, the average delivered cost of low sulphur steam coal produced at mines along C&O was 123.6 cents per million btu's contrasted with 184.4 cents and 211.6 cents for high sulphur and low sulphur oil, respectively. The comparison between low sulphur coal and equivalent low sulphur oil costs is the most valid and the most significant. There is a spread of 88 cents in cost per million btu's in favor of coal which translates into substantial savings to the consumer if coal is used as the fuel.

A dramatic illustration of the savings inherent in the use of coal versus oil as a primary fuel source is found in a comparison of recent price increases of utility systems relying upon coal as their fuel source versus those using oil.

The American Electric Power Company system, which burns coal and which serves West Virginia, Ohio, Indiana and several other states, increased its charges in terms of cents per kilowatt hour from 1.18 cents in 1971 to 1.71 cents in 1974, an increase of 44.9%.

In contrast, Consolidated Edison Company, which relies upon oil, increased its charges from 3.39 cents per kilowatt hour in 1971 to 6.42 cents per kilowatt hour in 1974, or 89.4%.

As another illustration, VEPCO, which relies primarily upon import oil as a fuel source, could have saved $25 million in 1974 in fuel costs had it remained on contract coal instead of oil. S.1777 therefore will benefit the country not only through ending dependence upon foreign fuel sources but also in terms of lower bills to the consumer of electricity.

It is my considered judgment that one of the most important incentives to end dependence on foreign oil by obtaining utility cooperation in the expanded use of coal would be to amend the fuel escalation provisions in utility rate structures so that rates to the utility customer would be based upon the use of the cheapest form of fuel available.

If S.1777 should be enacted, there is no doubt that an ample coal supply can be available to meet the needs of the electric utility plants switching to coal as a primary fuel source.

In the next five years, 57 new mines having a total productive capacity or over 17.8 million tons of steam coal annually are scheduled to open on Chessie System. This additional tonnage will support the annual requirements of 14 new power plants of 500 MW capacity each. Based upon the average consumption per household, a 500 MW plant is capable of supporting the residential requirements of a population of about 1 million. Therefore, the total additional annual productive capacity of the steam coal mines now scheduled to begin operation on Chessie System in the next five years will furnish the energy to generate enough power to support the residential needs of approximately 14 million people.

Chessie has already prepared itself to handle the additional demands upon its transportation system which will be generated by this increased coal production. There is no doubt that our carbuilding program and our roadway program can outpace the construction of new coal mines. Our Raceland, Kentucky shops have the capacity to construct 32 cars daily. Currently, we are building sixteen cars per day so there is plenty of room for expansion. We estimate the lead time to build or rebuild coal cars would be no more than six months rather than the 18 months to two years cited by the Congressional Research Committee if the necessary material is available, a subject to which I shall address myself later.

There will be no constraints on increased coal use because Chessie System is unable to keep pace with the demand. During

1975-1976, we will obtain delivery of 16,000 new 100-ton coal hopper cars at a cost of over $400 million. By 1980, we expect to acquire a total of 35,000 new 100-ton hoppers at a projected cost of over $1 billion. We have made these purchases in the teeth of an inflationary spiral which has seen the cost of a hopper car more than double from $13,000 four years ago to between $27,000 and $28,000 today. We are planning also additions to our locomotive fleet and improvements in our track, right of way and yards all designed to provide the service necessary to handle these additional transportation needs. Let me stress that we can do this job without federal funds. Unlike other modes of transportation, we do not ask nor do we require federal grants to improve our roadbed or to finance our equipment.

While we do not seek government subsidies, we do want fair and even-handed treatment in the form of legislation which will foster the expansion of the nation's coal car fleets. House Bill 6860, The Energy Conservation and Conversion Act, would permit rapid amortization for qualified railroad equipment and rolling stock placed in service after December 31, 1974 and before January 1, 1980. But additional incentives should be made available by Congress through further amendments to the tax law that would increase permanently the investment tax credit to 12% and eliminate the limitation on the use of such credit in excess of 50% of tax liability.

Another area of great importance would be new legislation permitting the railroads to recover the frozen investment in their track structure over a period of 50 years. Some $6 billion is tied up in this asset at present. The railroads' track structure comprises basically rail, ties, ballast, and labor and surfacing costs, and is fast becoming obsolete; it will never accommodate future demands of an efficient transportation system. We must establish more direct routes to major industrial centers--much as was done with the highway system with federal aid. New construction techniques will enable the railroads to do this; they will be able to build a "super highway" rail system with less curves and grades so that traffic will move more efficiently at less cost provided they obtain the legislative relief I have cited.

Right now, railroads can only write off against income their current replacement expenses or track retirements. In view of technicalities raised by the Courts and the Internal Revenue Service, railroads are not permitted obsolescence deductions against income because of their method of accounting for track. Other industries can provide for obsolescence in their depreciation rate but there is no way to do this under the accounting method used by the railroads and required by the ICC. Thus, the only way to recover this frozen investment is to wait until lines are retired and hope that there is income available to absorb the write-offs. As in the case of the Penn

Central and other bankrupt railroads, the tax deductions upon abandonment of trackage do no good since there is no income against which to write off the frozen investment in these assets. Not only are the bankrupt lines prevented from utilizing the benefits of tax deductions but there are many marginal roads which are barred from these write offs. The rail industry is now in the throes of serious economic difficulties. For the first time in history the nation's railroads have recorded a deficit in net railway operating income for the first quarter. In the light of the inability of many lines to generate current income, it would be better to recognize obsolescence on a current basis and allow deductions when the railroads do have taxable income; this will permit them to invest the tax savings currently in more modern facilities.

Through legislation of this nature the nation's railroads will be able to construct and maintain with private capital a new "super highway" of high speed rail lines serving the major population centers of this country at a cost far less than that invested in the present federal highway system.

An additional incentive which will encourage the increased development of this country's coal reserves is to promulgate uniform, permanent and realistic standards covering the sulphur emissions from coal. I quite agree with your Congressional Research Service that federal environmental regulations

have retarded the availability of investment capital necessary for expanded mine capacity. A coal mine represents a long-term investment of 20-25 years and it is estimated that a $30 million investment is necessary to open a mine having an annual production of one million tons. Capital of this magnitude cannot be attracted by a policy which only permits variances from otherwise applicable air quality control regulation for relatively short periods of time or for indeterminate periods terminable at the will of federal or state agencies.

With proper tax incentives and the adoption of a permanent and uniform policy on air quality control, there is no doubt that this nation can rely upon the availability of coal and an adequate transportation system to carry it to the consumers for the foreseeable future. The abundance of this country's coal reserves are well known. The territory served by Chessie System alone has almost 9.7 billion tons of assured recoverable reserves and an additional 9 billion tons of probable reserves. By proper utilization of these great coal resources, we can sharply reduce our dependence on foreign oil, as well as create a host of new jobs for American workers in the mining and transportation fields.

In fact, the coal supplies of this nation are so plentiful that I was disturbed that the suggested areas for testimony before this committee should include such topics as the forced diversion

of export coal to domestic use and the termination of foreign ownership or control of American coal reserves. Almost all export coal is of metallurgical quality. As your Congressional Research Committee has recognized, "this coal is relatively expensive, and is unsuitable for many existing steam boilers because of its combustion characteristics." In any event, the export market is important to this country's economy. Export coal is the largest contributor to the United States balance of payments. In 1974, for example, sales of export coal, including transportation charges, amounted to $2,420 million. The net U. S. balance of trade for the same year was just $3,191 million.

Further, just as the domestic steel companies must rely upon import ore for the steelmaking process, so must Chessie System rely upon the import of foreign steel products to maintain and improve its transportation system. A year ago today, I testified before the Senate Committee on Interior and Insular Affairs, discussing, among other things, the difficulties our company faced in obtaining steel for the construction of hopper cars. At that time, there were severe shortages in domestic steel supply and to obtain steel for our car construction program we requested the support and cooperation of the major domestic steel producers in formulation of some form of priority allocation. A copy of our request is attached to my statement as Appendix B.

While currently the shortage of domestic steel has eased, I anticipate steel shortages will recur when there is an upturn in demand, particularly in the automotive industry during the latter part of this year. At that time, it may be necessary to turn, as in the past, to foreign manufacturers for the supply of badly needed steel. For example, Chessie System found it necessary last year to place orders for 33,000 tons of Japanese rail at premium prices for our track upgrading program. We were also fortunate to obtain a quantity of Japanese rail crossings essential to our roadway program. From France we found it necessary to order 3,800 tons of steel plate and 21,000 wheels. In the case of both the Japanese and French purchases, we could not have secured these materials from any domestic source.

We have recently concluded an agreement with another Japanese steel producer to purchase 5,000 tons of steel plate for delivery at our Raceland Shops in late 1975 or early 1976. This purchase will eliminate the necessity of our Raceland Shops having to fabricate sides for hopper cars out of four pieces of steel. This purchase was necessitated by the domestic steel producers' refusal to supply us with this type of steel plate.

As general economic conditions pick up, and particularly if there is substantial rehabilitation of Penn Central's plant and equipment, we can anticipate a recurrence of shortages in rail, wheels, rail crossings and freight car castings. To meet

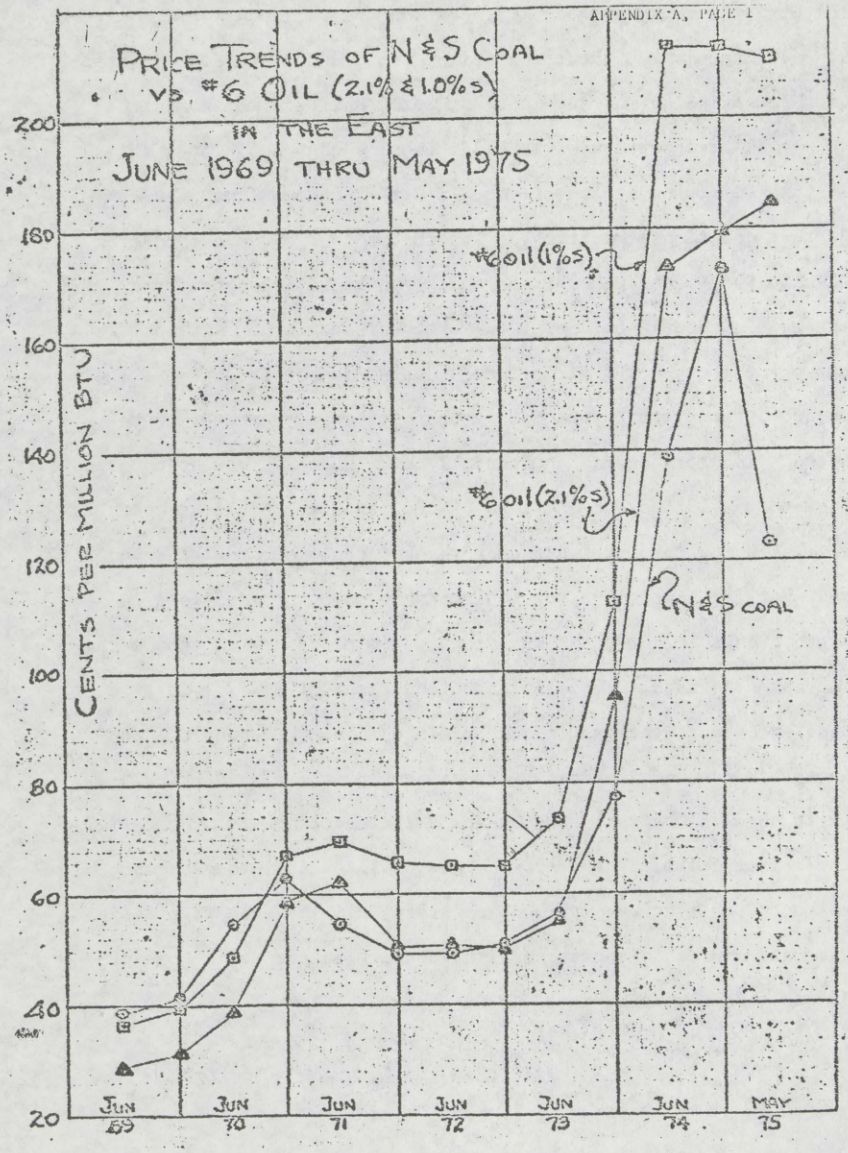
those shortages, we must rely on overseas sources of supply. International trade must be a two-way street. We cannot expect to obtain the steel necessary for our transportation requirements unless our foreign business contacts are assured of the coking coal necessary for the production of steel. For these reasons, we are opposed to any measures restricting the export of coal or foreign control of domestic coal reserves.

Chessie is opposed also to federal control of coal prices. We feel that if S.1777 becomes law and other measures are taken to encourage coal production there will be a tremendous increase in the available supply of coal--an increase more than sufficient to hold prices in line through the normal law of supply and demand.

In the same vein are the suggestions that a government agency be empowered to direct the mining and transportation of coal. It is unrealistic to expect that a government order will cure interruptions to or slowdowns in the mining or transportation process. If these interruptions are the result of labor difficulty, there are existing statutes designed to alleviate the problem. However, you cannot expect the government, even with the aid of the Army, to mine coal or to run a railroad. I can speak with some authority on this issue as I was born in the West Virginia coal fields and I know for a fact that neither

the National Guard nor the Army can run the railroads or the mines.

In summary, there is sufficient idle coal productive capacity now existing on mines served by the nation's railroads to supply a large portion of the additional energy needs of the Eastern utilities now on oil should S.1777 become law. There are further additional reserves now in the process of development on Chessie System and other lines which can be relied upon for a substantial supply of energy for the years to come. And coal is our prime source of fuel to reduce dependence on foreign oil. On Tuesday, the press reported that the date when the experimental breeder reactor becomes commercially available has now been pushed back to the 1990's, or the turn of the century. Coal, however, is available for this nation's energy needs now. We and the other coal hauling lines have begun already to make the additions to and improvements in our transportation system necessary to handle the increased tonnage. In addition to enactment of S.1777, what we need are tax incentives to help us in obtaining the capital to invest in new and improved plant and equipment, plus a priority, if it becomes necessary in obtaining the steel and other materials for construction of new cars and new rail. With these measures, I am confident that the nation's railroads will be able to provide adequate and efficient transportation service for their coal producers and consumers.


APPENDIX A, PAGE 1
PRICE TRENDS OF N&S COAL
VS. #6 OIL (2.1% & 1.0% S)
IN THE EAST
JUNE 1969 THRU MAY 1975
#6 OIL (1% S)
#6 OIL (2.1% S)
N&S COAL
CENTS PER MILLION BTU
200
180
160
140
120
100
80
60
40
20
JUN 69
JUN 70
JUN 71
JUN 72
JUN 73
JUN 74
MAY 75

APPENDIX A
Page 2

PRICE TRENDS OF N&S COAL VS #6 OIL (2.1% & 1.0%s)
IN THE EAST - JUNE, 1969 THRU MAY, 1975
(IN SIX MONTH INTERVALS)

	COAL				OIL			
Date	f.o.b. Mine	Frt. Rate	Total Del'd. Cost	¢/MMBtu	2.1% $/bbl.	¢/MMBtu	1.0% $/bbl.	¢/MMBtu
June 69	5.45	4.10	9.55	38.2	1.80	28.6	2.30	36.5
Dec. 69	6.00	4.35	10.35	41.4	1.98	31.4	2.48	39.3
June 70	9.00	4.55	13.55	54.2	2.45	38.9	3.05	48.4
Dec. 70	10.72	4.98	15.70	62.8	3.71	58.9	4.20	66.7
June 71	8.29	5.26	13.55	54.2	3.91	62.0	4.40	69.8
Dec. 71	7.04	5.26	12.30	49.2	3.21	50.9	4.15	65.9
June 72	7.04	5.26*	12.30	49.2	3.20	50.8	4.10	65.1
Dec. 72	7.29	5.46	12.75	51.0	3.20	50.8	4.10	65.1
June 73	8.59	5.46	14.05	56.2	3.47	55.1	4.64	73.7
Dec. 73	13.74	5.62	19.36	77.4	6.01	95.4	7.10	112.7
June 74	28.94	6.00	34.94	139.8	10.93	173.4	13.43	213.1
Dec. 74	36.24	6.82	43.06	172.2	11.33	179.8	13.41	212.9
May 75	23.60	7.30	30.90	123.6	11.62	184.4	13.33	211.6

*2.5% surcharge also applicable

All rates reflect those in effect 1st of applicable month.

Office of Coal Traffic Manager - Sales & Eng.
Richmond, Virginia - June 5, 1975

APPENDIX B

Hays T. Watkins
Chairman and Chief Executive Officer

Chessie System

The Terminal Tower Cleveland, O. 44101
2 No. Charles St. Baltimore, Md. 21201

May 15, 1974

This letter was addressed to:
Armco Steel Corporation, Bethlehem Steel Corporation, Jones & Laughlin Steel Corporation, National Steel Corporation, Youngstown Sheet and Tube Company, Inland Steel Company, Republic Steel Corporation and United States Steel Corporation.

To All Major Steel Companies:

The recent spate of stories in the press and in business publications concerning the current tight steel situation portends difficult times ahead for several years. It prompts me to write this letter to you concerning the very adverse effect this situation is having on the Railroad Industry's efforts to obtain much needed additional rolling stock.

In particular on the Chessie System, we have been quite concerned about our ability to meet the increased demands for coal in the energy and steel industries which have been placed upon us by recent events and which will be with us for some time. We are attempting to support our concerns with substantive actions which we believe are absolutely necessary to improve the nation's available energy. I think that some of these actions will be of interest to you.

Last fall the Chessie System Board of Directors authorized construction of 2,000 100-ton hopper cars for delivery as soon as possible. This past week, our Board authorized the construction of an additional 5,000 100-ton hopper cars for handling coal, coke and ore traffic, again, for delivery as soon as possible. We are now making plans for these programs to be followed by construction of at least an additional 3,000 cars, a portion of which will probably be gondola cars for handling steel products. These new car construction programs are being accompanied by car repair programs which will maintain our existing coal car and gondola fleets at the lowest possible levels of bad order.

In order to provide adequate power for these fleet additions, the past week our Board also authorized acquisition of 72 locomotive units for delivery in late 1974 and early 1975. Further locomotive acquisitions are under study for later in 1975 and in 1976. All of this represents for us a capital investment of well over $200 million.

These actions have been taken rapidly as demanded by the rapid changes which have taken place within the energy and steel industries over the past year. Ironically, last year at this time on the Chessie System alone, we had approximately 20,000 idle coal hopper cars because of ecology restrictions on the use of coal and the overall low level of production within the steel industry. These cars were stored at numerous points throughout our System,

loaned to other roads, and even used in grain service. What a marked contrast this past year has brought.

Today we have no idle cars and shortages are mounting daily. The fleet additions we have authorized are needed now. But despite the fact that we have been trying to obtain them since last fall, the first cars will not be produced until January 1975 at the earliest. This is due entirely to delayed deliveries of steel and castings. Our car building shop has the capability to produce 32 cars per day. Yet, it will stand idle for most of the second half of 1974 because of our inability to get sufficient material. Even when we begin car construction in 1975, production will be limited by material availability to only 16 cars per day or 50% of our shop capacity.

Adding to our concerns is the general uncertainty as to whether we will be able to obtain enough steel to even maintain a 50% production rate. The normal steel industry practice of not opening order books more than one quarter in advance of production, makes it virtually impossible for us to schedule any kind of construction program with any degree of confidence. I think the unusual nature of our current national situation calls for a reexamination of this practice.

Our particular case is doubly difficult. We understand that steel is being informally allocated by the major producers on the basis of a customer's 1972 and 1973 purchases. Those are just the years when we had a continual surplus of coal hopper cars, our car building facilities stood idle, and our steel purchases were very low. The dual obstacles of low allocation levels and little advance commitment are most assuredly affecting the supply of coal hopper and gondola cars available to meet your critical needs.

The Chessie System stands ready, willing and able to make the investments necessary to improve the current situation. But we must have the support and cooperation of the nation's major steel producers. This support must include some form of priority allocation for freight car construction in general, and hopper and gondola cars in particular. It must also include a change in the current practice of making only short term material commitments. We would like to think that your steel company will demonstrate leadership in providing this support.

Sincerely,

s/ Hays

HEARINGS ON GREATER COAL UTILIZATION

BY THE

COMMITTEE ON PUBLIC WORKS

IN CONJUNCTION WITH THE

NATIONAL FUELS AND ENERGY POLICY STUDY

UNITED STATES SENATE

STATEMENT OF LOUIS W. MENK

CHAIRMAN AND CHIEF EXECUTIVE OFFICER

BURLINGTON NORTHERN INC.

ST. PAUL, MINNESOTA

June 11, 1975

I. INTRODUCTION

My name is Louis W. Menk and I am Chairman of the Board and Chief Executive Officer of Burlington Northern Inc. My business address is 176 East Fifth Street, St. Paul, Minnesota.

I welcome this opportunity to assist with answers to the committee's questions on rail transportation of coal. My company is in a unique position to be helpful in that Burlington Northern is the principal rail carrier serving the massive coal deposits in northeastern Wyoming and southeastern Montana known as the Fort Union formation. Our system map is appended as Exhibit A from which you will note that four major routes radiate from the coal fields.

We, of course, have carefully studied the prospects for western coal production so far as they may be foreseen. The work we have done is thus complementary of that which this committee has undertaken in conjunction with the Senate National Fuels and Energy Policy Study. As a general observation, I think that your inquiries are highly pertinent and that the objective of doubling coal production by 1985 is not only desirable; it is also realistic and attainable.

II BURLINGTON NORTHERN'S ROLE IN THE TRANSPORTATION OF WESTERN COAL; THE COST OF ADEQUATE EXPANSION OF TRANSPORTATION

Since indications are that a very large part of the anticipated new coal production will come from the West - vastly more than double current production in that area - let me turn to the manner in which Burlington Northern has planned for and will perform the transportation task necessary to place coal in utility boilers at or near points of electric consumption.

At the outset, let me make the point that, contrary to the popular impression created by certain railroad bankruptcies and the spectacle of broken down cars and under-maintained trackage, rail technology has reached an advanced stage, particularly in the handling of large volumes of bulk commodities. That technology is being actively employed. In the west we routinely operate with trains handling 11,000 net tons in continuous cycle over 1000 or more route miles without even stopping for loading and unloading. With but a 5-day turn around we attain maximum utility from the equipment and keep our operating costs and freight rates at a minimum over distances heretofore out of the question. These are truly spectacular operations, and their energy efficiency is remarkable. The actual energy cost for both the loaded and empty return is but 250 btu's per ton mile. I wish it were possible for the Committee to view one of these trains. The sight would, I am sure, dispel any doubts about the adequacy of rail technology.

It is, of course, one thing to run a few such trains but quite another to do the whole transportation job on the massive scale which your investigation contemplates. This is another way of stating the first element of your question 21, to which I address myself, namely, "What are the specific problems that face expansion and operation of the railroads to accomodate a national policy to foster coal substitution."

As this committee knows, there have been a good many projections and estimates of future coal production, not all of which hold water. As a matter of fact, we found most of the published material far too broad-brush to enable us to plan our future rail operations and track and equipment needs. Therefore, we isolated and identified actual coal production which had a potential for movement over our lines. This included all the mines in the Fort Union Formation in Montana and Wyoming, and thus most of the economically mineable deposits of low sulfur sub-bituminous Western coal. This exhaustive review was carried out in cooperation with the mining companies and electric utilities whose facilities will be serviced by our lines. On a mine-by-mine basis we thus arrived at our estimates on the basis of proven individual reserves, existing production contracts, executed contracts for future delivery, proposals for future deliveries and estimates of the total long-term production permitted by the geology of the region and of each mine. In short, we learned with accuracy how much coal will be mined in

our territory, where and when it will be mined and where it will be shipped and consumed.

On the basis of this extensive information we developed plans for the incremental expansion and improvement of our fixed plant and for acquisition and use of new equipment. These steps will be timed to meet new requirements as they arise without prematurely commiting us to capital expenditures. This planning process was very complex and it remains flexible to meet contingencies. It was facilitated by the relatively long lead times which are required to open mines and build generating stations. The improvements we will make in our own plant and equipment will permit us to increase our western unit train coal traffic from 16 million tons in 1974 to 90 million tons of production foreseen for 1977 and to the 140-150 million tons which will be required by 1980. We do not try to project 1985 production precisely for two reasons: First, a ten-year forecast is too long to permit us to develop the precise mine-by-mine figures we need for rail operating plans, although as a target we are estimating 225 million tons by 1985. Second, barring contingencies later described, our fixed plant should be sufficiently developed and our earnings will have improved by 1980 to the point where any needed additional capacity can be developed with relative ease.

As indicated, the coal will move from the mines via no less than four of our principal routes, two of

which will be connected by a new line in Wyoming 116 miles in length.* We have prepared, and as needed, can adjust computer simulations of increases in train movements based on both expected increases in coal production and the routes which new production will follow. This has enabled us to develop optimum arrangements for the placement of new rail, ties, ballast, sidings, improved signalling and, as needed, double track. New and improved facilities for the maintenance and repair of cars and locomotives will also be necessary. Thus I come to the second element of your question 21, the cost of the necessary expansion of capacity.

Our new investment in fixed properties alone will be $440 million by 1980 (in 1974 dollars) without taking into account the prospect that, when volume finally warrants our doing so, we may electrify important segments of our line. If that time comes we will achieve an important cost break through. In short, we know we can do the job, and I emphasize that we will do it. I want to say in addition, that nobody can now reasonably foresee the precise transportation requirements for western coal after 1980 because nobody really knows the national needs for steam generation of electric power thereafter.

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*A portion of the line will be operated jointly by our company and the Chicago and North Western.

However, as suggested above, if western coal is then still the subject of large and increasing demand, as seems likely, there remains much room for and plenty of time for any needed further expansion of railroad capacity. Basic operational capacity is indeed no obstacle, for one double track main line, properly signalled could easily handle the entire 1985 Fort Union production. Yet financing this development will not be easy -- especially, as I will point out, if slurry lines are constructed or even seriously proposed in our territory.

As to the cost of meeting railroad equipment requirements for coal mined in our territory, our requirements by 1980 will be as follows:

902	locomotives	$ 361,000,000
3,250	cars	84,600,000
211	cabooses	26,000,000
		$ 454,584,000

Rolling stock acquisitions will be financed by various methods. Some will be purchased outright by means of the conventional equipment trust method. Other cars and locomotives will be leased and in most cases cars will be purchased by the electric utilities which intend using them; thus our relatively small car acquisition program. This offers advantages to both the utilities and to the railroad. On the one hand, the utility company will have a dedicated fleet of equipment

always available to it and to no one else and we will be spared the necessity of raising the necessary capital in what promises to be a money market which will be difficult for years to come. Be that as it may, if funds are available I am assured that the equipment manufacturers will have no substantial difficulties in meeting our needs during the lengthy lead time available.

My mention of capital needs prompts me to make mention of the capital crisis which the nation faces. H. Virgil Sherrill, Chairman of the Securities Industry Association recently described the problem as follows:

> " * * * unless government, the securities industry and the larger business community join in a concerted effort to confront the growing capital crisis, the U.S. formation mechanism, which is already in a weakened and uncertain state, may be permanently crippled. Should this grim prospect come to pass there appears to be no way under the American capitalistic system for the private sector to provide the goods, services and jobs that America will require in future years."

I share Mr. Sherrill's concern; the answer to your question about the railroads' financial resources must start with an appraisal of the money market generally. Even the solvent roads like my own cannot raise capital if an adequate supply is not available. However, this is not a subject with which I can deal in the limited time available, and for present purposes I will assume that capital will be available to industry on terms roughly the same as those we see today.

III. BURLINGTON NORTHERN'S PLANS TO FINANCE EXPANSION BY WHICH TO MEET COAL TRANSPORT NEEDS; THE FINANCING HAZARD REPRESENTED BY SLURRY LINE PROPOSALS

As you may know, there is a continuing controversy over the proposal of some that coal slurry pipelines be granted the powers of eminent domain so as to assure their construction. This is neither the time nor place for us to deal with that subject except as it affects the railroad's ability to finance improvements in the rail system necessary to perform the coal transportation job foreseen by this committee. However, you have invited comment (Question 22) from others on problems facing the expansion and operation of slurry lines. Thus, I refer you to the testimony I expect to submit to the House Committee on Interior and Consumer Affairs sometime within the next few weeks and, by your leave, I will file copies with this committee. In addition you will wish to examine a study and separate appendices just released by the National Science Foundation, entitled The Coal Future: Economic and Technological Analysis of Initiatives and Innovations to Insure Fuel Supply Independence. The entire paper will be of great interest to the committee but of immediate concern is its treatment of coal transportation, which appears at Section IV. The study is necessarily very complex and there are some aspects of it with which we might take issue. I nevertheless do not hesitate to commend to the committee the conclusion which is stated at page IV-24 and 25.

> "This comparison shows that, except for building an entirely new railroad, slurry pipelines cannot compete in cost of shipment even with the most complete upgrading of the railroad. The rail advantage is even greater if one considers that the railroad may carry other, non-coal shipments while the slurry pipeline is a one-material shipper. The use of complementary pneumatic pipelines in conjunction with the rail would further improve the economics of the railroad."

The fact remains that there is a determined effort by powerful legislative forces to secure the adoption of bills authorizing slurry pipelines to exercise powers of eminent domain. The pipeline lines proposed would be of a very great capacity - 25 million tons of coal per year. If even one such pipeline is constructed it will mean that precisely that amount of business will thereafter be monopolized by it to the exclusion of any participation by the railroads. This very large amount of traffic is almost impossible to comprehend, but to give some idea of what it means in terms of today's average coal rates, 25 million tons would produce gross revenues for Burlington Northern of $150 million. This is one-third more than we earned last year from all our western coal business. The ultimate question then is, how would the loss of 25 million tons (or some multiple thereof) affect Burlington Northern and its ability to finance improvements necessary to serve all coal shippers.

This is a complex story which I can but outline here, but it deeply concerns your question about the

railroads available financial resources. Ultimately it involves our profitability and the effect it will have on our ability to finance road and equipment improvements of about $1 billion. In appraising this problem, it should be understood that up to this time our coal operations have not required any major changes or improvements in track and related structures. However in order to realize latent capacity we are reaching the point where substantial ballasting and rail replacement work must be carried out on one route in particular. These costs represent the first increment in our long-range financing and improvement plan. We will have to sell a new large bond issue or issues to raise the necessary funds. The next financings will be accomplished by reliance on our line of credit, but shortly thereafter, probably about the time construction begins on the first pipeline - if it is built - we will have to make larger investments to increase the capacity of other segments of our lines to meet the requirements of the heavy operations which will then face us. This is a step we will have to take regardless of the construction of slurry lines. Whether there will be an appropriate return on these interrelated investments depends heavily on our ability to realize anticipated economies of scale. That, in turn, depends on whether our volume of traffic increases as predicted.

Both the need to protect our position of the loan negotiations and the uncertainty as to the amount involved

precludes me from any detailed discussion of our plans for future financing, but it is abundantly clear that: (1) internally generated sources of funds alone will not meet our needs; (2) equity funding, perhaps through a preferred stock issue, is a strong possibility if marketing conditions allow and if, when the issues are offered for sale, the investing public believes our earnings will hold up and improve; and (3) very large direct borrowings from the financial community may be necessary until the new facilities are in place and producing the earnings we anticipate. If we are to sell bonds, the investors will have to be satisfied that our operations will be sufficiently profitable to service the additional debt. This we can do on the basis of present prospects and possibly it can be done if the eminent domain bill passes. But I ask you to put yourself in our place and then try to visualize how you would raise as much as $440 million for fixed properties and another $454 million for equipment with the threat of even one slurry line hanging over your head. Mind you, we are going to have to have all of the $440 million for fixed properties and most of the equipment money to meet basic coal needs - to perform our utility function. But if the "cream-skimming" of the pipelines causes our anticipated volume of the best business to drop by anything like 25 million tons, the profitability of the entire service is going to be regarded by many in the financial community as problematical. Consider too that the borrowings of which I speak are going to have to be accomplished at times when,

unless all signs fails, there will be high interest rates and heated competition for available funds. For that matter, some of that competition for money may come from pipeline companies whose very heavy capital needs will be concentrated at construction time.

Thus, I urge that when you file your report you deal not only with the energy consideration and the economics involved for each mode; I suggest as strongly as I can that you ought also to give careful thought to the basic transportation issues which are involved. Railroads carry anything anywhere for anybody. They are indeed true common carriers and it is also the railroads which must meet the diverse coal delivery needs of electric utilities which usually are widely scattered. Pipelines, whether called common carriers or not, are in fact specialty haulers which serve a single large specialized market for coal. Not only are they thus likely to be the indirect cause of atmospheric pollution caused by a concentration of generating plants; they will also prejudice the ability of the railroads to provide true common carrier service. Similarly, they will prejudice the economic interests of most electric consumers and the electric utilities which are not so fortunate as to be situated on a coal slurry line. It is they who will have to pay the higher rail rates which will result. Accordingly, I urge that you make no recommendations which would further the ambitions of the pipeline builders at the expense of a sound coal conversion policy - one which must essentially depend on rail transportation.

IV. INCENTIVES TO FOSTER EXPANSION OF THE UNITED STATES COAL TRANSPORTATION SYSTEM AND OF RAILROADS IN PARTICULAR

Expansion of railroad capacity could be encouraged by a number of means, including tax incentives such as reduced amortization schedules, additional investment credits and so on. However, tax provisions of this character are sometimes unproductive in that many railroads, including my own, are not always in a position to take advantage of them. More helpful by far would be statutory authorization of a freight rate structure which would provide reasonable assurance that the anticipated large movements of coal traffic would actually materialize by providing shippers with incentives for initiating and continuing rail use for substantial, predetermined periods. This would not only give the railroads sound justification for gearing up their operations for the massive coal movements necessary to meet national goals; it would also assure the financial community that the carriers could amortize their investment in the needed new facilities and repay their borrowings and interest liabilities; hence, financing of new capacity would be easy.

This objective can be accomplished in a variety of ways. The Canadian "contract rate" concept is one example and it has received the endorsement of a study prepared for the Federal Railroad Administration and the Department of Transportation (Report No. FRA - OE - 73 - 2) by R. L. Banks and Associates. It is a complex document but it describes in some detail the advantage of the contract rate concept in dealing with transport problems such as that embodied by the need to expand coal transport capacity. It concludes its treatment of this subject

at page 234 as follows:

> "In all of the cases in which contract rates have been denied, the National Transportation Policy is the legal impediment. Before any new kinds of contracts could be approved, absent a complete turnabout by the Commission, special statutory provisions would be required. This could be accomplished without endangering the Policy in other respects, simply by a legislative declaration establishing a policy that compensatory contract rates and agreements do not constitute an unfair or destructive competitive practice within the meaning of the National Transportation Policy. Such policy would leave contract rates subject to all other provisions of the Act."

I commend this subject to the Committee as the best, least costly means of assuring that all railroads will be able to meet the financial problems entailed in getting ready to double or treble coal production.

V. CONCLUSION

I respectfully suggest that your task does not simply entail a development of ways and means of transporting coal by any and all modes; rather it inescapably involves profound questions of transport and social policy which transcend naked energy issues. Be assured, however, that absent the threat of slurry line development the railroads can indeed do the coal transportation job. Surely if Burlington Northern can increase its western tonnage from a merely 16 million tons in 1974 to 140-150 million tons in 1980 and to 225 million tons in 1985, the rest of the nation's railroads can use the same technology to manage their much smaller share of the national goal of doubling production.

Louis W. Menk
Chairman and Chief Executive Officer
Burlington Northern Inc.

June 11, 1975

UNITED STATES SENATE

COMMITTEE ON PUBLIC WORKS
IN CONJUNCTION WITH THE
NATIONAL FUELS AND ENERGY POLICY STUDY
COMMITTEE ON INTERIOR AND INSULAR AFFAIRS

HEARINGS ON GREATER COAL UTILIZATION

SUPPLEMENTAL STATEMENT BY BURLINGTON NORTHERN INC. (Coal Slurry Pipelines)

June 25, 1975

SUPPLEMENTAL STATEMENT BY

BURLINGTON NORTHERN INC.

ON COAL SLURRY PIPELINES

This presentation is in response to the request made on June 11, 1975, by Chairman Randolph of L. W. Menk, Chairman and Chief Executive Officer of this company under the circumstances and subject to the limitations described by Mr. Menk's letter of June 25, 1975, to Mr. Stephen Ailes, President and Chief Executive Officer of the Association of American Railroads, copy attached. Specifically, this statement deals with the fact that when coal slurry pipelines must be shut down so as to deal with the occasional emergency situation, provision must be made to cope with the physical fact that the powdered coal (ground to 200 mesh) will settle out of the water in which it is suspended within about 36 hours. It sets forth what we have been able to develop about both the Black Mesa and the 38"* line proposed by Energy Transportation Systems, Inc.

It should be understood that our engineering information covering these facilities which are owned or planned by other companies is necessarily somewhat fragmentary and to an important extent is based on projections developed from testimony presented to state legislative committees by ETSI representatives. The Committee may therefore wish to direct specific questions to the pipeline firms. If it does so, we would like an opportunity to comment on their responses. It is nevertheless clear that both lines are engineered in such fashion as to permit the emptying of each into settling basins or dump ponds in the event of line failure. Enclosed are four photographs showing the effect of just such a shutdown of the Black Mesa line. You will observe of course that even this relatively small line produced an appallingly large mass of powdered coal and water which had to be disposed of by one means or another. As to this point, we understand that the water component of the slurry either evaporates into the air or percolates into the groundwater. The coal dust itself is trucked away to whatever market may exist for it at, of course, very large expense.

We are not sure of the dimensions of the Black Mesa settling basins but on the basis of our information that the line is 18" in diameter and that the pumping stations are approximately 68 miles apart, there would be four line segments each of which

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* The representative of Brown & Root testified that this line may be as large as 48".

would hold approximately 9457 tons of coal plus an equivalent volume of water totaling 404,000 cubic feet of slurry. We are told that the principal settling basins must have a capacity adequate to handle the contents of the line for three stations upstream because by-pass arrangements are constructed to minimize the need to stop pumping if but a single station fails. This then means that the third of the Black Mesa settling basins must have a capacity of approximately 1,200,000 cubic feet. Stated in terms of the playing surface of a football field, such a slurry basin if 10 feet deep would be approximately the size of 2-1/2 football fields. This estimate seems to be small in comparison to the size of the dump ponds shown in the photos.* You should also be aware that in order to empty a slurry line of the Black Mesa size, it is usually necessary to have a reservoir of water at each pumping station to force the slurry downstream in the event of emergency. Each such reservoir must contain enough water to flush two downstream line segments. This calls for the immediate availability of approximately 800,000 cubic feet of water.

Turning to the proposed ETSI line between Wyoming and Arkansas, we have to deal with the fact that the plans are said to call for a line of not less than 38" diameter with pumping stations based approximately 100 miles apart. It is our estimate that each of the ETSI dump ponds will necessarily be no less than 3,660,000 cubic feet. Stated in terms used before, the dump ponds will be the equivalent of seven football fields 10' deep. ** Each pumping station, except of course the last one, will also be required to maintain a supply of flushing water. It will be approximately 2-1/2 million cubic feet of 18,700,000 gallons. As you appreciate, both these slurry lines will run through or are planned for territory which is dry and very cold and it will be extremely difficult to maintain any major reserve supplies of water at the surface. The pumping of underground water at the needed volume and speed offers problems which may be insoluble. In addition, we respectfully call your attention to the fact that in arid, windy country slurry ponds will dry out very quickly. It must be expected that large volumes of fine coal dust will therefore be blown about the territory. To prevent this the ponds could, in theory, be enclosed in buildings but we know of no such plans. Moreover, a

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* If the line were operated at theoretical capacity the pond would be 1,900,000 cubic feet.

** Operated at full theoretical capacity, 300 miles of the ETSI line would contain 12,400,000 cubic feet of slurry and thus would require a dump pond the equivalent of 26 football fields filled to a depth of 10'.

hazard of dust explosion would then exist. For that matter, spontaneous combustion of these western coals is always a problem, although it can be controlled.

Finally, we suggest that the Committee ought to give serious consideration to the safety elements involved in pipeline construction and operation. The Department of Transportation has found it necessary to regulate pipeline safety with great stringency. refer you in particular to the regulations which appear at 49 C.F.R., Parts 191-195, and point out the obvious fact that coal slurry pipelines present quite different elements of hazard than do either petroleum pipelines or gas pipelines. Specifically, slurry pipelines must use a piston type pump and if any rupture occurs the operators may feel compelled to continue high pressure pumping operations (in excess of 900# per square inch) as being necessary to prevent blockage of the line above the break until it can be flushed with water. Thus, many millions of gallons of slurry may have to be forced out at the break point. That ruptures in large pipelines are decidedly possible is demonstrated by Report No. NTSB-PAR-75-1 released June 3, 1975, which concerns the failure of a 30" natural gas transmission line beneath State Route 124 about 50 miles south of Monroe, Louisiana. The Board determined that the cause of the March 2, 1974, accident was the "failure of a substandard girth weld due to repeated soil stresses." The report serves to emphasize the need for full consideration of all safety elements in pipeline construction and operation. We suggest that the very difficult stream crossing problems faced by slurry lines deserve your particular inquiry.

While it is not our purpose to overstate the hazards of slurry lines, it is clear that pipeline construction, maintenance and operations of this kind all involve highly technical problems which entail major safety hazards. Presumably, they can be overcome or at least minimized but we emphasize that slurry lines are no panacea for the national coal transportation needs despite the enthusiasm with which they have been touted by some prospective building contractors. On the other hand, the railroads are a proven, reliable system which takes advantage of advanced technologies. Even now they demonstrably have ample capacity to do the job which concerns your Committee. Still greater capacity can be developed at relatively modest costs in capital and resources, to the benefit of the entire shipping public.

Thank you for having given us an opportunity for further comment.

Respectfully submitted,

BURLINGTON NORTHERN INC.
St. Paul, Minnesota

June 25, 1975

STATEMENT OF UNION PACIFIC RAILROAD COMPANY

Presented to Senate Public Works and
National Fuels and Energy Policy Study

S. 1777 - National Petroleum and Natural Gas Conservation and Coal Substitution Act, June 11, 1975

Union Pacific Railroad serves the heartland of the American West with a modern, efficient 9500 mile transportation system. This strategically located railroad extends westward from Council Bluffs, Iowa and Kansas City, Missouri to the west coast cities of Seattle, Washington, Portland, Oregon and Los Angeles, California.

A double track mainline extends from Council Bluffs, Iowa through the Plains of Nebraska and across the rich coal fields of Southern Wyoming to Ogden, Utah. Much of this double track is also operated under centralized traffic control (CTC) as is the balance of the single track mainline.

The physical condition of the Union Pacific is maintained to the highest standards within the industry with over $1.5 billion having been spent on equipment and facilities during the past decade.

The total tonnage of all commodities handled by Union Pacific has increased by 20% from 74.0 million tons in 1970 to 88.6 million tons in 1974 with coal comprising 8% of the tonnage handled in 1970 and 14% in 1974. No difficulties were experienced in handling this rather substantial increase in tonnage and no

difficulty is anticipated in handling future demands. It is projected that coal tonnage will increase an additional 125% by 1979 to 28 million tons. While Union Pacific has existing capacity to handle 10 times the 1974 coal tonnage of 12.6 million tons it is prepared to expand capacity as needed for the anticipated growth in coal traffic as well as other additional tonnages.

Union Pacific is working in conjunction with the coal industry to plan for new capacity when needed. While lead time is required by the coal industry to develop and open a new coal mine, this time will also permit the railroad ample time to plan and construct additional capacity.

Nevertheless, Union Pacific is presently taking several affirmative steps to augment capacity in anticipation of forecasted tonnage growth:

First, $3.6 million is being expended in 1975 to extend the CTC system over additional stretches of the double track mainline in Southern Wyoming. The CTC system permits the operation of trains in either direction on both mainlines through the heart of the coal originating territory. This additional flexibility will increase track capacity by 50%.

Second, Union Pacific has undertaken the construction of a third mainline through a portion of Wyoming. This

additional track will permit slower high tonnage trains to proceed at safe speeds over the Rocky Mountains without interferring with higher speed movements.

Third, it is spending $6 million to lower the floor of a major tunnel west of Evanston, Wyoming, to increase capacity on its system lines West.

Fourth, it is considering undertaking a long-term company shop construction program of open-top hopper cars to augment the more than 4500 carrier-owned cars presently devoted to the handling of coal traffic. In addition, 500 shipper-owned open-top cars are presently being handled by Union Pacific.

Fifth, a major track construction and upgrading program between North Platte, Nebraska and Kansas City, Kansas is to be completed during 1975 at a cost of more than $14 million. This three-year project was undertaken by Union Pacific in anticipation of future tonnage growth as well as to permit more efficient operations.

In summary, Union Pacific has what is known as a "first class" railroad strategically located and maintained to the highest levels to handle all existing as well as projected traffic levels. In addition, Union Pacific is prepared to make necessary investments as required to handle future coal traffic growth.

Koppers Company, Inc., Pittsburgh, Pa. 15219
Telephone 412-391-3300

Fletcher L. Byrom
Chairman of the Board

KOPPERS

July 14, 1975

The Honorable Henry M. Jackson
Chairman
Senate Committee on Interior and Insular Affairs
Room 3106
Dirksen Senate Office Building
Washington, D. C. 20510

Dear Senator Jackson:

I very much regret that a prior important engagement precludes my appearing in person to testify on S. 740 as revised.

I am availing myself herewith, however, of the opportunity to submit the testimony which I would give if I could be present and I, of course, will be pleased to provide responses to any questions which you or the committee may wish to put to me.

Your hearings are of utmost importance to our continued viability as an independent industrial nation. I am sure that I reflect the attitude of other industrialists, many of whom want to move on energy substitutes, when I tell you that our disgraceful national drift on energy policy is a matter of frustration and alarm to most of our nation's industrial and commercial community. If it is not checked soon, the impact on our economy can be much greater than we care to contemplate. And the impact on jobs can dwarf the unemployment of the present and recent past.

We at Koppers have done all we can to point out that coal gasification, which at best could be a very small part of our business, is a neglected, important response to America's energy needs. The technology for the medium Btu gas which industry needs is here today. It is available now and, in fact, is being used commercially in many countries in Europe, the Middle East, Africa and Asia. The only reason the United States has not used it in the past is that until now, to use an apt colloquialism, we have had cheap natural gas to burn.

That is no longer the case. We now face a serious shortage of natural gas for industry this winter and in the future.

KOPPERS

This confronts us with an emergency calling for heroic and imaginative national policy. It calls for an appreciation of the importance of enlisting all available technology to provide substitute fuel for industry. And it calls for government programs to make the substitution without exposing to unacceptable economic risks those who would contribute to energy solutions by availing themselves of proven technology not presently used in the United States.

I am pleased to suggest in the attached testimony some of the elements of government support needed to make coal gasification a reality in this country. And we sincerely hope that the committee's interest can be translated into necessary, effective legislation and national policy at the earliest possible time.

Sincerely,

F. L. Byrom

Fletcher L. Byrom

TESTIMONY OF
FLETCHER L. BYROM, CHAIRMAN OF THE BOARD
OF KOPPERS COMPANY, INC., PITTSBURGH, PA.

July 14, 1975

before the

SENATE COMMITTEE ON INTERIOR AND INSULAR AFFAIRS

My name is Fletcher L. Byrom. I am Chairman of the Board of Koppers Company, Inc., with principal offices in Pittsburgh, Pennsylvania. I appreciate the opportunity to testify on S. 740 and shall direct my remarks to Committee Print No. 1 as we see its application to coal gasification, with which Koppers is directly involved.

The bill, which if enacted would become the National Energy Mobilization Act of 1975, could well become the vehicle to successfully address the single most important and most threatening problem facing us as a nation today. Without energy independence and energy sufficiency, we as a nation face the prospect of long-term economic collapse and loss of our world leadership role and capability. The bill, therefore, is of overriding importance and its authors, the Chairman and the co-sponsors, and the committee staff who have worked on the bill deserve the gratitude of all in the nation. We sincerely hope that your efforts to perfect it will be accelerated to

the utmost and that, with features beyond the jurisdiction of this committee, it will become law at the earliest possible date.

I need not tell this committee, I am sure, that the industrial and commercial communities which are the heart and blood of our economy are frustrated, exasperated and crippled by the failure to develop a viable national energy policy for the United States. At some point, procrastination has to cease and we as a nation must pull together to meet the dire threat posed to us by our present energy shortages and reliance on politically unstable and unreliable foreign sources. The need is certainly as great as any we have ever faced.

My company, among other things, is engaged in the engineering and construction field and we are presently capable of engineering, erecting and putting into operation plants which will gasify coal, forming a gas having a heating value of approximately 300 Btu per cubic foot. This medium Btu gas can be used as a synthesis gas to produce certain chemicals for which natural gas is now used, such as ammonia and methanol, and is suitable for consumption by industries requiring heat for their basic processes, or generation of electricity.

During the last three years we have been in touch with scores of companies in the heavy industrial class to acquaint them with our process and capabilities. While many have shown sincere and active interest in coal gasification, none has been willing to commit the large sums of capital required to substitute coal gasification for natural gas or other fossil fuels. Some, nevertheless, have commissioned us at considerable cost to them to prepare detailed feasibility studies based on our Koppers-Totzek process.

We, of course, have been most interested in their reasons for holding back. And I think these reasons are the nub of your interest. This is what they tell us:

> Without exception, they have reservations because the nation lacks an over-all energy policy - in regard to both foreign and domestic sources. Without such a clearly stated and firm policy directed toward reducing our reliance on imported energy, and administered by a one-stop agency, no company can risk the large capital investments necessary to meet its needs and the energy needs of the nation.

The policy should afford industry the types of guarantees and incentives which will protect it against eventualities which are beyond industry's control and which cannot be defended against in normal business practices.

Government policy consideration must be given to the capital needs of industry which result from expenditures caused primarily by the national goal of reducing reliance on imported fuel. Special consideration, in view of their status as public utilities should be given to electric power. The fact that a moderate winter in 1974 alleviated the problem should not be relied upon in the future. The likelihood is that there will be extensive peak load shortages and brown-outs. And industrial users of natural gas, on interruptible contracts, have been seriously curtailed in the past. But this is only a sample of what can come in the future with its serious disruption of the economy and extensive loss of jobs.

Consideration should be given to the danger of a serious and capricious drop in the world price of oil directed at deterring our efforts at national self-sufficiency and at economic disruption in the consuming nations. Such action could bankrupt companies which make extensive investments in substitute domestic fuels and would surely dry up capital markets for committed companies, including newly opened and expanded coal mining operations.

Safeguards are necessary to defend against dumping in this country of low-priced fertilizer or other products derived from petroleum. While we at Koppers are in favor of unimpeded, reciprocal fair trade, we are mindful, as are companies with which we are in touch, of the disruption which could result if Middle Eastern producing countries should decide to build plants to use the natural gas which they now flare, and sell the resulting products on the world market. While we naturally would welcome low-priced fertilizer for our agriculture as a boon to food production to meet our needs and those of an over-populated world, we cannot as a nation leave unprotected those companies which invest extensively in the plants needed to contribute to our goal of energy self-sufficiency. Nor can we afford to expose American agriculture to the caprice of countries which could cut off its fertilizer supply once our own production has dwindled under foreign price pressure.

We, of course, are not unmindful of the many other aspects which must be covered in any comprehensive national energy policy. However, I am limiting my testimony for the present to those elements which impinge on the ability of industry to address itself to the serious and urgent need to build a substitute energy industry in the United States.

You have addressed many of these in S. 740. To the extent that the National Energy Mobilization Board would provide the one-stop agency to which I have previously alluded, it is urgently needed. While I am not prepared to comment in detail on the authority the bill would give it, certainly the thrust of the proposal is correct.

We are particularly pleased to note the reference on page 7, line 21 and thereafter to "proven technology" for which operating experience has been gained from one or more commercial-sized plants or undertakings sufficient to demonstrate the engineering and economic viability of the technology in further applications.

Frankly, we have been having the greatest difficulty impressing upon some elements of government the fact that coal gasification technology for medium Btu gas -- the type industry can use -- is a proven technology which should be producing gas in the United States today as it is in other countries. As we point out in the detailed paper which I attach for the Committee's information, coal gasification is a "neglected response" to America's energy needs. Our Koppers-Totzek process alone is now in commercial use in fourteen plants in Europe, the Mid-East, Africa and Asia.

Enactment of a perfected S. 740 could accelerate the day when commercial coal gasification plants will provide gas for

American industry now threatened with winter shutdowns, or reliance on imported oil, because of the natural gas shortage, with all of the job loss that would result.

National Energy Production Companies, as proposed in Title III, could well be the vehicle. However, we feel that equity capital of $100,000,000 may be too low and there is a need to spell out more clearly other elements such as permissible equity-debt ratio, waiver of anti-trust provisions to permit competing companies to cooperate in funding and operating a national energy production company and probably a mothballing provision under which plants no longer needed or no longer economically feasible could be kept in a Federal energy production reserve pool for use when again needed. Under such a provision, liquidation of a national energy production company would not affect the future availability of its plant for a possible later period of serious energy shortage. It is our thought that the government should guarantee a buy-back to accomplish this -- and that later use could be accomplished on a lease-out.

We envision a national energy production company, as proposed in Title III, as a company operating a facility from which one or more industrial plants requiring gas would get their fuel. Where more than one user is involved, they would be in the same general location so that all could draw directly from the gasifier.

Title V, relating to energy capital investment for essential energy facilities correctly sets out some of the types of Federal assistance which are urgently needed to get the development of substitute energy forms off dead center. The bill lists low-interest loans, loan guarantees, leasing arrangements, equity investments or minimum price supports.

I am distressed that the bill would require that action on this crucial program be delayed until the new board studies it over a period of as much as nine months after the effective date of enactment of this bill.

Though I am cognizant of the jurisdictional problem which this committee faces on elements of the financial assistance program, we would be much happier if this committee and the Senate Finance Committee could produce the assistance program for enactment in an amended S. 740. Time is so crucial to the nation and its economy that we cannot afford the longer delay.

In recent testimony at joint hearings of the sub-committees on finance, markets and energy of the Senate Committee on finance I pointed out that:

Obviously, each corporation and certainly utilities have different capital problems. It is impossible, therefore, to suggest one solution for all. But it is possible to suggest several approaches, each of which may apply to some companies but not necessarily to all. To do the entire job, therefore, a package of incentives is required. The following are some we have discussed with companies who have come to us for feasibility studies and which we agree are essential elements in support of a national energy policy:

1. There must be legislation along the lines of the World War II Certificate of Necessity for war-related projects to provide special tax incentives by granting to certified energy-related projects
   (a) additional investment tax credits of as much as 5% over the existing credit
   (b) a fast write-off for tax depreciation purposes of as little as two to three years
   (c) the right to issue tax-free bonds.

   At the same time, as I have repeatedly said, elsewhere, Congress must consider a complete revision

of our general tax depreciation policy in order to give recognition to the replacement cost of capital assets in our inflationary economy.

2. Price equalization to permit new energy plants to continue to operate uneconomically if the imported price of oil should put new domestic plants at a competitive disadvantage. This would require a guaranteed government subsidy based on the Btu price equivalent of the output of new plants, including allowance for amortization and a fair and reasonable return on investment in the specific facility.

3. In addition, in lieu of price equalization, a form of government insurance against damages resulting from foreign energy pricing policies ranging from cash payments to a program of government buy-back of new plants. These plants could be held in standby for future need as the particular impact on an industrial plant or a utility as well as economic and national defense considerations may dictate.

Points #2 and #3 are suggested jointly as an alternative to proposals to establish a floor under imported prices of oil and liquefied natural gas (LNG) either by tax or tariff. We oppose floors on these products because this would deprive segments of the economy from benefitting from imports when available, and would deprive the consumer of the benefit of the lower prices.

4. It is well known that many oil producing exporting countries now flare the natural gas obtained in conjunction with crude oil production. To prevent dislocation from foreign producer decisions to convert this gas to ammonia, methanol or a wide variety of petrochemical products and sell them on the U.S. market at prices below the U.S. cost of production of these products, we recommend legislation to permit the imposition of counter-vailing duties to equalize prices.

5. There are numerous areas in the country where there is a concentration of industrial consumption of natural gas in manufacturing operations. While each individual company might not have the requirements sufficient

to support a gasification plant of economic size, a pooling of requirements in the area could well support a large gasification plant. One example of such a concentration of energy demand is in the taconite region of Minnesota, northwest of Duluth. The taconite plants in this area consume around 68 billion Btu of natural gas per day which could be supplied by a gasification plant of seven - eight gasifiers. If the government would finance the construction of such a gasifier plant along the lines of the Defense Plant Corporation installations which were made during World War II and lease the plant to an operating company which would in turn supply gas to the taconite mine, a contribution would be made to solving a portion of our energy requirements and at the same time ensure that production would not be interrupted with the consequent loss of jobs. In addition, it would provide for a continuing supply of domestic iron ore which has strong national defense implications.

The lease to the operating company should provide that if foreign oil prices were capriciously lowered to a point that the plant could not be economically operated, the lease would be terminated or suspended until such time that the plant could economically resume operations. In the meantime, the plant could be put on stand-by as a protection against a future oil embargo or other national emergency.

All of these, we feel, are necessary elements of a national energy policy. But I would repeat that until all elements of such a policy are executed and administered by a single, one-stop agency, industry will not be able to respond expeditiously to any policy. Until this is done, our national economy and the employment of our work force will remain in serious jeopardy.

Our most basic national needs require that this be done now. For the welfare of our nation and of the world community depend on the earliest possible restoration of our energy integrity.

This day can be advanced when government policy recognizes that much natural gas now used by industry can be conserved for higher priority uses by substituting medium-Btu gas.

For example, the steel industry presently consumes about two billion cu. ft. per day of natural gas -- equivalent to two trillion Btu per day. To replace this natural gas with medium-Btu industrial fuel gas would require about 167 gasifiers, requiring a capital investment of about $2.5 to $3.0 billion, exclusive of costs for opening new mines.

Some 134 thousand tons of coal per day, or about 45 million tons per year, would be required.

This approach to supplying industrial fuel gas would release sufficient natural gas to heat over 3.5 million average-size houses in a climate such as Pennsylvania's.

We are constantly amazed at the amount of time, effort and money being expended by the Federal Government to develop new technology for coal gasification. Three known processes are in successful operation throughout the world; the technology is here today and we should move to construct these commercial-scale plants immediately.

The Koppers-Totzek process has been evaluated by an independent private laboratory under commission from the Environmental Protection Agency and it has been approved as meeting environmental standards. There are some 16 plants using this process, either

operating or under construction, throughout the world, indicating that it is a commercially feasible process. It is important to note that the process uses any type of coal or lignite. In view of this, we feel that we can contribute to easing the energy crunch by building gasification plants for those energy-consuming industries which have been using natural gas in significant quantities.

As you know, historically heavy industry such as electric power generation, steel, chemicals, non-ferrous metals, glass and ceramics have been using between one-half and two-thirds of the natural gas consumed in this country. The farms of this country rely heavily on the ammonia fertilizer produced from natural gas. The remainder of the natural gas is consumed by domestic heating, commercial and light industrial uses.

When heavy industry users had their natural gas supply interrupted, in most cases, they turned to fuel oil or liquefied petroleum gas (LPG) which has in turn required vastly expanded importation of foreign crude.

Industry needs this new source of domestic fuel immediately. It can be delivered by existing technology.

Therefore, with your permission, I am offering for the record as an appendix to this testimony a paper refuting the often-heard claim that economic, ecologically sound processes for coal gasification are not presently available.

I hope I have been able to outline the problems facing the nation in reaching a measure of energy self-sufficiency as industry sees them, and to suggest some remedies and needed actions. It is clear that solutions are beyond the control of industry. Therefore, it is a problem requiring government intervention now.

Addendum to Byrom Testimony before Senate Committee on Interior and Insular Affairs:

Attached as an addendum to the foregoing testimony are two documents:

1. "Coal Gasification: Neglected Response to America's Energy Needs"

2. "Amendments to Committee Print I of S.740 covering features falling under the jurisdiction of the Senate Finance Committee but germane to S.740. These amendments are designed to provide immediate assistance for certain energy facilities pending determinations which would be made over a nine-month period under the present Title VIII of S.740

Summary of
"COAL GASIFICATION: NEGLECTED RESPONSE TO AMERICA'S ENERGY NEEDS"

submitted by
Koppers Company, Inc.

to
the Senate Committee on Interior and Insular Affairs

July 14, 1975

If indeed a measure of energy self-sufficiency is part of the national goal, then immediate legislation permitting alternate fuel development would serve the dual purpose of getting coal gasification on stream, and enhancing the U.S. Government's position in negotiating for lowest-price energy imports.

Industry is ready now to deliver commercial-sized, environmentally innocuous coal gasification plants which can use any coal feedstock regardless of sulfur content.

Currently in the United States there are utilities, manufacturing companies, chemical producers and metals manufacturers using critically short natural gas who are ready to build coal gasification plants. But industry will not commit capital funds to these plants -- and to materially contribute to a solution of the nation's energy problem -- for fear that political factors could drop the cost of oil to a point which would render gas from coal uncompetitive.

This is a factor beyond the control of industry. It is, therefore, a problem requiring government intervention.

Legislation should be provided in two broad areas:

1. Stimulation of plant construction through any one or a combination of the following incentives: low-interest loans; such tax incentives as investment credits and accelerated write-offs; or industrial development bonds.

2. Energy cost equalization to ensure that those who adopt coal gasification will not be placed at a future disadvantage with competitors if potentially cheaper energy sources should materialize. To prevent pioneers in adoption of a new domestic energy source from being unjustly penalized by such developments, the availability of subsidies to provide cost parity should be ensured.

The time for government action is now.

COAL GASIFICATION:

NEGLECTED RESPONSE TO AMERICA'S ENERGY NEEDS

Submitted by

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July 14, 1975

COAL GASIFICATION

NEGLECTED RESPONSE TO AMERICA'S ENERGY NEEDS

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COAL GASIFICATION:
NEGLECTED RESPONSE TO AMERICA'S
ENERGY NEEDS

SUMMARY

President Ford has said that the nation needs a program of Federal incentives to ensure that we can produce the equivalent of one million barrels of synthetic fuels per year by 1985. To help accomplish this he called for 20 new synthetic fuel plants in the next decade.

Robert C. Seamans, Administrator of the Energy Research and Development Administration, says that the President's objective is attainable if the government will promulgate a plan including front-end price support and a purchase guarantee.

Industry must be convinced, moreover, Dr. Seamans asserts, that government not only is believable but that it can deliver.

With the United States sitting on one-half of the world's coal reserves, coal gasification clearly is the quickest route to fulfillment of the President's goal.

Industry is ready now to deliver commercial-sized environmentally innocuous coal gasification plants which can use any coal as feed stock regardless of sulfur content.

The generally-held assumption that commercial scale coal gasification for industry requires further technological development is without basis. Fourteen plants using just one of the commercially available processes (Koppers-Totzek) are now in operation in Europe, the Mid-East, Africa and India.

Currently in the United States there are utilities, manufacturing companies, chemical producers and metals manufacturers using critically short natural gas who are ready to build coal gasification plants.

At current and projected market prices of other energy forms these plants are economically viable.

But industry will not commit capital funds to these plants--and to materially contribute to a solution of the nation's energy problem--for fear that political factors could drop the cost of oil to a point which would render gas from coal uncompetitive.

This is a factor beyond the control of industry. It is, therefore, a problem requiring government intervention.

This intervention by government must assure that gas yielded from coal will not be significantly more costly to consumers than the energy generated by imported fuel or other sources.

If the President's goal is to be met this problem must be confronted by government now.

New plants can be brought on stream in three years. That's three years from the time government provides the assurance to permit industry to proceed.

These assurances must be an integral element in any rational energy policy. When, in Dr. Seaman's words, the government "delivers," industry will deliver the plants.

Particularly for the East and Northeast where shortages are greatest and, coincidentally, coal is readily available, the coal gasification solution will bring early relief without environmental sacrifice.

INTRODUCTION

Coal gasification is not a new technology. Prior to World War II it provided much of this nation's gas requirements for heating, cooking and industrial applications. After the war, however, gas producers who had served a major portion of the United States phased out as plentiful supplies of low-cost natural gas were distributed through a nationwide pipeline system.

However, while interest in coal gasification in the United States dwindled with the advent of plentiful cheap natural gas, Europe's interest in gasification grew because it was not similarly blessed. With its increased interest, Europe refined and improved the processes. Still later, even Europe shifted its principal interest from gasification of indigenous coal to cheaper, imported hydrocarbons.

Today, the situation has changed. The spiraling cost of petroleum energy in all its forms is fast erasing the price differentials between coal gas and other sources. Interfuel competition is becoming a thing of the past as all sources must be exploited if the United States is to have any hope of attaining a high level of energy independence by 1985.

U. S. production of natural gas has not kept pace with demand, even though 23 trillion cubic feet was produced in 1974. The Federal Power Commission estimated that during the winter months of 1974-75, the 42 major

U. S. interstate pipelines would fall short of their contracted deliveries to industry by an average of 11 percent. This would be a 60 percent jump over the 1973-74 short fall figures.

When natural gas allocations must be reduced, most suppliers use a priority list favored by the FPC. Lowest-priority users are industrial customers with interruptible contracts and with boilers equipped to use alternative fuels (usually oil or liquefied petroleum gas). Next to be cut off are industrial users with noninterruptible contracts with boilers equipped to use alternative fuels. Next are the ammonia plants producing fertilizer. Then come commercial users. The highest priority goes to houses and other residential structures.

Grim as it is, this is only the beginning. Even under the most optimistic assumptions of National Petroleum Council studies, U. S. production will reach only 32 trillion cubic feet by 1985. Demand will have soared to 39 trillion cubic feet.

Thus, our "minicrisis" of this comparatively mild winter may be only the first of an annual more critical series as the gap between supply and demand continues to widen.

These increasing threats of natural gas shortages and the abundance of U. S. coal reserves* has led to a mounting interest in coal gasification.

*433.9 trillion tons against normal present consumption of 613.8 million tons.

This is reflected in the U. S. government's current financing of some 20 pilot plant projects. It is estimated that any commercial processes stemming from these pilot projects may be as much as 15 years away and it is conceded that the experimental processes under test may not prove practical.

These developmental efforts seek processes for pipeline quality (1,000 Btu) gas. However, low and medium Btu technology, adequate to meet the gas needs of industry and utilities and thus free natural gas for pipeline uses, is not in the developmental stage. It is perfected and operating successfully and extensively in commercial plants abroad.

COAL GASIFICATION'S POTENTIAL APPLICATIONS

Industries and utilities consume 67 percent of the total natural gas used today, with the remaining 33 percent going to residences and commercial operations.

Coal gasification can make a significant immediate contribution in the combined industrial and utility markets which account for two-thirds of the nation's gas demand.

The specific applications in which coal gas can be used instead of natural gas are:

--As an industrial fuel for combustion in heating furnaces and for varied heat-treating processes.

--As an energy source for electrical power generation.

--As synthesis gas to be used as feedstock:

-- for ammonia, a major chemical that now consumes vast quantities of natural gas for the manufacture of fertilizers;

-- for methanol, another high-volume chemical product;

-- and for other hydrocarbon-based chemicals.

The steel, automotive, nonferrous metals, glass, rubber, cement, foundry, utility and chemical industries can use coal gas on a large scale. All of these industries can readily convert to a substitute gas. This will release large amounts of gas for light industrial, commercial and residential applications.

In terms of the over-all U. S. energy interests, the mathematics of such conversions is extremely significant. One moderately small K-T gasifier, for example, could produce an energy equivalent sufficient to service about 20,000 average six-room homes in a climate such as Pittsburgh's. Thus, spread over a broad spectrum of industrial/utility applications, coal gasification technology could have an enormous impact upon the nation's energy picture.

The advantages of coal gasification have not gone unnoticed by potential users of the technology. During the oil embargo, interest in the process ran particularly high. The Koppers Company in fact was called upon to do engineering studies, make plans, survey sites and do all preliminary groundwork for a number of prospective customers for K-T plants. With the lifting of the embargo, however, their interest plummeted because potential users of coal gasification:

--fear they will be put in a competitive disadvantage in going to such expense while others may continue to draw from regulated natural gas sources,

--must plan for the possibility that oil prices will be lowered in the future, again making gas from coal noncompetitive,

--are uncertain about U. S. policy on imports,

--must take into account the unclear future of environmental legislation and possible relaxation of air quality standards.

Energy users therefore continue to look to liquefied petroleum gas and petroleum for energy--ultimately meaning more imports and a worsening of our balance-of-payments problems. And the disparity between natural gas requirements and supply continues to widen.

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DESCRIPTION OF K-T PROCESS

In the Koppers-Totzek process, pulverized coal, oxygen and steam are fed into a gasifier where they react in suspension at high temperatures.

The gasifier is a refractory-lined steel shell equipped with a stream jacket.

A two-headed gasifier can gasify more than 400 tons of coal per day. The coal, oxygen and steam are brought together in opposing burner heads spaced 180° apart. Four-headed gasifiers, capable of gasifying 850 tons of coal a day, employ burner heads 90° apart. With the use of multiple units, capacities and efficiencies can be greatly increased.

Within the gasifier, the operating pressure is slightly above atmospheric and the reaction temperature is 3,300-3,500° F. The coal is gasified almost completely and instantaneously, and organic contaminants are destroyed to trace quantities.

K-T can gasify all ranks of coal. High sulfur and ash present no problems. Actually, any carbonaceous material that can be dried and pulverized is a suitable feedstock.

The process is virtually pollution-free. At the prevailing operating temperatures, no tars, phenols or other condensable hydrocarbons are formed--only gaseous products. Sulfur in the coal is converted to hydrogen sulfide in the gasifier. The hydrogen sulfide is removed and converted to elemental sulfur through commercially proved processes. This contrasts sharply with the direct firing of coal in a boiler, where the sulfur in the coal is converted to sulfur dioxide, which is difficult to remove from stack gases.

Because the sulfur in coal presents absolutely no environmental problems in the use of the K-T process, the technology could be applied to tap the vast reserves of high-sulfur coal, such as Illinois No. 6, currently unsuitable for many applications under Environmental Protection Agency standards.

There are no solid waste problems associated with the K-T process. About 50 percent of the coal ash particles fuse and drop out as slag into a slag quench system below the gasifier. The remaining inert ash particles are carried out of the gasifier as a fly ash mingled with the unburned carbon and are removed downstream. Used as landfill, the slag is more inert than the ash associated with the original coal in situ.

The product obtained from K-T is a clean, desulfurized, medium-Btu gas having a heating value of about 300 Btu's per cubic foot (compared with 1,000 Btu's for natural gas).

This gas is becoming a more and more acceptable alternative to natural gas as energy costs continue to escalate. Some industrial consumers are now paying up to $2 per million Btu's for natural gas delivered to their plants. A moderately sized six-gasifier K-T facility to supply industrial fuel gas would produce the equivalent Btu value of 66 million cubic feet of natural gas per day at comparable costs (as calculated by the FPC Utility Financing Method). The construction cost of the facility itself would approximate $100 million.

CONCLUSIONS

Collectively, the roadblocks to the implementation of coal gasification projects are having a considerable negative effect on the nation's energy picture.

Clearly, coal gasification as a source of energy will remain dormant until a definitive, comprehensive, national energy policy emerges that recognizes the positive contribution coal gasification can provide to our nation's energy producing capabilities. This recognition must be solidly reinforced with a program to provide the direction and incentives that will stimulate coal gasification's adoption.

The U. S. government has proposed policies calling for tariffs on imported petroleum and taxes on domestic production. It seems appropriate that part of the large sums these policies would produce should be plowed back into development of energy supplies from such commercially proved, non-polluting sources as gasification of coal, an abundant national resource.

Government support could be provided in two areas:

--Stimulation of plant construction through any one of a combination of the following incentives: low-interest loans, such tax incentives as investment credits, and accelerated write-offs.

--Energy cost equalization to ensure that those who adopt coal gasification will not be placed at a future disadvantage with competitors if cheaper energy sources should materialize. For example, costs of imported hydrocarbons may go down as the result of unforeseeable changes in political or international economic forces. To prevent pioneers in adoption of a new domestic energy source from being unjustly penalized by such developments, the availability of subsidies to provide cost parity should be ensured.

Since at least three years of construction time is required to put a coal gasification plant on stream, time is a critical factor if the nation is to derive early benefits from this technology. Priorities should be established so that coal gasification projects can get under way quickly, with related planning to ensure availability of:

(a) adequate engineering and construction capabilities;

(b) components and systems such as compressors and oxygen plants; and

(c) adequate supplies of coal feedstocks.

If indeed a measure of energy self-sufficiency is part of the national goal, then immediate legislation permitting alternate fuel development would serve the dual purpose of getting coal gasification on stream, and enhancing the U. S. Government's position in negotiating for lowest price energy imports.

The time for government action is now.

REFERENCE SOURCES

"Achieving Energy Independence," a statement by the Research and Policy Committee of the Committee for Economic Development.

"Understanding the 'National Energy Dilemma,'" a report of the Joint Committee on Atomic Energy.

"U.S. Energy Outlook," a report of the National Petroleum Council, December, 1972.

"Exploring Energy Choices," a preliminary report of the Energy Policy Project, Ford Foundation.

"U.S. Energy Prospects, An Engineering Viewpoint," National Academy of Engineering.

"Evaluation of Pollution Control in Fossil Fuel Conversion Processes," prepared for Office of Research and Development, U.S. Environmental Protection Agency.

President Ford's address to Congress October 8, 1974.

President Ford's energy message January 16, 1975.

President Ford's remarks from the White House on February 27, 1975.

Senator Hugh Scott's news release of January 16, 1975.

A.G.A. MONTHLY, "Steps Toward a Coal Gasification Industry," September, 1974.

EL&P TECHNICAL NEWS REPORT, "Low-BTU Coalgas Moves to the Front Burner," August, 1974.

SCIENTIFIC AMERICAN, "The Gasification of Coal," March, 1974.

PURCHASING, "Gas from Coal: Old Approach to New Problem," December 18, 1973.

BUSINESS WEEK, "Natural Gas Users Sing a Dirge," January 13, 1975.

BUSINESS WEEK, "Industry Braces for a Natural Gas Crisis," October 19, 1974, incorporating extensive data from Federal Power Commission.

CHEMICAL WEEK, "Gasification Stokes the Fire Under Coal's Comeback," December 19, 1973.

SMITHSONIAN, "Coal is Cheap, Hated, Abundant, Filthy, Needed," February, 1973.

Amendment to Committee Print
No. 1 of S.740

On page 54, after line 24, insert the following new title:

TITLE VIII - IMMEDIATE ASSISTANCE FOR CERTAIN ENERGY FACILITIES

SEC. 701. Certified Alternative Fuel Projects - (a) Amortization deduction -- Part VI of subchapter B of chapter 1 of the Internal Revenue Code of 1954 (relating to itemized deductions for individuals and corporations) is amended by adding at the end thereof the following new section:

"SEC. 195. AMORTIZATION OF CERTIFIED ALTERNATIVE FUEL FACILITIES.

"(a) Allowance of Deduction. -- Every person, at his election, shall be entitled to a deduction with respect to the amortization of the amortizable basis of any certified alternative fuel facility (as defined in subsection (b)), based on a period of 24 months. Such amortization deduction shall be an amount, with respect to each month of such period within the taxable year, equal to the adjusted basis of the certified alternative fuel facility at the end of such month divided by the number of months (including the month for which the deduction is computed) remaining in the period. Such adjusted basis at the end of the month shall be computed without regard to the amortization deduction for such month. The amortization deduction provided by this section with respect to any certified alternative fuel facility for any month shall be in lieu of the depreciation deduction with respect to such property for such month provided by section

167. The 24-month period shall begin, as to any certified alternative fuel facility at the election of the taxpayer, with the month following the month in which such property was placed in service or with the succeeding taxable year.

"(b) Election of Amortization.--The election of the taxpayer to take the amortization deduction and to begin the 24-month period with the month following the month in which the certified alternative fuel facility was placed in service, or with the taxable year succeeding the taxable year in which such property is placed in service, shall be made by filing with the Secretary or his delegate, in such manner, in such form, and within such time as the Secretary or his delegate may by regulations prescribe, a statement of such election.

"(c) Termination of Amortization Deduction.--A taxpayer which has elected under subsection (b) to take the amortization deduction with respect to any certified alternative fuel facility may, at any time after making such election, discontinue the amortization deduction with respect to the remainder of the amortization period, such discontinuance to begin as of the beginning of any month specified by the taxpayer in a notice in writing filed with the Secretary or his delegate before the beginning of such month. The depreciation deduction provided under section 167 shall be allowed, beginning with the first month as to which the amortization deduction does not apply, and the taxpayer shall not be

entitled to any further amortization deduction under this section with respect to such facility.

"(d) Certified Alternative Fuel Facility.--For purposes of this section--

"(1) In general.--The term "certified alternative fuel facility" means any property, including a building, structure, machinery or equipment, or any part thereof--

"(A) which is of a character subject to the allowance for depreciation provided in section 167,

"(B) which is used for the production of synthetic oil from coal or synthetic gas from coal, or for reaching or extracting oil shale or converting oil shale into oil or gas,

"(C) the construction, reconstruction, or erection of which is completed by the taxpayer after March 17, 1975, or which is acquired by the taxpayer after March 17, 1975, if the original use of such property commences with the taxpayer, and

"(D) which the National Energy Mobilization Board has certified is necessary in the interest of securing adequate national energy supplies.

"(2) Coal.-- The term "coal" includes lignite, petroleum coke, and carbonaceous char.

"(e) Amortizable Basis.--

"(1) Definition.--For purposes of this section, the term "amortizable basis" means the adjusted basis (for determining gain) of a certified alternative fuel facility. In the case of a facility the construction, reconstruction, or erection of which is completed by the taxpayer after March 17, 1975, only that portion of the adjusted basis of such facility as is properly attributable to construction, reconstruction, or erection after such date shall be taken into account in determining amortizable basis.

"(2) Special rule for separate facilities.--Any amounts chargeable to capital account for additions or improvements to a certified alternative fuel facility after the amortization period has begin with respect to such facility shall not increase the amortizable basis of such facility. Such additions or improvements instead shall be treated as a separate property with a separate adjusted basis for purposes of this section.

"(f) Depreciation Deduction.--The depreciation deduction provided by section 167 shall, despite the provisions of subsection (a), be allowed with respect to the portion of the adjusted basis which is not included in the amortizable basis.

"(g) Recapture.--For purposes of applying section 1245 upon the disposition of a certified alternative fuel facility which has an adjusted basis in which there are reflected adjustments for amortization under this section, such facility and such adjustments shall be treated in the same manner as if such adjustments had been made under section 185.

"(h) Life Tenant and Remainderman.--In the case of any certified alternative fuel facility held by one person for life with remainder to another person, the deduction under this section shall be computed as if the life tenant were the absolute owner of the property and shall be allowable to the life tenant."

(b) Investment Credit.--Section 46 of such Code (relating to amount of credit) is amended by adding at the end thereof the following new subsection:

"(g) Certified Alternative Fuel Facilities.--For purposes of applying this section with respect to any certified alternative fuel facility (as defined in section 195(d))--

"(1) '15 percent' shall be substituted for '10 percent' in subsection (a)(1)(A),

"(2) '16 percent' shall be substituted for '11 percent' in subsection (a)(1)(B),

"(3) '12 percent' shall be substituted for '7 percent' in subsection (a)(1)(C), and

"(4) notwithstanding the second sentence of subsection (c)(2), the useful life of such facility shall be the useful life which would have been used in computing the allowance for depreciation under section 167 for the taxable year in which the facility is placed in service if an election under section 195 with respect to the facility had not been made."

(c) Financing with Governmental Obligations.--Section 103 (c)(4) of such Code (relating to certain exempt activities) is amended--

(1) by striking out "or" at the end of subparagraph (F);

(2) by striking out the period at the end of subparagraph (G) and by inserting in lieu thereof ", or"; and

(3) by adding after subparagraph (G) the following new subparagraph:

"(H) certified alternative fuel facilities (as defined in section 195(d).".

(d) Effective Dates.--

(1) The amendments made by subsections (a) and (b) shall apply to property placed in service after March 17, 1975, in taxable years ending after such date.

(2) The amendments made by subsection (c) shall apply to interest received on obligations issued after March 17, 1975.

SEC. 702. Imposition Of Countervailing Duties On Certain Natural Gas Products. - (a) Whenever any petrochemical product produced from natural gas (including, but not limited to, ammonia and methanol) is imported into the United States at a price which is less than the average cost of producing the same kind of petrochemical product in the United States from domestic natural gas or from coal or oil gasification, then upon the importation of such product into the United States, whether the same shall be imported directly from the country of production or otherwise, and whether such product is imported in the same condition as when exported from the country of production or has been changed in condition by remanufacture or otherwise, there shall be levied and paid, in all such cases, in addition to any duties otherwise imposed, a duty equal to the price differential which shall be the amount by which the average cost of producing the same kind of product in the United States from domestic natural gas or from coal or oil gasification exceeds the price at which such product is imported into the United States.

(b) In the case of any such imported petrochemical product as to which the Secretary of the Treasury (hereafter in this section referred to as the 'Secretary') has not determined whether a price differential exists --

(1) upon the filing of a petition by any person setting forth his belief that a price differential exists, and the reasons therefor, or

(2) whenever the Secretary concludes, from information presented to him or to any person to whom authority under this section has been delegated, that a formal investigation is warranted into the question of whether a price differential exists,

the Secretary shall initiate a formal investigation to determine whether or not any price differential exists and shall publish in the Federal Register notice of the initiation of such investigation.

(c) Within six months from the date on which a petition is filed under subsection (b)(1) or on which notice is published of an investigation initiated under subsection (b)(2), the Secretary shall make a preliminary determination, and within twelve months from such date shall make a final determination, as to whether or not any price differential exists.

(d) The Secretary shall from time to time ascertain and determine, or estimate, the net amount of each such price differential, and shall declare the amount so determined or estimated.

(e) Any person filing a petition under subsection (b)(1) may allege that irreparable damage will be incurred by him unless the Secretary takes prompt action to determine whether such a price differential exists, together with facts supporting

such allegation. If the petition contains such an allegation and is accompanied by information constituting a prima facie showing of the existence of such a price differential, as determined by the Secretary, the Secretary shall publish the notice of the initiation of such investigation within 10 days of receipt of such petition and shall make his preliminary determination within 20 days after such publication. If such preliminary determination results in a finding by the Secretary that such a price differential exists, a duty shall be imposed as provided in subsection (a). Within 90 days from such preliminary determination, the Secretary shall make a final determination whether or not such price differential exists, and if such final determination is that no such price differential exists, such duties collected as a result of the preliminary determination shall be refunded with interest at 6%.

(f) The Secretary shall make all regulations he deems necessary for the identification of petrochemical products subject to duties under this section and for the assessment and collection of such duties. All determinations by the Secretary under this section (whether affirmative or negative) shall be published in the Federal Register.

(g) An affirmative determination by the Secretary under this section with respect to any imported petrochemical product shall apply with respect to products entered, or

withdrawn from warehouse, for consumption on or after the thirtieth day after the date of the publication in the Federal Register of such determination or, in the case of an affirmative determination as a result of a preliminary determination as provided in subsection (e), on or after the tenth such day.

(h) For purposes of section 516 of the Tariff Act of 1930, the additional duty described in this section shall be treated as an additional duty described in section 303 of such Act.

(i) The provisions of this section shall take effect upon the enactment of this Act.

SEC. 703. Protection Against Foreign Energy Pricing Policies. - Notwithstanding any other provision of this Act --

(a) To prevent world oil prices from placing domestic facilities for the production of synthetic crude oil, synthetic gas or shale oil at a competitive disadvantage, a subsidy payment shall be made each calendar year by the Board to each owner of a certified alternative fuel facility (as defined in section 195(d) of the Internal Revenue Code of 1954). Such subsidy payments shall continue to be made for the useful life of the facility. The amount of such subsidy payment to each such owner for a calendar year shall be equal to the price differential determined by the Board for the class of facilities which includes such owner's certified alternative fuel facility. The Board shall establish annually price differentials for appropriate classes of alternative fuel facilities, which classes shall be determined by the Board from time to time by regulation. The price differential for any class of alternative fuel facilities shall be the amount, if any, by which, for an appropriate test period consisting of twelve months, the average cost of producing such alternative fuel in the United States in such class of alternative fuel facilities exceeds the average price at which such alternative fuel is sold in the United States for a twelve-month period. Such average cost of producing alternative fuel in the United States --

(1) shall be established with appropriate consideration in the determination of such average cost to the construction and operation of such facilities with reasonable efficiency, and

(2) shall include the following amounts --

(A) operating expenses, including Federal, State, and local taxes; general, administrative, and other indirect expenses properly allocable to such operation, including research and experimental expenditures;

(B) the amount necessary for amortization of capital investment; and

(C) the amount necessary to provide a fair and reasonable return on capital investment, taking into account degree of risk assumed, unusual contribution, if any, to reducing the energy shortage in the United States, and other relevant factors determined by the Board from time to time by regulation.

(b) To further protect the synthetic crude oil, synthetic gas and shale oil industries from significant damage due to a decline in world oil prices, the President is authorized, upon a finding that a decline in world oil prices threatens to significantly undermine the economic vitality of such industries, to establish a program to compensate producers of

synthetic crude oil, synthetic gas and shale oil for economic injuries suffered by them as a result of the decline in world oil prices. Such program shall include --

(1) appropriate standards for determining the amount of compensable economic injury suffered by a producer of synthetic crude oil, synthetic gas, or shale oil as a result of the decline in world oil prices, and

(2) appropriate methods of compensating such producers for their compensable economic injuries, including, but not limited to, interest-free loans, subsidies, grants, and purchase by the Government of the facilities of such a producer which are used for the production of synthetic crude oil, synthetic gas, or shale oil.

In formulating and prescribing the standards and methods referred to in the preceding sentence, the President shall take into account, as he deems appropriate, considerations of national defense, the national energy situation, and the particular circumstances of the alternative fuel industries.

(c) There are hereby authorized to be appropriated, and there are hereby appropriated, such amounts as are necessary to carry out the provisions of this section.

On page 55, line 1, strike "TITLE VIII" and insert "TITLE IX".

On page 55, line 2, strike "801" and insert "901".

On page 55, line 8, strike "802" and insert "902".

On page 55, line 21, strike "803" and insert "903".

On page 55, line 22, strike "This" and insert "Except as otherwise provided in Title VIII, this".

On page 55, line 23, strike "This" and insert "Except for the amendments made by, and the provisions of, Title VIII, this".

STATEMENT

OF THE

PITTS ENERGY GROUP

Presented By

D. K. DAVIS

Before The

COMMITTEE ON INTERIOR AND INSULAR AFFAIRS

UNITED STATES SENATE

Washington, D. C.

July 21, 1975

TESTIMONY ON S. 740
NATIONAL ENERGY MOBILIZATION BOARD ACT OF 1975

Mr. Chairman:

My name is D. K. Davis. I am Executive Vice President of Natural Gas Finders, Inc. and Managing Director of Energy Research Associates. I am representing Mr. L . Frank Pitts personally, who is unable to testify to you today as planned due to temporary illness, and The Pitts Energy Group of companies, which in addition to the two companies first mentioned also includes the Pitts Oil Company and Dallas Production, Inc., all of Dallas, Texas.

I have been in the oil and gas exploration business for the past 29 years, as a professional geophysicist and as an investor and partner in the drilling and development of oil and gas properties. I have been associated with Mr. Frank Pitts and his brother, Shelby Pitts in various petroleum exploration endeavors for 16 years.

Mr. Frank Pitts is President of Pitts Oil Company, a nd has been involved in finding and developing oil and gas properties since the middle 1940's. He is an erudite spokesman for the position of independent oil and gas operators to the Congress, to State legislators, various regulatory bodies, and to the public. For ten years he was Presi dent and I was Executive Vice President and General Manager of Exploration Surveys, Inc., an international geophysical service company which did extensive contract survey work in every producing province in America, as well as many frontier areas which show promise for oil and gas production. These operations include work

on the Outer Continental Shelf areas of Texas, Louisiana, Florida, and 20,000 line miles of work along the Northeast Coast from Norfolk Virginia to 200 miles east of Cape Cod.

We appreciate the opportunity to appear before this committee because as small, independent producers, our segment of the industry is frequently not consulted when important legislation, such as S-740, is being considered. The current energy shortage is no suprise to independent oil and gas operators. We have been telling everyone within earshot for over 15 years that it was coming and have recommended action to prevent it. But all the warnings fell on deaf ears. In 1956 our industry had over 2800 drilling rigs operating and we were drilling over 60,000 wells a year. By 1971, before the Arab embargo, we had dropped to less than 1000 rigs in the field, and drilled less than 28,000 new wells that year.

We lived through those frustrating years and saw over 10,000 independent operators literally driven out of business by artificial price controls and expanded import quotas which served to depress the price of oil below the level at which the average U.S. producer could achieve an economic return on his investment. We had to stop drilling in North Texas in 1967 because the cost of operations was greater than any income we were permitted to receive under the regulated market for natural gas, and we did not get back into the business of drilling wells again until 1971.

At no time in the history of the oil and gas industry has there ever been a lack of willingness on the part of independents to take the

risks and drill the wells this country needed for an expanding economy, and there is no lack of willingness today. What it takes to raise oil and gas production is the opportunity to make a profit. Oil and gas or coal cannot be produced at a loss, any more than any other product.

We are testifying against S. 740 because it is based on the premise that the present economic system doesn't work. It assumes that our energy shortage was caused by private industry failure, while it ignores the hard facts assembled by government and industry showing that the shortage was caused by, and is being perpetuated by congressional restraints. S-740 proposes more governmental intervention into both private and governmental operations, and its proposed bureaucratic reach will create uncertainty, delays and confusion which will dangerously slow down this nation's energy production at the very time when it should be increased to the maximum possible level.

The introduction to S-740, under Section 2, sets out commendable goals for our energy independence. But thereafter it seems to thwart those excellent objectives with every new section. Because the language of this bill is so ambiguous in relation to its avowed and laudable purposes, it is difficult to analyze and even more difficult to believe that it should be adopted.

The proposed Act says, in effect, that the Department of Commerce, the Federal Energy Administration, the Environmental

Protection Agency, the Department of Interior, the Energy Research, and Development Administration, the U.S. Geological Survey, the U.S. Bureau of Mines, together with various other boards and agencies which are already charged with the same responsibilities as the proposed National Energy Mobilization Board is to assume, are inadequate in discharging their responsibility to the Nation.

While we and other independent operators may have differences of opinion with some of these bodies on regulations and policies, we do not believe that the interest of citizens of the United States will be better served by relieving them of their responsibilities and replacing or harrassing them with another huge conglomeration of agencies and government corporations with new and overriding powers.

A reading of this proposed Act finds that nothing is promised the American citizen except the author's willingness to gamble with the Nation's wealth; to use the taxpayer's money to drill oil and gas wells, instead of allowing taxpayers to have the advantage of the income now collected in revenues and taxes from the same operations that the Act proposes to replace.

Nothing here suggests cheaper prices for the consumer.

Nothing here suggests more income for the United States.

No economy can be claimed by the proposed Board's function of managing our energy resources--only the expense of another agency. There is not even a limit as to how much capitalization the Congress will really be asked to provide in order to launch the country's taxpayers into this risky venture.

There is nothing here to suggest that the qualifications for Directors or officers would make them superior in judgment than the public officials who now oversee these functions.

But it does suggest a super-agency--an agency which would put into the hands of a few persons complete control over what, where, when, why, to whom and for who our energy resources are to be rearranged in this country. Control of energy under a single banner means control of all our industrial and resource wealth, which are nothing without energy. A bureau so powerful, so intimidating, so completely out of reach of the voters, no matter how well-intentioned, is not the American way. Our strength in this country is in our diversity and competition ! And there is no business in the world, to my knowledge, more competitive than oil and gas producers struggling to buy leases on which to drill wells. In fact I challenge each member of the committee to come and spend a week in the field with any one of our lease men. You'll discover what competition really means !

The bill acknowledges in Section 2(d) that "There are enormous energy resources of coal, oil, natural gas, oil shale, geothermal, uranium, and other forms of energy in the United States which have not been adequately explored or developed", and we heartedly agree.

The bill acknowledges in Section 2(e) that "The Nation has extensive under-utilized technical, industrial, manpower, and other resources which could be mobilized to achieve the goal of energy self-sufficiency." We heartedly agree; and have been saying it for years. But the reason they're being under-utilized is not the lack

of know-how, not the lack of prospective areas to drill, and not a lack of eagerness to move ahead: the reason is because Congress is denying the American people the right to buy fuel at fair prices from American producers, and is thereby forcing consumers in this country to support the OPEC cartel with ever higher prices, and promote inflation by sending money out of this country instead of keeping it circulating in our own economy. With every barrel of OPEC oil imported into this country, we are exporting American jobs to pay for it.

There is nothing here to suggest that the creation of National Energy Production Companies will actually provide any additional oil and gas or other energy that can't be produced cheaper and more efficiently by private industry. It does propose that since we have a shortage in deliveries of energy that the Federal government should set up its own Corporations to try and meet the need. Under this philosophy the Federal Government should have jumped into sugar production a few months ago, or a little earlier than that, when the meat counters were bare, it should have jumped into the cattle business.

It also proposes that government cooperate with industry by offering handouts of financial aid to industry. Mr. Chairman, as independent operators we don't need handouts from taxpayers to get the job done. We need profits to fuel the investment needed to drill new wells, and profits to encourage outside investors and lending institutions to support our operations. Why should the public be asked to provide a direct feed-trough of funds out of new taxes, when such subsidies can only lead to less efficiency, reduced competiveness and higher fuel costs--a great deal of which costs will be hidden in higher taxes.

The Act proposes that Americans be offered the opportunity to buy stock in these new corporations. But if they don't choose to buy it, the Act states that the Federal Government will buy up the unsubscribed stock with the taxpayers money. In other words, if a citizen doesn't want to invest, he will be forced to buy shares anyway with his higher taxes.

Even if the Congress wanted to take the first step toward socialization of American industry, it should start with something far less hazardous than the exploration and development of oil and gas. This bill asks the Congress to give these experimental Corporations a blank check to roll dice in one of the most expensive and financially hazardous enterprises in the world. There are numerous high-paying jobs and consulting commissions in private industry awaiting anyone who can significantly lower the cost of finding oil and gas, but this bill fails to provide the incentive for the employment of such rare talent.

Section 202 of the proposed Act provides for Materials Allocation Authority. Our own experience with such bureaucratic distribution is still fresh on our minds. During 1972 through 1974 independent producers, who drilled 85% of the wildcat wells last year, were hard pressed to find steel tubing to complete wells in which oil or gas had been discovered. (A shortage, incidently, which was caused by price controls being levied on tubular goods, which caused steel mills to produce flat steel at lower cost to sell at higher, uncontrolled prices in order to optimize their profits--another example of price controls being the most damaging to those the regulators attempt to protect.)

But Lone Star Steel Company of Dallas announced a program of increased tubular production to meet the demand of increased drilling activity in the Southwest, and we applied for a portion of their output.

On January 6, 1975 we were notified by the steel company that our application for a portion of their new pipe had been pre-empted by a Priority Directive from the U. S. Department of Commerce, requiring them to furnish tubular goods for use by the U. S. Navy in the development of the Elk Hills Naval Reserve in California. This was the first inkling we had that the government was going into the drilling business, but in any case the steel which was pre-empted by the government still has not been used. But our drilling activities were curtailed as a result.

With the government in the oil and gas business, in competition with private industry, and with an agency having full power to divert all manner of industry materials and equipment, we can't help but believe the foregoing example would be repeated over and over with the possibility of unfair competition doing irreparable harm to independent oil operators.

Of course most of the costly goods and services involved in finding new oil and gas, would be equally available to the government and to private industry. The proposed board could hire drillers, geologists, geophysical crews and roustabouts, and it could purchase or rent all manner of equipment the same as private companies --but not any cheaper. A seisomograph contractor or a drilling contractor and their crews cannot run a survey or drill a hole for a Federal corporation one cent cheaper than they can for a private operator.

The United States Treasury has for years regularly collected millions of dollars from industry as payments for offshore leases, and these monies have benefited American taxpayers. The recent purchase by industry of six tracts off the Coast of Florida put $632 million into government hands, and then private enterprise spent millions more for seven dry holes before abandoning the area.

If this proposed Act had been in force, and the proposed Board had drilled the Florida prospects, the taxpayers would not have had the benefit of the $632 million , and perhaps would have even had their taxes raised to cover the deficit; plus paying the additional millions for dry holes; plus a probable few million more to pay for at least 10 separate Congressional investigations into how the Energy Mobilization Board could have been so stupid as to dig a bunch of holes in the ground without finding anything! How long would the public stand still for a Federal Agency to drill 40 dry holes in a row, as some independent operators have done? Would such an agency stand up to drilling seven dry holes in the remote Artic wilderness? Would they have the guts to persevere, as private industry did, and pour more millions into an eighth hole, which was the well that resulted in the discovery of Prudoe Bay?

The proposals offered in this bill are so far-reaching and ambiguous, that if they were offered up for investment by a private promoter, he would be immediately investigated by the Securities and Exchange Commission and the Federal Trade Commission. The supporters of this bill certainly owe the American taxpayers and citizens the same degree of detailed information and background which the SEC

would demand in a prospectus for such a mammoth and complicated undertaking. We don't believe this proposal could pass even the most preliminary requirements of disclosure of pertinent information.

Mr. Chairman, our companies and thousands more like them are standing in the wings waiting to get on with the job of finding and producing oil and gas. We're not "holding back waiting for higher prices" as some would have you believe. We operate in a world of cold hard facts, because in a business with such exceptionally high risk as ours, we can never take anything for granted. Even with every fact we can garner, we still look probable failure in the face every time we stick a bit into the ground.

When we also have to consider such facts as artificially low interstate gas prices, that make it impossible to drill and produce even our successful wells without losing money, and when Congress proposes lowering oil prices to below the documented average production cost, then the risk becomes too great. To drill new wells under such circumstances is to put certain failure in our path and threaten our very livelihood and that of our investors. The wells won't be drilled under these circumstances, and they can't be drilled by the Federal Government without costing the taxpayer even more than a free market price should be.

Our experience in oil and gas exploration indicates that there almost certainly <u>are</u> vast untapped reserves to be produced in this country. The Continental Shelf areas, especially off the northeast coast, show great promise. Deeper drilling in such areas as the Appalachian Basin and many other on-shore areas may very well

contain "elephants" of oil and particularly gas reserves beyond our wildest dreams. And we could be wrong, but there's no way to know until these prospects are actually drilled. There are also many areas of low yield but with tremendous long-term reserves such as the Devonian Shales of Ohio and Kentucky. But the price of what is found must equate with the higher expenses of exploration and production. We do not believe the price can be legislated because there are too many unknowns. Let us loose from the shackles of regulation so that producers may compete with each other and with other forms of energy, and we can continue to provide America with the cheapest energy in the world. With reduced government interference, so that we can embark on needed projects with confidence that there is a profitable market for new discoveries, private companies will compete to do the job; they'll vie for the opportunity to do research and development and then pay taxes into the State and Federal governments for the privilege. All it takes is incentive, a chance to make a profit.

This committee might do a great service for this country by substituting for S-740 a bill to establish a data bank of energy facts to be gathered, not by decree or regulation, but by simple requests of submittal from research institutes, government agencies, industry, banking organizations, environmental organizations, and others. Let those submittals be checked for truth, and when their accuracy has been determined honestly and soberly, without political bias and stripped of their emotionalism and the hysterical finger-pointing of instant experts, or the jerry-rigged conclusions of zealots on both sides of energy questions, then let such a service agency insert those facts

into a comprehensive economic computer model, perhaps similar to, but hopefully superior to economic models OPEC uses for decision-making, such as the one which is run for them at Battelle Institute.

The findings of the FEA, the FPC and the Commerce Department which show little or no economic impact by deregulation should be checked and included, along with apparent facts to the contrary. Environmental impact data and the various estimates of energy reserves (which necessarily cover a wide range because they are educated guesses) should be included.

Such data should be included as the example in Texas, where a free market for gas has sparked a spectacular drilling boom, and provided the gas to keep Texas industry humming at full capacity. Free market energy in Texas has helped to create a healthy economy in that state. Texans have bit the bullet that President Ford prescribed, by paying up to $2.00 m.c.f. for new gas, and now they're reaping new benefits as the supply approaches demand and prices are dropping. And yet Congress still deprives most of the rest of the nation of those same benefits, and good workmen from factories without fuel stand in welfare lines.

Facts must not only be assembled, but used. If a bill creating a fact-assembling service agency should become a reality, perhaps the only teeth it would need for the ultimate benefit of the country would be to require that the Congress pass no law which did not honor the factual economic consequences predicted by the agency for any given set of circumstances.

But such proposals take time to become effective and our country is out of time. Our problem is to begin immediately to drill more wells and produce more oil and gas, and it can be accomplished by the Congress showing a willingness to let independents get back to work without the threat of continued harassment. As an initial move in this direction we respectfully request that S-740 be postponed indefinitely by this committee. We see no independent operators standing in line for the Federal handouts that this bill offers in its effort to solve an artificially created economic crisis. Fair prices will be higher than we paid a few years ago, but they will be cheaperthan bread lines and safer than living under the cloud of OPEC blackmail.

Please, gentlemen, let the United States of American continue as the prime example to the rest of the world of the economic stability and prosperity that a free market system can create.

Statement on Behalf of Railway Labor Executives' Association*
Al H. Chesser, President
United Transportation Union
on S. 740, "National Energy Mobilization Act of 1975"
Before the Senate Committee on Interior and Insular Affairs
July 15, 1975

Mr. Chairman, I am submitting this statement on behalf of the Railway Labor Executives' Association. The members of our Association fully support the the goal of formulating an effective national energy policy which permits the United States to be less dependent on foreign nations for our energy supplies. Whether it be called "energy independence" or "energy interdependence," it is clear that we cannot afford to continue our policy of energy dependence.

Today we are faced with the twin challenge of the high-handed tactics of the oil cartel nations and a dwindling domestic supply of oil and natural gas. Meeting this challenge will require the full and rational development of all sources of energy, both existing and new.

Among the most important of America's existing energy materials is coal. Eighty-five percent of our fossil fuel resources are in the form of coal, with estimates of recoverable resources of about 1.5 billion tons. At the current rate of coal production, that amount would meet the Nation's coal needs for the next two and a half centuries.

When we talk of moving coal from the mine to areas of demand, we cannot help but talk of railroads. Railroads are the dominant coal carriers, and an

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*A list of the members of the Railway Labor Executives' Association appears on page 17.

increasing dependence on coal for electric utilities and other uses will undoubtedly lead to a major expansion of rail freight tonnages.

Recognizing the importance of coal, S. 740 directs the proposed National Energy Production Board to prepare a Federal Coal Production Program with legislative recommendations for "the accelerated exploration, development and production of coal..." As an adjunct to accelerated energy production, Section 403 of the legislation directs the Board to prepare a Federal Energy Transportation System Improvement Program after consultation with the United States Railway Association and the Department of Transportation. The program is to consist of legislative recommendations for programs to assure the development on an urgent basis of energy transportation systems, including among other aspects:

-- a timetable for development of energy transportation systems;

-- an analysis and assessment of the present capacity and projected requirements for the Nation's railroads and other energy transportation systems for the transport of coal and other fuels;

-- deficiencies in the present railroad and other energy transportation systems;

-- the need, nature, and extent, if any, of a direct Federal role in developing new energy transportation systems and rebuilding railroad beds;

-- specific projects for the establishment of new railroad, pipeline, and other energy transportation systems;

-- proposed arrangements with existing railroads for the improvement and augmentation of their energy transportation rights-of-way; and

-- proposals for the coordination of existing railroads and other transportation system operations.

As introduced on February 18, 1975, Section 403 of S. 740 cited the need to develop and improve the following energy transportation systems:

1. railroads
2. coal slurry pipelines
3. oil and natural gas pipelines
4. other energy transportation systems

In Committee Print No. 1 of S. 740, released on July 8, 1975, Section 403 has been rewritten to delete any reference to specific types of pipelines.* In place of 2 and 3 above, the term "pipelines" is substituted.

It is the position of the Railway Labor Executives' Association that the Federal Government should have no role, whether direct or indirect, in the development of coal slurry pipelines, and it is our hope that this Committee will write language, either in the legislation or in the report accompanying it, which makes it clear that the Committee does not intend to promote Federal involvement in the development of coal slurry pipelines.

It is the purpose of this statement to discuss the basis of our opposition to coal slurry pipelines. I have attached to our testimony a study of the economic advantages of transportation of coal by rail versus coal slurry pipeline, undertaken by the consulting firm of Ruttenberg, Friedman, Kilgallon, Gutchess and Associates. That study takes an in-depth look at coal slurry pipelines and concludes that they will not be any more efficient, economical, or environmentally

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* A copy of the original Section 403 is included in the Appendix to this statement with a notation of the changes in that section made by Committee Print No. 1.

Sound than rail transportation of coal, and that in fact, coal slurry pipelines are at a distinct disadvantage when compared to the movement of coal by rail.

Increased Demand for Coal

Most energy projections have predicted a doubling in the domestic demand for coal by 1980. Coal is our largest fuel resource in the United States, and its importance will be increased as oil and natural gas prices rise and as efforts to achieve a major degree of energy self-sufficiency become more intense.

More and more coal will be used by electric power utilities which will draw upon in excess of 200 billion tons of coal reserves in the West. Getting those reserves to utilities -- primarily in the Midwest and East -- will require the full utilization of this Nation's transportation resources.

Railroad Flexibility

More than 60 percent of coal moves by rail in this country, accounting for one-tenth of all rail freight revenue. In meeting current coal transportation demands, the rail industry has shown that it can be both economical and efficient.

Railroads serve both small mines and large mines. They deliver coal to a variety of points along the extensive rail network of this country, serving a variety of consumers.

In doing this, railroads have adapted themselves to changes in the coal demand market which increasingly require large volumes of coal to be transported from mines to public utilities and to industry. Railroads have been able to adjust both rates and types of service in order to meet the needs of shippers and receivers.

The unit train is an excellent example of rail competitiveness. Large volumes of coal from either a large single source or several smaller sources are collected at one point, placed into silos where they are loaded into unit trains at the rate of 10,000 tons in four hours. The unit train then operates a form of shuttle service, taking its load to one or more designated receivers, where it is unloaded by rotary dumpers which take just 90 seconds to empty a 100-ton car, and then returning to pick up a new load. Unit trains operate on a predetermined schedule, using assigned equipment. This economy of operation permits receivers to get large volumes of coal at greatly reduced rates.

In the face of decades of competition from other modes of transportation -- including slurry pipelines -- railroads have demonstrated:

1. The ability to adjust their rates to remain competitive.
2. The ability to adjust their type of service to meet the needs of shippers and consumers and to meet the demands of competition, and

3. The flexibility to serve both small and large shippers and receivers.

Flexibility is a most important asset of rail transportation. The same cars which carry coal can also carry other commodities, and the same rail lines which carry coal can also carry other commodities.

Coal slurry pipelines move one product from one producer to one (or, at most, a few) users, while railroads move a variety of products from a variety of producers to a variety of consumers.

A study conducted by the Federal Energy Administration revealed that it takes less construction investment to build new rail facilities than to build a comparable number of coal slurry pipelines. But the advantages do not stop at that point. In return for that rail investment, the country receives the added benefit of transportation service for commodities other than coal. Even a rail line built primarily to move coal can also encourage the development of other industries which will use that rail line, thereby encouraging the economic development of areas which would otherwise not experience economic growth.

The proposed coal slurry pipeline from Wyoming to Arkansas passes near more than a dozen existing or proposed coal-fired electric power plants while serving no more than three such plants at its termination point. What more proof is needed of the inflexibility of coal slurry pipelines to meet this Nation's energy needs?

Alternative Uses for Western Coal

The United States has lagged in the undertaking of research and development of technology in the conversion of coal to gas. Western coal is particularly well suited to conversion because of its lower cost. The Federal Energy Administration has estimated that savings of at least one-third could be achieved by using western rather than eastern coal in synthetic fuel plants.

As part of the consideration of the underlying policy issues involved in these hearings, Congress should take note that synthetic fuel plants.

1. require more on-site construction and operational jobs than coal slurry pipelines,
2. generate more off-site jobs in the community surrounding the synthetic fuel plant, thus envigorating the economy of that community,
3. depending on the specific process involved, may require transportation of the fuel from its source to consumers, thus creating additional jobs; and
4. will play a major role in decreasing this country's dependence on foreign fuel imports.

Cost of Coal Slurry Pipelines

There has been much said about the so-called proven technology involved in the coal slurry process, but the hard facts speak more loudly than these boastful claims.

There are only two coal slurry lines in existence in the United States today. One -- the Ohio pipeline -- abandoned service after six years when it could not compete with rail transportation. By the statement of the Federal Energy Administration, the other existing line could not compete with rail service if a competing rail line existed.

Only two of the five proposed lines would run for distances in excess of 1,000 miles and both of those lines (the one from Wyoming to Arkansas and the line from Colorado to Texas) are directly competitive with existing rail systems. FEA data indicate that only long-distance, high-volume coal slurry pipelines can be price competitive with rail transportation. But FEA has also concluded that each of these two lines carry volumes that are too high over distances that are too long to be supported by the needs of a single utility plant.

In short, the proposed lines which will carry coal from one mine to one utility will not be able to compete with existing rail transportation which enjoys the advantages of economic operation and flexible, multi-purpose service.

In assessing the relative costs of pipeline versus rail transportation, Congress cannot afford to ignore the issue of jobs.

FEA has estimated that it would take 725 less jobs per year to build six new coal slurry pipelines than to construct comparable new rail facilities. To this loss of jobs in the contruction phase must be added the loss of more than 1900 jobs in the operational phase.

The Burlington Northern Railroad has predicted that it would lose $225 million in freight revenue a year from the proposed Wyoming to Arkansas and that 200 rail jobs would be lost, as well.

If coal slurry pipelines do enter into direct competition with railroads, the very nature of their operation will require them to take the long-term, high-volume business away from railroads. This is the very business which railroads need to enable them to continue and expand their service.

For every 100 railroad jobs that are lost, our economy loses $1,367,236. That loss is spread throughout the economy -- to the food industry, the housing industry, the utility, fuel, clothing and transportation and appliance industries, and to the services segment of our economy.

Surly, Congress will not ignore the job cost of coal slurry pipelines.

Environmental Advantages of Rail Transportation

In the slurry process, each ton of coal requires at least 250 gallons of accompanying water: The proposed 25 million ton Wyoming to Arkansas line would require more than 6 billion gallons of water per year.

Most of the coal reserves in the West exist in arrid or semi-arrid regions where water is scarce. The pipeline requires access to a long-term, inexpensive water supply, but what water is still uncommitted will be needed to support an expanding population as well as the increasing needs of agriculture and industry.

Given the very critical shortage of water in those western areas of the country holding large coal reserves, it is foolhardy to expect that water to carry coal elsewhere. The water available should be more properly used for energy development rather than the transport of coal, especially when railroads have the proven capability to meet this country's coal transportation needs.

Economical Advantages of Rail Transportation

On the subject of cost, there are some who have suggested that rail costs increase at a rate far faster than slurry pipelines. These people are ignoring the facts.

In 1932, rail rates equaled 63.3 percent of the destination value of coal. In 1972, the comparable figure was almost half that amount -- 32.8 percent. In the intervening years, rail costs have shown a nearly steady and constant decline as a percent of the destination value of coal. And in those 40 years, rail coal freight rates have increased an average of only 1.5 percent a year, which compares favorably with the cost increase rate projected by the proponents of coal slurry pipelines.

Legislative Policy Issues

There are several broad policy issues which must be considered in discussing coal slurry pipelines.

A. Eminent Domain

First is the question of whether operators of coal slurry pipelines should be granted the federal power of eminent domain. Proponents say that there is only one operational coal slurry line in this country today because they lack the power of eminent domain. These people ignore the fact that the existence of neither oil nor natural gas pipelines depended on that power. The difference is that there was a demonstrated need for oil and gas pipelines; there is no such need for coal slurry pipelines.

B. Lack of Federal Regulation

Nothing in the coal slurry pipeline legislation now before Congress requires those pipelines to be subject to the same type of federal regulation under which other forms of energy transportation operate. For example, natural gas pipeline operators can neither construct a new pipeline or extend an existing interstate pipeline without first obtaining a certificate of public convenience and necessity from the Federal Power Commission. While the proposed legislation (H.R. 1863) requires that such a certificate be obtained from the Department of the Interior, there is no effort in that bill to attach any terms or conditions to the granting of that certificate as the public convenience and necessity may require.

Railroads can neither alter rates nor abandon service without the permission of the Interstate Commerce Commission. Nothing in the proposed legislation would subject coal slurry pipelines to similar regulation.

No agency of the Federal Government will be able to require that a coal slurry pipeline operator provide additions or extension of its service. Contrary to the case of natural gas pipelines, a coal slurry pipeline operator will be permitted to acquire its certificate of public convenience and necessity and later to abandon or modify its service without first obtaining another certificate of public convenience and necessity.

C. Common Carrier Status

Another major deficiency in the proposed legislation is the failure to require that coal slurry pipelines operate as common carriers. Only if the pipeline needs the federal power of eminent domain is it required to get a certificate of public convenience and necessity, and there is nothing in the legislation to require that the pipeline operate as a common carrier in order to get that certificate.

It is clearly questionable just whose public convenience and necessity is being served by a coal slurry pipeline which runs from one or two large mines to one or two large public utilities. Nothing in the proposed legislation permits the Federal Government to require that the pipeline act as a common carrier by accepting coal from other mines, or extending its service along its line or at its termination point to serve additional consumers.

All the proposed legislation does is to facilitate a convenient private business relationship between pipeline operator, mine owner, and utility. Coal slurry pipelines will not be common carriers; they are private carriers and should not be permitted to operate interstate without strict federal regulation, nor should they be given access to the federal power of eminent domain without adopting the substance of common carrier status.

D. Effect on the Financial Condition of Railroads

In the face of the fact that other available and adequate means exist for the transportation of coal, it is especially appropriate to consider what impact coal slurry pipelines will have on the mode of transportation which is primarily responsible for moving the Nation's coal -- railroads.

Most of the planned coal slurry pipelines will be in direct competition with rail transportation. To the extent that they skim off the cream of coal shipments, the result will be a serious reduction of substantial long-term financial commitment for railroads, reduce freight revenues, result in the loss of rail jobs, and quite possibly endanger the financial stability of some of this country's railroads.

All of this would take place at a time when Congress has made a clear commitment to revitalizing the Nation's railroads through Amtrak, the proposed ConRail system, and legisl tion to provide jobs to rehabilitate railroad tracks and facilities.

Instead of creating jobs, coal slurry pipelines will result in the loss of railroad jobs -- a loss that will be felt throughout the Nation's economy.

Community Concerns

To promote a Federal role in the development of coal slurry pipelines is to act contrary to the interests of the American people. The only Federal role which the developers of coal slurry pipelines seek is the Federal right of eminent domain. With that power, they can run roughshod over the concerns of communities and States.

Without a Federal right of eminent domain, slurry pipeline developers will have to go to each State along the pipeline route and defend their proposals to take land which does not belong to them. Without a Federal right of eminent domain, slurry pipeline developers will have to go to each State and answer questions about the environmental impact of their proposed pipelines, including their usage of water. These are questions which must be answered to the satisfaction of those whose lives, jobs, and communities will be affected. They should not be rendered moot by virtue of the availability of the Federal power of eminent domain.

Economic Concentration

The coal slurry pipeline proposals are being advocated by those who already have a significant interest in the oil and natural gas industries. Three of the five proposed coal slurry pipelines would be built by natural gas pipeline companies and their partners. Of these three consortiums, two are closely related with each other. The proposed Houston slurry pipeline from southeastern Colorado to Houston is to be built by Houston Pipeline, a subsidiary of Houston Natural Gas, 20 percent of which is owned by APCO Oil Corporation. The proposed Energy Transportation System pipeline is to be developed by a consortium which includes the Northwest Pipeline Corporation and Gulf Interstate Engineering Company.

Conclusion

For the many reasons which we have cited in our statement, the Railway Labor Executives' Association believes that the Federal government should not encourage the development of coal slurry pipelines. They are neither efficient, flexible, economical, or environmentally sound. For the same investment or less, railroads cannot only move similar quantities of coal, they can also serve far more coal producers and coal users and far more other purposes than can coal slurry pipelines. Coal slurry pipelines offer no significant advantage over railroads and other existing modes for transporting coal. And they will only result in a further concentration of economic power in the energy industries of our Nation.

Mr. Chairman, railroads are capable of expanding to meet the growing coal needs of this country. There is absolutely no evidence that railroads are unable to service any of our coalbearing regions. In fact, the Federal Energy Administration has made the following statment on this subject:

> "Increased coal production over the longer term should not pose a transportation problem if proper planning and coordination are undertaken. The leadtime to produce new transportation equipment...is shorter than the leadtime to bring a major new surface or underground mine into production...
>
> "It does not appear that where transport facilities are already in place, there will be any track or line capacity problems with regard to rail...Also, it is expected that track rehabilitation, and any new construction will be underway or in place prior to actual coal movement needs.*

---

* Federal Energy Administration, Project Independence Blueprint, Final Task Force Report, "Coal," page 53.

All of these projections will be made worthless if coal slurry pipelines are permitted to skim off the cream of the railroads' coal business. Without a reasonable assurance of a continued high level of coal traffic in the years ahead, railroads will not be able to expand their rolling stock nor their track.*

We, therefore, urge this Committee to remove coal slurry pipelines from the provisions of S. 740.

---

* Federal Energy Administration, Project Independence Blueprint, Final Task Force Report, "Coal," page 53.

The membership of the Railway Labor Executives' Association consists of the following standard railroad unions which represent 80% of all railroad workers in the U.S.:

American Railway Supervisors Association

American Train Dispatchers Association

Brotherhood of Locomotive Engineers

Brotherhood of Maintenance of Way Employees

Brotherhood of Railroad Signalmen of America

Brotherhood of Railway Carmen of the U.S. and Canada

Brotherhood of Sleeping Car Porters

Hotel and Restaurant Employees' and Bartenders' International Union

International Association of Machinists and Aerospace Workers

International Brotherhood of Boilermakers and Blacksmiths

International Brotherhood of Electrical Workers

International Brotherhood of Firemen and Oilers

International Organization of Masters, Mates and Pilots of America

National Marine Engineers' Beneficial Association

Railroad Yardmasters of America

Railway Employes' Department, AFL-CIO

Seafarers International Union of North America

Sheet Metal Workers International Association

Transport Workers Union of America

United Transportation Union

APPENDIX

Revisions in S. 740 Resulting from Release of Committee Print No. 1

SEC. 403. ENERGY TRANSPORTATION SYSTEMS.—(a) The Board shall prepare a Federal Energy Transportation System Improvement Program after consultation with the United States Railway Association and the Department of Transportation. The Federal energy transportation systems improvement program shall consist of a legislative recommendation for ~~direct and indirect participation by the Federal Government in~~ programs to assure the development on an urgent basis of new and the improvement of existing railroad systems, ~~coal slurry pipelines, oil and natural gas~~ pipelines, and other energy transportation systems necessary to assure the timely, safe, and efficient movement of coal and other fuels from mines and other production areas throughout the Nation to electrical powerplants, industrial users, and residential consumers.

(b) The Board's recommendations shall include a time-table for the development of such transportation systems, and

NOTE: Material deleted has been crossed through (--------).

an accompanying report which specifies in detail:

(1) an analysis and assessment of the present capacity and projected requirements for the Nation's railroads and other energy transportation systems for the transport of coal and other fuels from producing areas in the Western States, Appalachia, and other areas to the principal electric utility, industrial users, and other major consuming markets throughout the Nation;

(2) deficiencies in the present railroad and other energy transportation systems;

(3) the need, nature, and extent, if any, of a direct Federal role in rebuilding railroad beds, improving and developing new energy transportation systems, and otherwise engaging in activities to facilitate the timely, safe, and economical transport of domestic fuels;

(4) specific projects when needed for the improvement, rehabilitation, or augmentation of existing railroad facilities, rights-of-way, rolling stock and operations required to assure the safe and efficient movement of coal and other energy resources;

(5) specific projects for the establishment of new railroad, pipeline, and other energy transportation systems;

(6) proposed arrangements with existing railroads for the improvement and augmentation of their energy

transportation rights-of-way, facilities, and equipment;

(7) the location and extent of rights-of-way, facilities, and equipment included in the program;

(8) proposals for the coordination of existing railroad and other transportation system operations in furtherance of the objectives of this Act;

(9) estimates of the new employment opportunities to be created under the program, including number, location, and nature of same, and recommendations for necessary retraining programs; and

(10) an estimate of the amount of steel and other materials the Board's recommendations would require, including estimates of whether such requirements would exceed production capacity for steel and other materials in light of other demands on such resources.

ECONOMIC ADVANTAGES OF TRANSPORTING

COAL BY RAIL vs. COAL SLURRY PIPELINES

Presented by

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Railway Labor Executives' Association

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July 15, 1975

The membership of the Railway Labor Executives' Association consists of the following standard railroad unions which represent 80% of all railroad workers in the U.S.:

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Hotel and Restaurant Employees' and Bartenders' International Union

International Association of Machinists and Aerospace Workers

International Brotherhood of Boilermakers and Blacksmiths

International Brotherhood of Electrical Workers

International Brotherhood of Firemen and Oilers

International Organization of Masters, Mates and Pilots of America

National Marine Engineers' Beneficial Association

Railroad Yardmasters of America

Railway Employes' Department, AFL-CIO

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Sheet Metal Workers International Association

Transport Workers Union of America

United Transportation Union

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ECONOMIC ADVANTAGES OF TRANSPORTING
COAL BY RAIL Vs. COAL SLURRY PIPELINE

1. Coal reserves, particularly in the West, are important to the Nation.

About 85 percent of U. S. fossil fuel reserves are in the form of coal, large reserves of which are located in many parts of the country. The U. S. Geological Survey has estimated that there are 1,600 billion tons of demonstrated coal reserves in the U. S. and that there is another 1,600 billion tons of as yet unidentified resources.

Of this amount, only about 434 billion tons are in deposits of the type which can be mined, given today's economics and technology. And of this 434 billion tons, 193 billion tons (or 44.5 percent) is composed of subbituminous or lignite coal, both of which possess a low BTU content. (See Table 1 and Map 1).

Over the past three decades, coal has played a decreasingly important role in the nation's fuel consumption. (See Table 2 and Figure 1). In 1950, industry consumed more than half of all domestic coal. Today, public utilities are the primary coal consumers. (See Tables 3 and 4).

There are significant untapped coal resources, primarily in the West. (See Table 5). Several barriers are in the path of mining these reserves, however.

Table 1

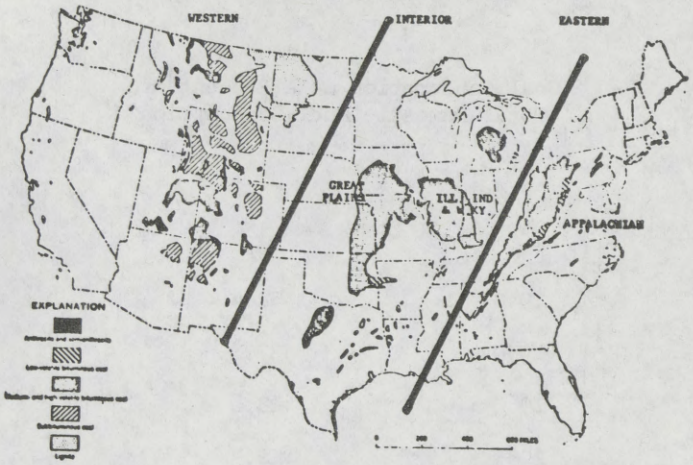
Summary of Demonstrated Coal Reserve Base
of the United States

Rank of Coal	Total	Estimated Total Heat Value (Quadmillion BTU)
Bituminous	233	6,100
Subbituminous	165	2,800
Lignite	28	400
Anthrasite	7	200
Total	434	9,500

Source: "Demonstrated Coal Reserve Base of the U . S. on January 1, 1974." Mineral Industry Survey, U. S. Department of the Interior, Bureau of Mines, Division of Fossil Fuels, Mineral Supply, June 1974.

MAP NUMBER 1

COAL RESERVES OF THE UNITED STATES



Source: Interstate Commerce Commission.

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Table 2

Coal Consumption as a Percent of
Total Domestic Fuel Consumption

1940	52.4
1950	37.8
1960	22.8
1965	22.3
1970	18.9
1972	17.3

Source: U. S. Bureau of Mines, Minerals Yearbook.

FIGURE 1-

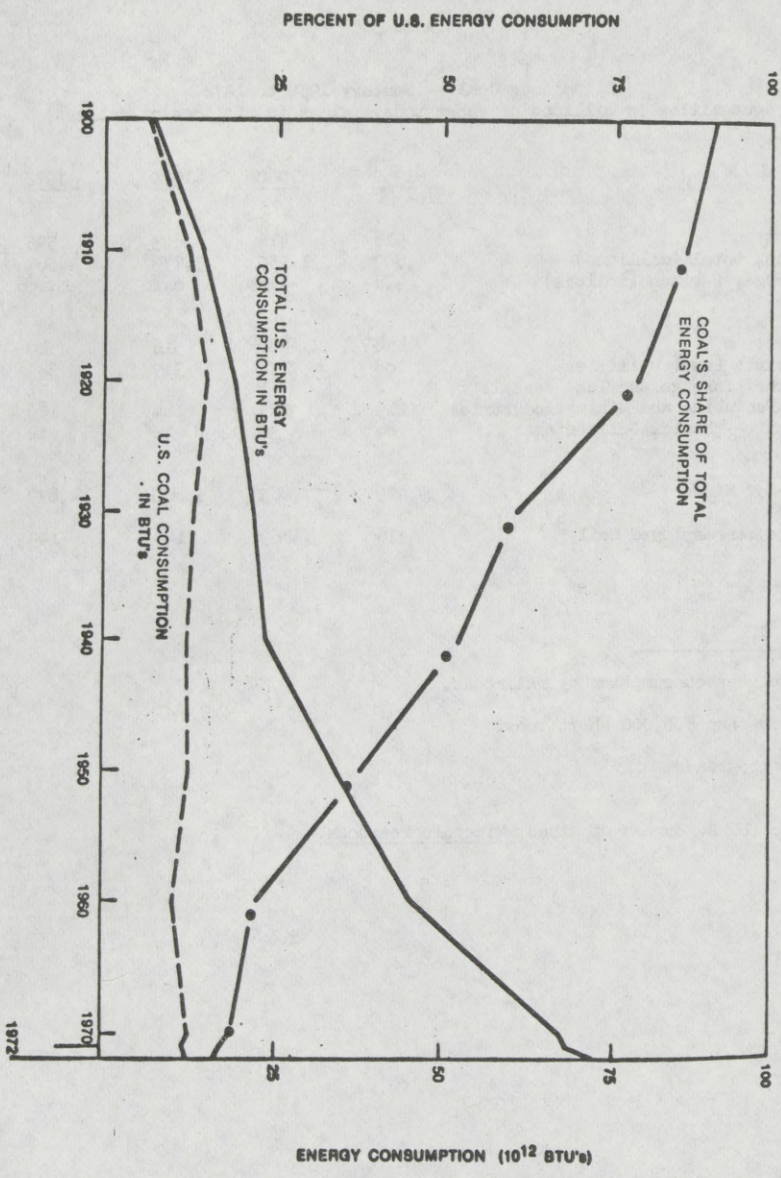
COAL'S SHARE OF TOTAL UNITED STATES ENERGY CONSUMPTION
PERCENT OF U.S. ENERGY CONSUMPTION
25
50
75
100
1900
1910
1920
1930
1940
1950
1960
1970
1972
COAL'S SHARE OF TOTAL ENERGY CONSUMPTION
TOTAL U.S. ENERGY CONSUMPTION IN BTU's
U.S. COAL CONSUMPTION IN BTU's
ENERGY CONSUMPTION (10^{12} BTU's)

Table 3

Bituminous Coal -- Summary 1950 to 1972
(quantities in millions of short tons, values in millions of dollars)

	1950	1960	1970	1972
Production	516	416	603	595
Value, total (millions)	1,500	1.950	3,773	4,561
Average, per ton (dollars)	4.84	4.69	6.26	7.66
Consumption	454 1/	380 1/	516	520
Electric Power Utilities	88	174	319	349
Bunker, foreign and lake vessels	2	1	2/	2/
Manufacturing and Mining Industries	219	173	184	159
Retail -- Dealer Deliveries	84	30	12	12
Number of Mines	9,429	7,865	5,601	4,879
Average men employed daily 3/	416	169	140	149

1/ Includes consumption by railroads.

2/ Less than 500,000 short tons.

3/ In thousands.

Source: U. S. Bureau of Mines, Minerals Yearbook.

Table 4

Fuel Consumption for Electricity Generation
(million tons of coal equivalent)

Fuel	1965	1973	Percent Change
Coal	245	388	+ 58
Oil	28	121	+ 332
Gas	96	154	+ 60
Nuclear	2	36	+ 1800
Total	371	699	+ 88

Table 5

Coal Reserve Base by State
(in millions of short tons)

State	Class of Coal	Mean BTU	BTU Index[1/]	Total Reserve Base
Maryland	bit.	14,110	1.13	1,048.21
Michigan	bit.	13,110	1.05	118.20
Ohio	bit.	12.900	1.03	21,077.15
Pennsylvania	anthr.	13,060	1.04	7,120.53
	bit.	13,720	1.10	23,880.01
West Virginia	bit.	13,900	1.11	39,589.79
Alabama	bit.	13,830	1.11	1,937.83
	lig.	--		1,026.50
Kentucky	bit.	13,350	1.04	25,540.55
Tennessee	bit.	13,600	1.09	986.72
Virginia	anthr.	11,930	.95	137.49
	bit.	13,980	1.12	3,512,48
Arkansas	anthr.	13,990	1.12	96.40
	bit.	14,070	1.12	537.30
	lig.	--		32.00
Illinois	bit.	12,560	1.00	65,664.72
Indiana	bit.	12,970	1.04	10,622.57
Iowa	bit.	11.650	.93	2,884.86
Kansas	bit.	12,640	1.01	1,388.06
Missouri	bit.	12,310	.98	9,487.30
Oklahoma	bit.	13,760	1.10	1,294.24
Texas	bit.	12,900	1.03	--
	lig.	10,980	.88	3,271.90
Idaho	bit.	13,320	1.06	--
Montana	bit.	12,220	.98	1,384.02
	subbit.	11,650	.91	99,211.94
	lig.	11,160	.89	7,131.00
N. Dakota	lig.	10,860	.87	16,003.00
S. Dakota	lig.	10,840	.87	428.00
Wyoming	bit.	12,900	1.03	4,524.03
	subbit.	12,310	.98	46,703.77

Table 5 (cont'd)

State	Class of Coal	Mean BTU	BTU Index 1/	Total Reserve Base
Arizona	subbit.	11,570	.92	350.00
Colorado	anthr.	13,890	1.03	27.74
	bit.	12,800	1.02	10,096.51
	subbit.	12,340	.99	4,745.29
N. Mexico	anthr.	13,630	1.09	2.30
	bit.	12,850	1.03	1,777.20
	subbit.	11,470	.92	2,614.90
Utah	bit.	13,370	1.07	4,042.46
Alaska	bit.	12,380	.99	1.201.00
	subbit.	11,160	.89	10,148.40
California	lig.	--	--	--
Nevada	lig.	9,130	.73	--
Oregon	subbit.	11,210	.90	1.40
Washington	bit.	12,430	.99	251.19
	subbit.	11,100	.89	1,694.66
	lig.	10,920	.87	8.06

1/ 1.0 = 12,519 BTU

Source: Data taken from U. S. Bureau of Mines MERIT System.

First much of the western coal is in arrid or semi-arrid areas (see Table 6). The scarcity of water is a serious constraint on the production or use of coal in these areas.

In addition, while most low sulfur coal is in the West, (see Table 7) the coal found in those states has a lower British Thermal Unit (BTU) content than coal found in the East.

Increased Coal Demand Projections

A study conducted by the National Academy of Engineering in 1974, predicted the doubling of coal production by 1985. The Final Task Force Report of the Federal Energy Administration recommended between a 84 percent and a 244 percent increase in coal production by 1985. (See Figure 2 and Table 8). Recent action by the Federal Government to bring about the increased utilization of coal by public utilities will also result in an increased demand for coal.*

Quite naturally, much of the increased demand for coal will result from either the unavailability or higher prices of oil and natural gas. In 1970, oil and gas (including imports) were supplying 76 percent of U. S. energy requirements, while coal's share had dropped to 20 percent. The principal reason for this disparity was the relative cheapness of oil and gas.

As this disparity decreases, and as domestic economically recoverable reserves of oil and natural gas are consumed, interest in and demand for coal will increase. One result of this increase has already been mentioned -- the conversion of electrical generation plants from oil and gas to coal power. Other results affecting coal can also be expected.

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*See, for example, Federal Register Vol. 40, No. 91, May 9, 1975, pp. 29491-19509.

Table 6

Normal Annual Precipitation -- Selected Cities

Baltimore	41.31
Detroit	30.96
Cincinnati	39.04
Philadelphia	39.93
Charleston, W. Va.	40.75
Mobile	66.98
Louisville	43.11
Memphis	49.10
Norfolk	44.68
Little Rock	48.52
Chicago	34.44
Indianapolis	38.74
Des Moines	30.85
Wichita	30.58
Kansas City, Mo.	37.00
Oklahoma City	31.37
Dallas	35.94
Boise	11.50
Great Falls, Mont.	14.99
Bismarck	16.16
Sioux Falls	24.72
Cheyenne	14.65
Phoenix	7.05
Denver	12.95
Albuquerque	7.77
Salt Lake City	15.17
Juneau	54.67
Los Angeles	14.05
Reno	7.20
Portland	37.61
Seattle-Tacoma	38.79

Source: U. S. National Oceanic and Atmospheric Administration, Local Climatological Data, Annual Summaries.

Table 7

Regional Mean Sulfur Content Comparisons

Region	Total Reserve Base* (billion tons)	Mean Sulfur Content (percent of weight)	Percent Sulfur Required to Meet SO_2NSPS
Northern Appalachia	66.1	2.0	0.72
Southern Appalachia	38.9	1.0	0.72
Midwest	104.5	3.1	0.66
Gulf	4.3	1.0	0.42
Great Plains	175.4	0.5	0.51
Rocky Mountain	23.6	0.5	0.66
Pacific Coast	13.6	0.2	0.51
Total	426.4		

* Excludes anthracite coal.

COAL SUPPLY REGIONS
Project Independence Blueprint

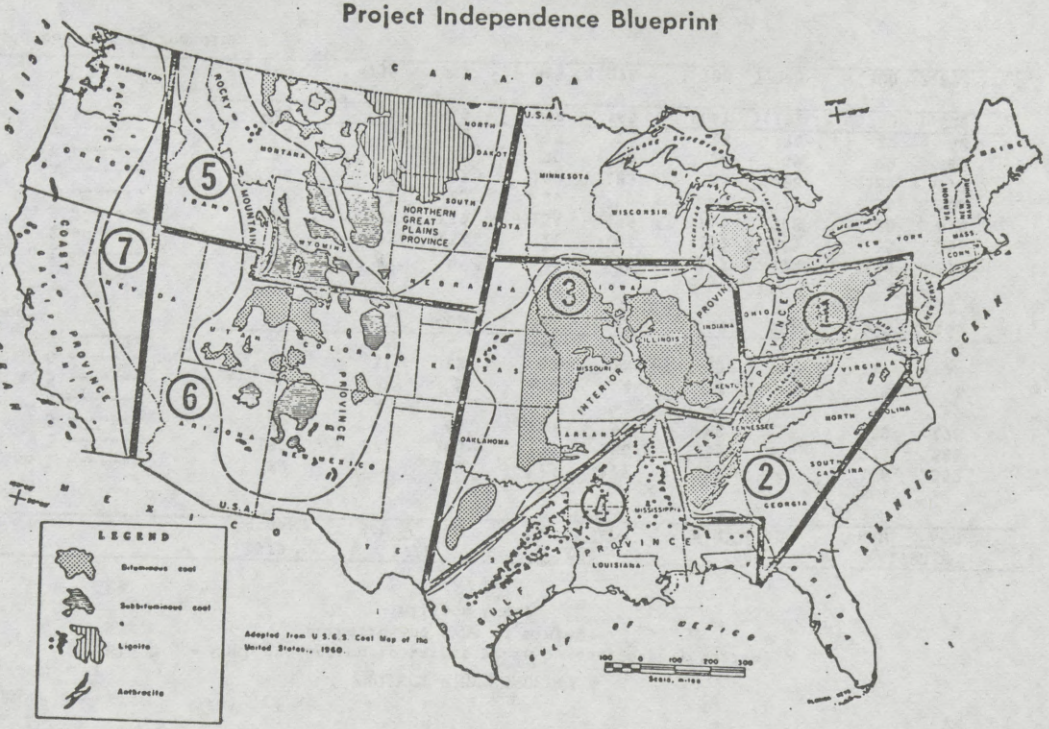

Figure 2

PROJECT INDEPENDENCE

Table 8 - Coal production in target years by coal supply region, scenario and type of mining
(Million tons)

	1973 Actual	1977 BAU	1977 ACC	1980 BAU	1980 ACC	1985 BAU	1985 ACC	1990 BAU	1990 ACC
Underground Mines									
Coal Supply Region 1	99	119	128	123	177	136	267	146	352
2	135	172	200	195	300	237	446	273	588
3	56	59	65	63	92	68	136	80	178
4	-	-	-	-	-	-	-	-	-
5	-	1	2	2	4	3	6	4	7
6	10	11	12	12	18	15	27	17	39
7	-	-	-	-	-	-	-	-	-
Total Underground*	300	361	408	397	591	459	882	520	1,165
Surface Mines									
Coal Supply Region 1	78	82	93	93	136	107	192	138	270
2	70	93	133	111	167	137	245	165	359
3	94	119	139	134	196	159	288	188	416
4	7	11	25	29	50	43	75	54	105
5	32	64	97	100	183	152	298	185	375
6	14	17	20	20	30	24	49	29	65
7	4	8	12	12	23	18	34	22	48
Total Surface*	299	394	519	498	785	641	1,181	780	1,638
Total Production*	599	755	927	895	1,376	1,100	2,063	1,300	2,803

* Totals may not add because of rounding.

Coal Conversion Alternatives

Among these is the conversion of coal to gas. The United States has lagged in the undertaking of research and the commercial development of technology in this field. Gas manufactured from coal was first produced in the late 18th Century. By World War II, Germany had embarked on efforts to develop a liquefaction process, and South Africa began operation of a coal liquefaction plant in 1953.

While there are no commercial synthetic fuel plants in operation or under construction in the United States, the technology exists to produce high BTU gas from coal.

Tables 9 and 10 demonstrate the cost advantages of using western coal for synthetic fuel. While there are additional factors to be considered in assessing the desirability of establishing synthetic fuel plants, these tables make it clear that western coal is well-suited as a fuel source for such plants. Both a significant amount of material and labor will be required to construct such plants. Most of the jobs will be in the construction and engineering trades.

As part of its consideration of underlying policy issues involved, Congress should take note that synthetic fuel plants:

(1) require more on-site construction and operational jobs than coal slurry pipelines;

(2) Generate more off-site jobs in the community surrounding the synthetic fuel plant than coal slurry pipelines, thus envigorating the economy of that community;

Table 9
Economic Factors in the Production of Synthetic Fuel

Material	Eastern Coal	Western Coal
Coal ($1 ton)	12.00	4.00
Process Water ($1 per gal.)	.25	.40
Cooling Water ($1 per gal.)	.05	.08
Electric Power ($1 Kwh)	.015	.015
Labor ($1 hour)	6.50	6.50

Source: Federal Energy Administration, Final Task Force Report on Project Independence Blueprint, Synthetic Fuels from Coal, p. 33.

Table 10

Synthetic Fuel Plant
Operating Cost Details (in late 1973 dollars)

	East	West
Utility Gas	55.441	32.246
Pipeline Gas	98.108	63.753
Liquid Fuel	151.783	96.660

Source: Federal Energy Administration, Final Task Force Report on Project Independence Blueprint, Synthetic Fuels from Coal, page 34.

(3) Depending on the specific process involved, may require transportation of the fuel from its source to consumers, thus creating additional jobs; and

(4) will play a mojor role in decreasing this country's dependence on foreign fuel imports.

Proponents of slurry pipelines have stated that the slurry process uses less water than other forms of coal processing. While further attention is given to this claim below, it should be noted that waste water from coal gasification can be treated using available technology and other existing emission regulations, and that water emissions from coal liquefaction should be minimal and can be treated by currently available means.*

2. The present transportation system is adequate to meet the projected increased demand for coal.

About 62 percent of all domestic coal is shipped by rail, predominantly in open-topped hopper cars, but some is transported in high-side solid-bottom gondolas. With each car carrying about 75 tons of coal, it has been estimated that there were 5.1 million carloads of coal in 1974.

If trucks were to do this job, energy use would be increased by 600 percent. Only pipeline offers a competitive form of energy-efficient transportation to railroads. While this subject is explored in greater depth below, it should be noted that hopper cars offer the flexibility of being able to carry many commodities besides coal. (See Table 11).

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* Federal Energy Administration, Final Task Force Report, Project Independent Blueprint, Synthetic Fuels from Coal, pages 88 and 89.

Table 11

Uses of Hopper Cars[1/]

Commodity	Percent Rail Shipment Moved in Hopper Cars 1972	Estimated 1972 Cardloadings In Hopper Cars (in 10,000s)
Coal	92	4,300
Iron Ores	99[2/]	1,125
Crushed/Broken Stone	64	511
Sand/Gravel	59	413
Crude Chemical/ Fertilizers	38	219
Misc. Non-Metallic Minerals	27	18
Wood Materials	17	219
Mis. Coal & Petrol. Products (Coke)	78	313
Non-Metallic Minerals, Ground	24	108
Blast Furnace/Coke Oven Products	47	339
All Other Commodities	2	298

1/ Federal Railroad Administration One Percent Waybill Sample and ICC Freight Commodity Statistics - 1972.

2/ Includes ore cars ("jennies").

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Unit Trains

More than one-third of all coal moved by rail moves in unit trains. The use of unit trains has been an important innovation in the railroad industry. They are comprised of a solid train of cars which remain coupled as a unit hauling a single commodity between one shipper and one receiver.

Unit trains were first used in 1960 in the coal industry. The coal moves along the rail line as if it were on a conveyor belt, with the unit train bringing a load of coal, depositing it, and then immediately returning for another load. It is the unit train which has helped to keep railroads competitive with other forms of coal transportation.

As of January 1, 1974, Class I railroads operated 342,402 open-top hopper cars with a capacity of 268,920,000 tons. Railroads other than Class I operate another 5,984 hopper cars and private owners operate 4,741 hopper cars.

Expansion of Rail Capability

Manufacturers have a current ability to produce 60,000 to 90,000 new hopper cars a year and railroads presently have the capacity to handle over 650 million tons of hopper car traffic compared to an estimated demand of 615 million tons. The Federal Energy Administration has estimated that the existing fleet could handle 10 to 15 percent increase in coal traffic without affecting other shippers who also use hopper cars.

3. Rail transportation of coal is more efficient, economical and environmentally sound than is transportation by coal slurry pipeline.

The first coal slurry pipeline was built from Cadiz to Cleveland -- wholly within the State of Ohio. It began operation along a distance of 108 miles, pumping 1.3 million tons of coal per year through a 10 inch line, from 1957 until

it was abandoned in 1963. Testimony before two Congressional committees makes it clear that the line was abandoned because it was unable to compete with railroads.*

The other existing coal slurry pipeline is the Black Mesa line from the Black Mesa coalfields in northeastern Arizona, to the Mohave power plant in Bullhead City, Nevada. This 18-inch line began operation in 1970 and is capable of moving 5 million tons of coal per year along its 273 mile lenght. The Federal Energy Administration has concluded that this pipeline would not be competitive with rail if a competing rail service existed. Nevertheless, because there is no direct comparison with a rail line in this case, the comparison can best be made on the basis of the relative investment needs of pipeline vs. railroad.

Investment Advantages of Rail Transportation

Such a comparison has been made by the Federal Energy Administration as part of its Project Independence Blueprint. FEA found that, assuming the construction of 6 new coal slurry pipelines or, in the alternative, the construction of an equivalent amount of track, the amount of construction investment required for rail transportation was less than that required for slurry pipeline transportation . (See Table 12). The agency also concluded that coal slurry pipelines can only be price competitive with rail transportation where significant new rail construction is required or where the pipeline runs for a long distance at high volume.

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* See testimony of I. C. C. Chairman Robert L. Murphy before the Senate Committee on Commerce, April 18, 1962, at page 15 and statement of John M. Huneke, Vice President, Energy Transportation Systems, Inc., before the Senate Committee on Interior and Insular Affairs, June 11, 1974.

Table 12

Relative Investment Costs of
Rail vs. Coal Slurry Pipeline

	6 New Coal Slurry Lines	New Rail Transportation
Coal shipped	63 million tons/year	63 million tons/year
Distance shipped	4,608 miles	5,771 miles *
Steel required for construction	1,426,000 tons	1,392,000 tons
Man Hours	7,201,000	9,579,856 **
Dollar investment	$1,861,000,000	$1,184,000,000

* Longer rail distance apparently caused by need to traverse rough terrain.

** Based on FEA estimate of 4,187 man-years and U. S. Bureau of Labor Statistics estimate of average weekly hours in rail industry (including overtime) of 44.

Note: This table does not take into account the decrease in rail equipment requirements if the slurry lines were built rather than the rail lines. FEA has estimated that 146 locomotives and 13,920 hopper cars would not be required if the slurry lines were built.

On the basis of these conclusions, it is worthwhile to note the ability of the five coal slurry pipelines which are currently in the planning stages.

(1) The 1,030 mile 38-inch line from Gillette, Wyoming to Arkansas proposed by Energy Transportation Systems, Inc. to carry a potential 25 million tons per year.

(2) The 175 mile Nevada Power Pipeline from Aeton, Utah to St. George, Utah and Arrow Canyon (near Las Vegas), Nevada, with a capacity of 10 million tons per year.

(3) The 200 mile Salt River System from Star Lake, New Mexico, to St. Johns, Arizona, carrying less than 10 million tons per year.

(4) The 1,100 mile Houston Natural Gas line from Craig, Colorado to Houston, Texas at a capacity of between 20 to 25 million tons per year.

(5) The 800 mile Gulf Interstate pipeline from Wyoming to Oregon.

FEA concluded that the six proposed coal slurry pipelines carry volumes that are too high over distances that are too long to be supported by the needs of a single utility plant. Nevertheless, each of the proposed pipelines is designed to transport coal to a single utility plant.

The FEA investment comparison between coal slurry pipelines and rail transportation does not present a full basis for a judgement as to the public policy issues involved. The removal of 63 million tons of coal from rail transport will

have a serious impact on the financial condition of rail lines. This is especially true if, as in the case of the Ohio pipeline, the pipeline is in direct competition with rail transit.

Employment Advantages of Rail Transit

FEA has also failed to take full account of the effect on employment of coal slurry pipelines. The loss of rail labor jobs is not fully offset by new jobs in the construction and operation of pipelines. In addition, the secondary impact of rail jobs lost will affect many communities and several service businesses associated with rail industries.

By FEA's own estimate, the trade-off between six new coal slurry pipelines and comparable new rail construction is 3,462 man years for the pipeline construction versus 4,187 man years for rail construction. Assuming full-time employment for all concerned, there is a net loss of 725 jobs per year in the construction phase alone.

In addition to this loss of jobs in the construction phase, there would be a substantial loss of employment resulting from the transfer of coal shipments from rail to coal slurry pipelines. Although no estimate of pipeline operating labor has been made, Energy Transporation Systems, Inc. -- the builder of the proposed Wyoming to Arkansas pipeline -- states that only 75 workers will be needed to run the Wyoming portion of its 1,030 mile line.* Using this as a guide-line, we can estimate total operating capacity for that pipeline to be 425.**

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* Business Week, July 27, 1974, p. 36.

** This estimate probably overstates pipeline operational employment by a significant amount since the 75 Wyoming employees undoubtedly include personnel involved in the preparation of the coal and no such personnel are needed until the termination point of the line when the coal is demoisturized. Along the line, only three pumping stations are planned to maintain water pressure.

Table 13 uses a random selection of five railroads running distances approximating that of the proposed pipeline. Using the averages developed by this table, there would be 1.96 rail employees per track mile for a rail line of 1,030 miles, or 2,019 rail jobs compared to 425 pipeline jobs. (The data developed by Table 14 reflect an average which is lower than the national average of 2.54 rail employees per track mile).

Table 14 demonstrates the effect on 22 major cities of the loss of just 100 rail jobs. Surely, this impact must be taken into account in determining the full cost of coal slurry pipeline construction.

Testimony before the Kansas State legislature regarding the Kansas portion of the Wyoming to Arkansas slurry pipeline indicated that:

(1) Pumping stations for the pipeline in Kansas alone would use $1,800,000 worth of electric power.

(2) The Santa Fe, Kansas' largest railroad, has a unit train which operates from the beginning of the proposed pipeline. That railroad employs between 9 and 10,000 Kansans each year at an average salary of $10.5 million dollars per month. The Santa Fe has already been forced to lay off 196 employees this year. Assuming that the salary of each job is $13,672.36, that means $2,679,782.50 loss of income to the workers and their communities.

(3) The proposed slurry pipeline would be a direct competitor of the Missouri Pacific Railroad, serving Kansas, Nebraska, and Arkansas.

Table 13

Rail Workers Per Track Mile

Railroad	Trackage*	Rail Workers**
Lehigh Valley	1,083	2,660
Fort Worth & Denver	1,037	1,008
Western Pacific	1,193	3,010
Main Central	936	1,371
Boston & Maine	1,529	3,306
Average	1,155	2,271

Rail Workers Per Track Mile: 1.96

* 1972 data.

** 1974 data.

Source: Rand McNally Handy Railroad Atlas of the United States, 1973, and Association of American Railroads.

Table 14

What the Loss 1/ of 100 Railroad Jobs Means to a Community
(Estimate as of October 1974)

CATEGORY	U.S.	Boston	Buffalo	New York
Income Taxes - Federal, State, and Local 2/	$ 182,928	$ 203,885	$ 189,124	$ 192,735
Food and Beverages at Home	219,310	236,645	230,725	225,369
Food and Beverages in Restaurant	57,206	62,737	43,143	71,719
Apartment and Housing Rentals	50,960	58,438	29,733	80,010
Homeownership (mortgage principal and interest, and property taxes)	182,244	148,049	193,365	136,604
Home Heating Fuels and Utilities	55,872	72,393	70,514	54,374
Home Furnishings and Household Operations	83,281	77,402	77,710	80,132
Men's and Boy's Clothing	29,198	28,390	36,124	31,366
Women's and Girl's Clothing	40,290	45,007	46,708	46,966
Family Footwear	16,038	15,548	17,284	14,783
Cleaning and Shoe Repair	21,940	20,065	16,964	24,731
Transportation (public transportation, automobile purchases, gas, and oil)	141,854	122,529	148,545	120,209
Medical Services and Drugs	69,632	57,467	57,954	64,200
Personal Care Items (haircuts, hairdressers, etc.)	28,108	24,277	27,934	24,764
Recreation Goods and Services (TV sets, movie tickets, etc.)	58,262	62,094	55,184	57,598
Other Goods and Services (life insurance policies, funeral services, etc.)	52,905	55,067	48,993	64,443

1/ Railroad workers' income was based on the October 1974 average weekly earnings (annualized) of a Class I Railroad worker as reported by the Bureau of Labor Statistics (BLS). It amounted to $13,672.36. The losses were based on the relative importance of each expenditure category in the market basket currently used to produce the Consumer Price Index (for the United States and each of the respective cities).

2/ Federal income taxes were derived by using the BLS spendable weekly earnings formula. State and local income taxes were estimated on the basis of data in the Fall 1973 Intermediate Urban Family Budgets as published by BLS. Railroad Retirement contributions amounting to $772.20 (which is in lieu of Social Security) were regarded as a savings by the workers and were, therefore, deducted from the gross income of $13,672.36 before computing the figures in this table.

Table 16a

What the Loss 1/ of 100 Railroad Jobs Means to a Community (cont'd)
(Estimate as of October 1974)

CATEGORY	Philadelphia	Pittsburgh	Atlanta	Baltimore
Income Taxes - Federal, State, and Local 2/	$ 206,755	$ 193,713	$ 168,639	$ 214,778
Food and Beverages at Home	237,014	251,343	205,840	213,097
Food and Beverages in Restaurant	57,225	43,793	58,877	53,169
Apartment and Housing Rentals	29,878	33,708	42,367	43,007
Homeownership (mortgage principal and interest, and property taxes)	157,513	156,993	200,823	176,119
Home Heating Fuels and Utilities	58,843	57,705	51,151	56,038
Home Furnishings and Household Operations	88,059	75,764	106,541	83,578
Men's and Boy's Clothing	31,909	32,663	30,232	32,328
Women's and Girl's Clothing	38,404	49,776	36,834	40,990
Family Footwear	17,334	20,027	14,565	17,906
Cleaning and Shoe Repair	19,680	16,805	28,454	25,414
Transportation (public transportation, automobile purchases, gas, and oil)	136,845	145,160	150,235	129,541
Medical Services and Drugs	69,791	63,589	76,265	63,222
Personal Care Items (haircuts, hairdressers, etc.)	25,838	26,032	29,894	27,258
Recreation Goods and Services (TV sets, movie tickets, etc.)	52,316	61,082	51,949	59,814
Other Goods and Services (life insurance policies, funeral services, etc.)	62,612	61,874	37,384	53,763

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Table 16a

What the Loss 1/ of 100 Railroad Jobs Means to a Community (cont'd)
(Estimate as of October 1974)

CATEGORY	Washington, D. C.	Chicago	Cincinnati	Cleveland
Income Taxes - Federal, State, and Local 2/	$ 200,596	$ 176,203	$ 179,069	$ 173,208
Food and Beverages at Home	192,874	235,250	254,105	223,099
Food and Beverages in Restaurant	72,557	56,281	62,338	41,401
Apartment and Housing Rentals	77,044	61,440	49,462	34,367
Homeownership (mortgage principal and interest, and property taxes)	166,371	171,383	154,142	249,170
Home Heating Fuels and Utilities	49,633	46,131	49,327	50,811
Home Furnishings and Household Operations	76,015	73,493	76,943	76,294
Men's and Boy's Clothing	29,261	27,945	31,465	30,031
Women's and Girl's Clothing	39,431	42,862	31,465	43,944
Family Footwear	16,475	15,366	16,503	17,821
Cleaning and Shoe Repair	24,335	21,755	18,444	18,629
Transportation (public transportation, automobile purchases, gas, and oil)	137,735	151,440	143,364	123,285
Medical Services and Drugs	70,247	66,409	71,231	70,872
Personal Care Items (haircuts, hairdressers, etc.)	25,736	27,385	25,618	26,055
Recreation Goods and Services (TV sets, movie tickets, etc.)	67,248	62,660	52,876	56,187
Other Goods and Services (life insurance policies, funeral services, etc.)	44,444	53,998	73,607	54,810

1/ Railroad workers' income was based on the October 1974 average weekly earnings (annualized) of a Class I Railroad worker as reported by the Bureau of Labor Statistics (BLS). It amounted to $13,672.36. The losses were based on the relative importance of each expenditure category in the market basket currently used to produce the Consumer Price Index (for the United States and each of the respective cities).

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Table 16a

What the Loss 1/ of 100 Railroad Jobs Means to a Community (cont'd)
(Estimate as of October 1974)

CATEGORY	Detroit	Kansas City	Milwaukee	Minneapolis St. Paul
Income Taxes - Federal, State, and Local 2/	$ 191,705	$ 179,270	$ 218,884	$ 236,731
Food and Beverages at Home	212,618	198,462	212,285	187,670
Food and Beverages in Restaurant	47,088	60,254	50,734	43,732
Apartment and Housing Rentals	32,831	44,943	43,489	29,151
Homeownership (mortgage principal and interest, and property taxes)	226,283	173,369	158,757	233,640
Home Heating Fuels and Utilities	49,213	46,961	55,785	49,581
Home Furnishings and Household Operations	71,684	82,983	81,829	81,445
Men's and Boy's Clothing	26,291	28,237	32,794	29,014
Women's and Girl's Clothing	31,940	35,932	45,391	34,472
Family Footwear	14,324	14,598	17,477	13,176
Cleaning and Shoe Repair	16,845	18,100	18,434	13,969
Transportation (public transportation, automobile purchases, gas, and oil)	151,935	207,361	154,651	142,471
Medical Services and Drugs	81,460	67,380	55,548	61,681
Personal Care Items (haircuts, hairdressers, etc.)	26,148	28,036	26,968	24,020
Recreation Goods and Services (TV sets, movie tickets, etc.)	55,864	56,462	57,623	58,270
Other Goods and Services (life insurance policies, funeral services, etc.)	53,739	47,719	59,364	50,974

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Table 16a

What the Loss 1/ of 100 Railroad Jobs Means to a Community (cont'd)
(Estimate as of October 1974)

CATEGORY	St. Louis	Dallas	Houston	Los Angeles
Income Taxes - Federal, State, and Local 2/	$ 178,217	$ 152,800	$ 152,800	$ 163,676
Food and Beverages at Home	258,533	206,493	205,957	187,199
Food and Beverages in Restaurant	55,046	60,009	62,425	63,422
Apartment and Housing Rentals	33,377	51,674	39,978	56,476
Homeownership (mortgage principal and interest, and property taxes)	151,843	169,033	176,553	231,154
Home Heating Fuels and Utilities	60,476	47,941	53,061	38,073
Home Furnishings and Household Operations	93,397	93,062	113,775	79,178
Men's and Boy's Clothing	27,010	32,414	24,044	24,294
Women's and Girl's Clothing	39,946	37,722	39,556	36,082
Family Footwear	16,906	16,133	14,349	14,648
Cleaning and Shoe Repair	21,691	29,503	28,275	21,875
Transportation (public transportation, automobile purchases, gas, and oil)	138,428	161,589	171,854	167,879
Medical Services and Drugs	76,078	87,570	76,055	76,939
Personal Care Items (haircuts, hairdressers, etc.)	31,091	34,366	36,191	25,122
Recreation Goods and Services (TV sets, movie tickets, etc.)	54,242	64,599	46,399	51,771
Other Goods and Services (life insurance policies, funeral services, etc.)	53,786	45,167	48,772	52,201

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Table 16a

What the Loss [1] of 100 Railroad Jobs Means to a Community (cont'd)
(Estimate as of October 1974)

CATEGORY	San Diego	San Francisco	Seattle
Income Taxes - Federal, State, and Local [2]	$ 163,057	$ 166,500	$ 152,800
Food and Beverages at Home	178,577	200,873	209,986
Food and Beverages in Restaurant	70,684	50,444	60,485
Apartment and Housing Rentals	61,336	79,156	43,675
Homeownership (mortgage principal and interest, and property taxes)	207,955	199,981	211,207
Home Heating Fuels and Utilities	40,276	36,822	57,872
Home Furnishings and Household Operations	78,730	82,229	104,000
Men's and Boy's Clothing	27,318	23,235	29,147
Women's and Girl's Clothing	34,935	39,646	34,990
Family Footwear	13,399	13,768	18,008
Cleaning and Shoe Repair	19,782	21,450	23,441
Transportation (public transportation, automobile purchases, gas, and oil)	187,868	165,621	109,888
Medical Services and Drugs	69,495	81,562	70,563
Personal Care Items (haircuts, hairdressers, etc.)	30,782	26,047	26,100
Recreation Goods and Services (TV sets, movie tickets, etc.)	57,930	58,599	71,463
Other Goods and Services (life insurance policies, funeral services, etc.)	47,858	44,130	66,454

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(4) The loss of coal revenues to the Santa Fe and the Missouri Pacific would force both railroads to raise their tariff rates for other commodities, thus creating ripple effect of inflation, unemployment, and loss of tax revenues.

(5) The potential loss of coal revenues to railroads will force those railroads to decrease their long-term commitments for new equipment, such as hopper cars, locomotives, and other equipment used in the operation of unit trains.*

These are each important considerations in determining the cost and impact of coal slurry pipelines.

FEA's final conclusion about coal slurry pipelines deserves to be cited at this point:

> "Despite all the question and speculation, one point seems clear: that slurry pipelines, while they are feasible and may offer rate advantages, are not going to offer major savings in total dollar investment, in steel or in labor...For overall planning purposes, however, whether or not slurry pipelines are built will not have a major influence on the capital, material and labor requirements of Project Independence."

Environmental Advantages of Rail Transit

Any discussion of the cost of coal slurry pipelines must include the cost of water involved in the process. Each ton of coal requires 250 gallons of accompanying water. A 10 million ton line requires 2,500,000,000 gallons of water per year;

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* Statement of Jack McGlothlin, Assistant State Legislative Director, United Transportation Union, Kansas, before the Kansas State legislature, February, 1975.

a 25 million ton line would require 6,250,000,000 gallons of water per year. To start a slurry pipeline, an operator would need an assured supply of water, but in many western states water is scarce and there are competing agrarian and riparian laws which pose major obstables to the use of this water.

In the Wyoming to Arkansas pipeline case, the Wyoming state legislature has given the operator access to a water supply, but there is continuing disagreement about the environmental impact which this access will have on Wyoming and surrounding states. In fact, South Dakota may go to court to protect its access to underground water.

To carry the coal, it is ground into a fine, powdered form so that it may be suspended in a solution of water. At the end of the pipeline, the water is partially removed before the coal is burned. About one-eighth of the water used in the pipeline can be used by the utility power plant for purposes of cooling.

Coal slurry pipelines require access to a long-term, inexpensive water supply. The physical and legal availability of water is a serious impediment to the development of this method of transporting coal, particularly in the arid western regions of the country where the largest U. S. coal reserves are located. In fact, water appears to be scarcest precisely in those areas where the use of coal slurry pipelines is being promoted.

In arid and semi-arid regions, water supply for energy may be difficlut to obtain. Most of the available surface and ground water is already utilized or legally committed for other purposes. There is major opposition to the reallocation of water to energy uses as opposed to irrigation for agriculture, industrial requirements, and recreational purposes.

As Congressman Teno Roncalio (D-Wyo.) said in testifying before the House Committee on Interior and Insular Affairs, "The highest priority for water must be for human consumption with existing needs of agriculture and industry close behind. Increasing demands for municipal and continued industrial use will severely tax all known available water sources." The Federal Energy Administration in its Project Independence Report reveals that a growing population and expanded agricultural and industrial production will all make increased demands on the scarce water supply in this area of the country.

This raises very serious questions about the most efficient use of water available for energy purposes. Strip mining of coal beds in the West poses potentially serious water problems, as strip mining alters ground-water storage and increases erosion and sedimentation of downstream waters. Also, according to FEA, sizable quantities of water must be used to process oil shale which is found in the Upper Colorado River Basin.

Given the very critical shortage of water in those western areas of the country holding large coal reserves, it would appear to be foolhardy to export that water to carry coal elsewhere. The water available should be more properly used for energy development rather than the transport of coal, especially when railroads can carry the coal with a modest investment in track and rolling stock.

Congressman Frank E. Evans of Colorado, commenting on a proposed pipeline from Pueblo, Colorado to Houston, Texas noted that Pueblo is in the Arkansas river basin, and that the water in this basin has been over-appropriated already. He also stated that the flows of water from Colorado to neighboring states are all governed by interstate compacts.*

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* Testimony of Congressman Frank E. Evans before the (House) Committee on Interior and Insular Affairs, March 26, 1975.

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Similarly, both the Department of Interior and the Soil Conservation Service of the Department of Agriculture have expressed concern about the effect which coal slurry pipelines will have on water resources in the arid West. The latter agency noted that "diverting waters in these areas to transport coal could have a significant impact on agricultural production. The water needs for rural living, towns, and sustained agricultural production should be carefully considered along with the water needs for energy purposes."* Yet, it is precisely these considerations which have yet to be taken into account in the debate over coal slurry pipelines.

There have been suggestions that water for the coal slurry pipeline be pumped along a parallel pipeline from some area where water is plentiful. The Federal Energy Administration, however, has estimated that this would increase the cost of transporting the coal by 25 percent.

The facts are clear. Coal slurry pipelines are a water-intensive means of transporting coal. Withdrawal of any signficant amount of water can have a serious impact on other water uses. At the discharge end of the pipeline, the water is separated from the coal. It can be evaporated, discharged into a stream, or used in the power plant for cooling.

If saline water is used in the slurry mixture, the discharge of that water may result in environmental problems. And if the water contains toxic contaminants, such as trace elements or heavy metals in dissolved form -- a condition which will

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* Statement of Jack O. Horton, Assistant Secretary, Land and Water Resources, Department of the Interior, and statement of William B. Davey, Deputy Administrator for Water Resources, Soil Conservation Service, U. S. Department of Agriculture, before the House Committee on Interior and Insular Affairs, May 5, 1975.

which will depend on the chemical properties of the coal being transported -- additional environmental problems will be presented.

Finally, water will cause many sensitive legal disputes, such as the one now being pursued between Wyoming and South Dakota. The source of water to be utilized by the proposed Wyoming to Arkansas pipeline is a formation which stretches across northeastern Wyoming into western South Dakota and Nebraska and southeastern Montana. A South Dakota School of Mines and Technology study indicates that much of the ground water to be used for the Wyoming to Arkansas pipeline may be derived from water that underlies South Dakota. The use of the water for the pipeline may dry up the water supply of some South Dakota communities. Certainly one state legislature should not be allowed to make decisions which have a severe adverse impact on the residents of another.

While there appear to be no precise figures on the displacement of water connected with the operation of coal slurry pipelines, it is estimated that almost a ton of water is required to move a ton of coal. Since the Federal Energy Administration asserts that the coal slurry pipeline only becomes cost effective if it involves a large volume of coal at the supplier end and a large volume customer at the delivery point, enormous quantities of water must be used.

Economical Advantages of Rail Transportation

While transportation costs are an important part of the cost of coal to the consumer, rail costs today amount to much less taday than in 1932 when compared to the total value of coal. (See Table 15).

In 1932, rail freight rates equalled 63.3 percent of the destination value of coal. In 1972, the comparable figure had dropped to 32.8 percent. In those forty years rail coal freight rates have increased an average of only 1.5 percent per year while the cost-of-living has increased an average of 5.2 percent per year.

Table 15

Comparison of F.O.B. Mine Realization and Railroad Rates on Bituminous Coal - United States 1931 Thru 1972

Year	U. S. Coal Production (Million Tons)	Average Realization Coal F.O.B. Mine	Average Rail Rates	Total	% of Destination Value	
					Coal	Rail Rates
1931	382.1	$1.54	$2.22	$3.76	41.0	59.0
1932	309.7	1.31	2.26	3.57	36.7	63.3
1933	333.6	1.34	2.20	3.54	37.9	62.1
1934	359.4	1.75	2.15	3.90	44.9	55.1
1935	372.4	1.77	2.24	4.01	44.1	55.9
1936	439.1	1.76	2.25	4.01	43.9	56.1
1937	445.5	1.94	2.17	4.11	47.2	52.8
1938	348.5	1.95	2.27	4.22	46.2	53.8
1939	394.9	1.84	2.23	4.07	45.2	54.8
1940	460.8	1.91	2.22	4.13	46.2	53.8
1941	514.1	2.19	2.22	4.41	49.7	50.3
1942	582.7	2.36	2.31	4.67	50.5	49.5
1943	590.2	2.69	2.30	4.99	53.9	46.1
1944	619.6	2.92	2.21	5.13	56.9	43.1
1945	577.6	3.06	2.20	5.26	58.2	41.8
1946	533.9	3.44	2.27	5.71	60.2	39.8
1947	630.6	4.16	2.49	6.65	62.6	37.4
1948	599.5	4.99	2.74	7.73	64.6	35.4
1949	437.9	4.88	3.00	7.88	61.9	38.1
1950	516.3	4.84	3.09	7.93	61.0	39.0
1951	533.7	4.92	3.16	8.08	60.9	39.1
1952	466.8	4.90	3.35	8.25	59.4	40.6
1953	457.3	4.92	3.33	8.25	59.6	40.4
1954	390.2	4.51	3.23	7.74	58.3	41.7
1955	464.6	4.50	3.24	7.74	58.1	41.9
1956	500.9	4.82	3.45	8.27	58.3	41.7
1957	492.7	5.08	3.57	8.65	58.7	41.3
1958	410.4	4.86	3.58	8.44	57.6	42.4
1959	412.0	4.77	3.45	8.22	58.0	42.0
1960	415.5	4.69	3.40	8.09	58.0	42.0
1961	402.9	4.58	3.40	7.98	57.4	42.6
1962	422.1	4.48	3.32	7.80	57.4	42.6
1963	458.9	4.39	3.21	7.60	57.8	42.2
1964	486.9	4.45	3.11	7.56	58.9	41.1
1965	512.0	4.44	3.13	7.57	58.7	41.3
1966	533.8	4.54	3.01	7.55	60.1	39.9
1967	552.6	4.62	3.00	7.62	60.6	39.4
1968	545.2	4.67	3.01	7.68	60.8	39.2
1969	560.5	4.99	3.10	8.09	61.7	38.3
1970	602.9	6.26	3.41	9.67	64.7	35.3
1971	552.2	7.07	3.70	10.77	65.6	34.4
1972	595.0	7.53	3.67	11.20	67.2	32.8

Importance of Coal Revenue to Railroads

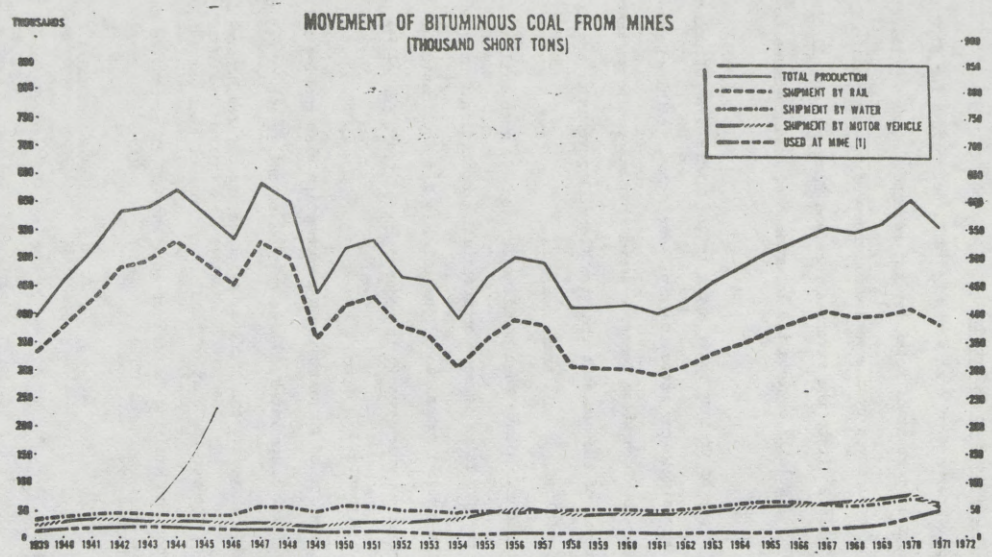
More than 60 percent of coal moves by rail, accounting for $1.2 billion annually, or about 10 percent of total freight revenue. Figure 3 illustrates the proportion of coal moved by the various sources of transportation from 1939 through 1971. Table 16 lists the revenues received from coal by all Class I railroads in 1971. Table 17 depicts the importance of coal revenues to the rail industry.

Numerous types of freight rates apply to the movement of bituminous coal by rail. There are single-car rates, multiple-car rates, trainload rates, and unit train rates. The Interstate Commerce Commission has predicted that by 1980, more than 85 percent of the domestic coal traffic will move under annual rate, concentration, trainload, or unit train concepts.

Annual volume rates have been permitted by the ICC when railroads have sought to lower freight rates to meet or forestall competition from other energy forms. The reduced rates can be justified by the application of operational changes by the railroad which result in reduced costs (i.e., faster turn-around time, or larger equipment).

The concentration of shipments at a common point also enables railroads to substantially lower their rates. As an example of the extent of savings which concentration point shipments can produce, evidence was offered before the ICC that, in one case, the per-ton cost of handling 55 tons of coal was 246.86 cents and the per-ton cost of handling 70 tons of coal was 207.21 cents -- a savings of 39.65 cents per ton.

FIGURE 3



1. Includes coal used by mine employees, taken by locomotive tenders at tipple, used at mine for power and heat, coal transported from mine to point of use by conveyor or tram, coal made into beehive coke at mine, and all other uses at mine. For 1971, includes 47,727,000 tons used at mine mouth generating plants.

Source: National Coal Association, "How Bituminous Coal Moves from Mines," Bituminous Coal Facts 1972, (Washington: National Coal Association, 1972), p. 51

TABLE 16

Bituminous Coal Handled by Class I Railroads and Revenue Received, 1971

(Net Tons)

Railroad	Orig. and Term. on Line	Delivered to Connections	Total Originated	Total Carried[a]	Revenue Received
EASTERN DISTRICT (Incl. Pocahontas Reg.)					
Akron, Canton & Youngstown	-	-	-	231,518	$ 227,926
Ann Arbor	-	-	-	1,864,442	1,365,915
Baltimore & Ohio	9,874,306	20,788,761	30,663,067	39,788,293	107,017,544
Bangor & Aroostook	-	-	-	12,862	47,773
Bessemer & Lake Erie	167,692	3,352,645	3,520,337	9,798,476	16,212,555
Boston & Maine	104	468	572	1,019,154	1,808,623
Canadian Pacific (Lines in Maine)	-	-	-	1,624	3,365
Central Railroad of New Jersey	-	685	685	2,214,919	1,524,856
Central Vermont	-	-	-	71,617	141,830
Chesapeake & Ohio	23,984,041	26,302,803	50,286,844	60,089,141	189,291,004
Chicago & Eastern Illinois	1,832,037	519,794	2,351,831	2,948,346	5,415,103
Delaware & Hudson	-	45	45	560,144	1,233,973
Detroit & Toledo Shore Line	-	400	400	1,382,331	1,180,054
Detroit, Toledo & Ironton	-	66	66	1,815,842	1,843,674
Elgin, Joliet & Eastern	-	226	226	9,288,558	9,411,306
Erie-Lackawanna	8,463	473,716	482,179	4,290,929	9,628,588
Grand Trunk Western	67	50	117	1,242,185	1,696,643
Illinois Terminal	-	-	-	1,467,478	440,776
Lehigh Valley	-	1,899	1,899	1,611,942	2,301,666
Long Island	-	-	-	119,557	231,217
Maine Central	-	-	-	22,962	42,269
Missouri-Illinois	1,214,173	494,347	1,708,520	2,078,951	1,853,988
Monongahela	-	6,718,061	6,718,061	6,718,061	6,061,697
Norfolk & Western	41,116,789	23,643,697	64,760,486	73,014,940	268,424,202
Penn Central	25,251,582	14,507,208	39,758,790	80,595,668	208,595,568
Penna-Reading Seashore Lines	115,280	-	115,280	721,619	1,125,704
Pittsburgh & Lake Erie	1,469,223	696,588	2,165,811	5,633,696	7,516,993
Reading	-	3,216	3,216	11,246,485	18,089,244
Richmond, Fredericksburg & Potomac	-	-	-	258,603	386,218
Western Maryland	2,779,165	3,379,349	6,158,514	12,107,526	15,269,183
Total Eastern District	107,812,922	100,884,024	208,696,946	332,217,869	$878,389,457
SOUTHERN DISTRICT					
Alabama Great Southern	259,123	5,592	264,715	2,235,856	2,463,594
Central of Georgia	78	28	106	3,137,564	4,166,960
Cincinnati, New Orleans & Texas Pacific	552,664	366,271	918,935	4,218,192	4,387,172
Clinchfield	2,528,601	4,143,699	6,672,300	14,308,524	20,583,594
Florida East Coast	-	-	-	-	-
Georgia	522	80	602	2,659,646	$ 3,670,671
Georgia Southern & Florida	-	1,138	1,138	89,460	113,426
Gulf, Mobile & Ohio	2,652,395	2,475,923	5,128,318	6,079,889	7,152,911
Illinois Central	15,106,354	8,151,465	23,257,819	23,750,434	44,996,482

TABLE 16 (continued)

Railroad	Orig. and Term. on Line	Delivered to Connections	Total Originated	Total Carried[a]	Revenue Received
SOUTHERN DISTRICT - cont'd					
Louisville & Nashville (Monon)	21,613,217	27,553,459	49,166,676	51,119,189	107,373,642
Norfolk Southern	519	-	519	442,251	901,418
Seaboard Coast Line	2,136	618	2,754	17,357,096	26,399,324
Southern	9,546,410	2,469,272	12,015,682	25,644,161	48,000,460
Total Southern District	52,262,019	45,167,545	97,429,564	151,042,262	$270,209,654
WESTERN DISTRICT					
Atchison, Topeka & Santa Fe	1,109,372	302,002	1,411,374	3,806,774	8,448,149
Burlington Northern	13,774,586	7,142,679	20,917,265	23,240,637	68,568,155
Chicago & North Western	2,497,243	523,191	3,020,434	8,713,636	18,001,477
Chicago, Milwaukee, St. Paul & Pacific	2,731,137	356,710	3,087,847	5,067,490	10,408,407
Chicago, Rock Island & Pacific	511,001	967,950	1,478,951	2,328,084	3,915,216
Colorado & Southern	-	8	8	137,839	200,752
Denver & Rio Grande Western	4,173,543	2,622,040	6,795,583	8,495,255	13,544,755
Duluth, Missabe & Iron Range	499,245	74,932	574,177	995,507	1,036,338
Duluth, Winnipeg & Pacific	-	1,439	1,439	37,976	79,373
Fort Worth & Denver	-	26	26	17,754	51,799
Green Bay & Western	23,956	8,488	32,444	154,258	198,607
Kansas City Southern (L&A)	173,422	114,090	287,512	761,275	1,969,102
Lake Superior & Ishpeming	-	-	-	459,258	440,645
Missouri-Kansas-Texas	618,810	608,798	1,227,608	1,252,770	1,474,129
Missouri Pacific	3,459,781	769,494	4,229,275	5,007,803	6,479,100
Northwestern Pacific	-	40	40	220	984
St. Louis - San Francisco	503,175	1,778,001	2,281,176	2,294,404	4,232,580
St. Louis Southwestern	149	199	348	820	6,947
Soo Line	132,572	235,659	368,231	890,548	1,814,811
Southern Pacific	30,732	15,938	46,670	418,094	2,085,560
Texas & Pacific (Including KO&G)	349	173,550	173,899	233,673	393,764
Toledo, Peoria & Western	153,981	66	154,047	1,287,337	730,272
Union Pacific	1,213,061	1,525,681	2,738,742	6,081,203	21,736,044
Western Pacific	-	30	30	169,617	420,633
Total Western District	31,606,115	17,221,011	48,827,126	71,852,232	$166,237,599
Total United States	191,681,056	163,272,580	354,953,636	555,112,363	$1,314,836,710

[a]–Includes duplications.
Source: Association of American Railroads.

Table 17

Revenue Freight Originated by Selected Commodity Group
Class I Railroads, 1972

Commodity Group	Carloads	Tons	Revenue*	Percent of Total Revenue
Total	25,706	1,447,864	$13,013	100.0
Farm Products	2,093	129,769	1,143	8.8
Metallic Ores	1,357	110,034	335	2.6
Coal	4,675	374,970	1,379	10.6
Food	2,470	106,056	1,484	11.4
Chemicals	1,510	95,163	1,328	10.2
Stone, clay, glass	1,225	73,457	605	4.7
Transportation equipment	1,345	31,373	1,124	8.6
Pulp and paper	1.179	44,299	847	6.5
Lumber and wood products	2,160	109,986	1,117	8.6

* Revenue in millions of dollars.

Source: U. S. Interstate Commerce Commission, Freight Commodity Statistics -- Class I Railroads in the United States, annual.

Flexibility of Rail Service

Beginning in 1939, the ICC permitted railroads to offer discounts for multiple car shipments. About 20 years later, the unitized train concept came into being. An example of such a unit train is one which leaves Parrish, Alabama, with 47 loaded cars, picks up another 17 cars in Boothton and delivers the cars -- each loaded with about 100 tons -- in Wilsonville, Alabama. The cars are unloaded with a rotary dumper which takes only 90 seconds to empty a car. Other systems are being tested which allow cars to be unloaded without being stopped -- reducing the time required to unload a 10,000 ton unit train from four hours to 20 minutes.

Railroads have also been able to institute major economies of operation which enable them to collect shipments from several small mines and place them into unit trains. Smaller equipment is used to collect these shipments and place them into silos where they can be loaded into unit trains at the rate of 10,000 tons in four hours.

Trainload service differs from unit train service; the latter operates in a shuttle service on a predetermined schedule and using assigned equipment, while the former makes use of a more random form of operation.

The following are among the considerations which railroads take into account in determining the level of charges for unit train or trainload service:

(1) Origin Service Considerations

a. Trackage necessary to reach mine

b. Loading method

c. Loading time for each train

d. Loading schedule of mine

2. Use Haul Service Considerations
   a. Train schedule
   b. Routing
   c. Train size
   d. Trackage upgrading
   e. Trackage grades
   f. Annual tonnage to move
   g. Traffic density over routing
   h. Intercharge facilities over joint routes
   i. Types of cars
   j. Train labor characteristics

3. Destination Service Considerations
   a. Trackage necessary to each receiver
   b. Unloading method
   c. Unload time for each train
   d. Unload schedule for receiver

Table 18 depicts the savings which are derived from the various forms of train shipments of coal. The savings of unit trains vs single car rates in this one regional example are almost one-third. Savings between 38 cents and 281 cents per ton between multiple car and annual volume trains over single car rates have been recorded in the Illinois - Indiana - western Kentucky region. While

Table 18

Average Rates Charged for Transportation of Coal from Appalachian Region to Trunk Line and New England Territories by Type of Train Service

Type of Service	Rate (Cents)
Single Car Rates	692.5
Annual-Volume Rates	656.0
Trainload and Multiple Carload Rates	504.8
Unit-Train Rates	467.5

Source: Interstate Commerce Commission, Ex Parte 270 (Sub. No. 4), December 3, 1974.

unit train rate data for western states is not available, Table 19 depicts the savings of other forms of service over single car rates in that portion of the country. This table shows savings of nearly 28 percent.

Summary of Rail Advantages

Having presented this data, it is important to note the conclusions which flow from it:

(1) Railroads have the ability to adjust their rates to remain competitive with other energy sources and modes of transportation.

(2) Railroads have the ability to adjust their type of service to meet the needs of shippers and consumers and to meet the demands of competition.

(3) Railroads have the flexibility to serve both small and large shippers and receivers with rates that are competitive.

The following are among the conclusions of the Interstate Commerce Commission in its examination of coal freight rates (Ex Parte No. 270, Sub. No. 4, December 3, 1974).

-- "One of the essential elements of a reasonable (coal freight) rate structure is that it fosters sound economic conditions in transportation and among the several carriers. As a whole, we regard as satisfactory the financial condition of railroads deriving more than 20 percent of their revenue from coal." (page 313)

-- The ICC "found that the freight rate structures on coal are, with few exceptions, compensatory and not unreasonably high."

Table 19

Average Rate Charged for Transportation of Coal from Origin Points West of the Mississippi River by Type of Train Service

Type of Service	Rate (Cents)
Single Car Rates	714.7
Annual Volume Rates	568.3
Multiple-Car Rates	518.3

Source: Interstate Commerce Commission, Ex Parte 270 (Sub. No. 4), December 3, 1974.

Several claims have been made about the higher energy efficiency of pipelines as compared to rail transportation. Yet, by the statements of the proponents of one of the largest planned coal slurry pipelines, the difference is minimal. Slurry pipelines are 96 percent energy efficient while rail transport is 95 percent energy efficient. That is 4 percent of the energy value of the coal being transported is absorbed in the pipeline transportation process, while the comparable figure for rail is 5 percent.* The Association of American Railroads has stated that railroad unit trains hauling coal use 250 BTU's per ton mile while coal slurry pipelines use about 290 BTU's per ton mile.

In addition to the relative comparability between the two modes in energy efficiency, hopper cars are a more efficient use of steel than pipeline. While a 10 inch pipeline carrying the equivalent load of 100 hopper cars each with a capacity of 100 tons would require over 64,000 tons of steel for its construction, the hopper cars would require only 30,000 tons of steel.**

4. Coal slurry pipelines are not necessary to meet the projected increases in demand for coal.

Map 2 depicts the coal slurry pipelines which are planned in the United States. The two largest are the 1,030 mile Wyoming to Arkansas line and the 1,100 mile Colorado to Texas line.

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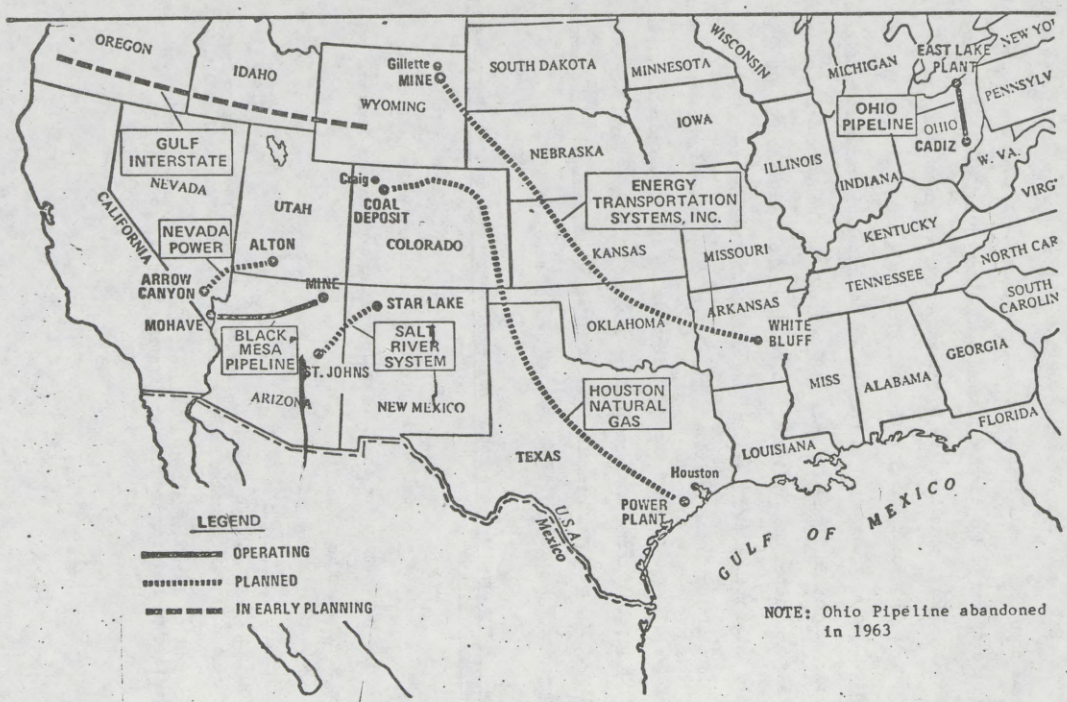
* Statement of John M. Huneke, Vice President, Energy Transportation Systems, Inc. before the Senate Committee on Interior and Insular Affairs, June 11, 1974, p. 70.

** Statement of John W. Hanifan, President, The Chessie System, before the Senate Committee on Interior and Insular Affairs, June 11, 1974, p. 120.

MAP 2

COAL SLURRY PIPELINES



NOTE: Ohio Pipeline abandoned in 1963

Source: Energy Transportation Systems, Inc.

Direct Competition with Rail Transportation

Map 3 shows that both of these lines are in direct competition with existing rail lines. It is the nature of coal slurry pipelines that they will take coal from one or two large mines and deliver it to one or two large utilities. As such they will enter into long-term contracts for the supply of 10 to 25 million tons of coal per year over an extended period of years. The nature of their operation will, therefore, put them into direct competition with railroads who would use long-term contracts to put together and operate unit trains. Railroads competing with these two proposed coal slurry pipelines will be forced to rely more heavily on spot coal traffic which will in turn reduce their ability to make long-term financial commitments to upgrade equipment and service.

Additional impact can be expected to reduce rail jobs, jeopardize the financial condition of railroads and result in major losses to the communities, farms and businesses served by those railroads.

Nor should environmental questions be ignored. The fact that there is existing rail track to transport coal from the mine vicinity to the utilities makes further destruction of property for the purpose of constructing an almost parallel network of pipeline both unnecessary and unwise.

In the case of the other two proposed pipelines shown on Map 4, the Utah to Nevada line appears to be in direct competition with existing rail systems after a modest extension of track, and -- because of its short length (175 miles) -- it is doubtful that it can compete with rail transportation.

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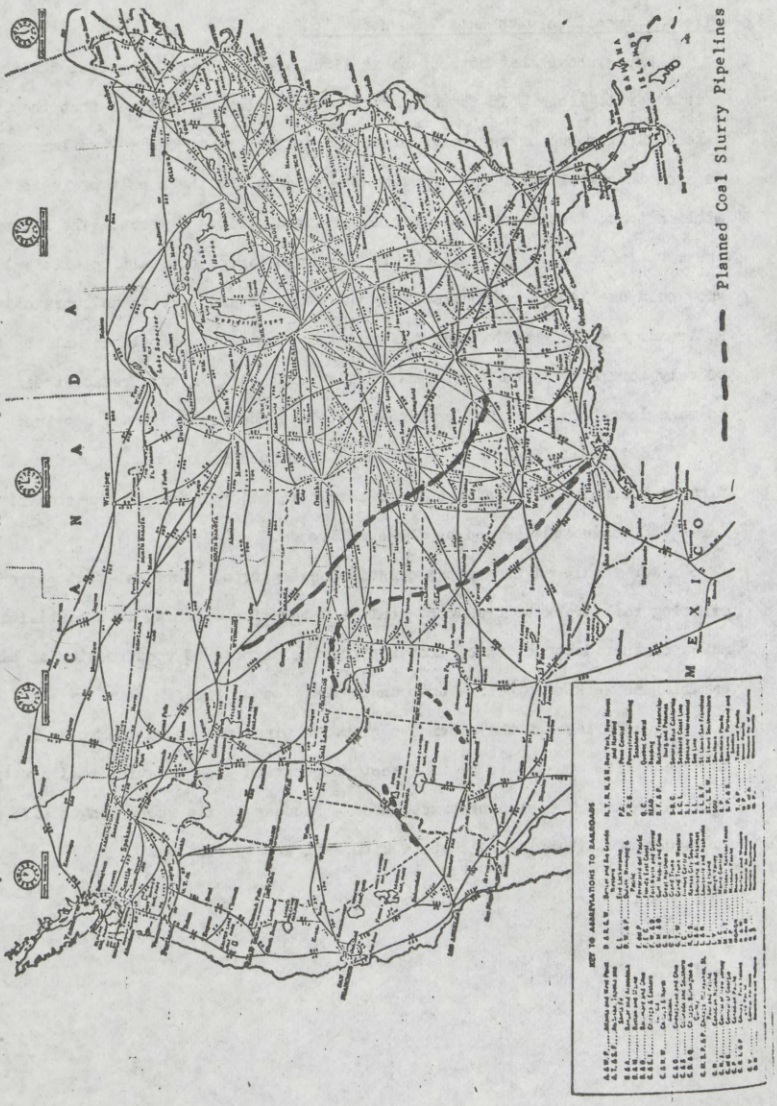
MAP 3

Direct Competition Between Planned Coal Slurry Pipelines and Existing Rail Network



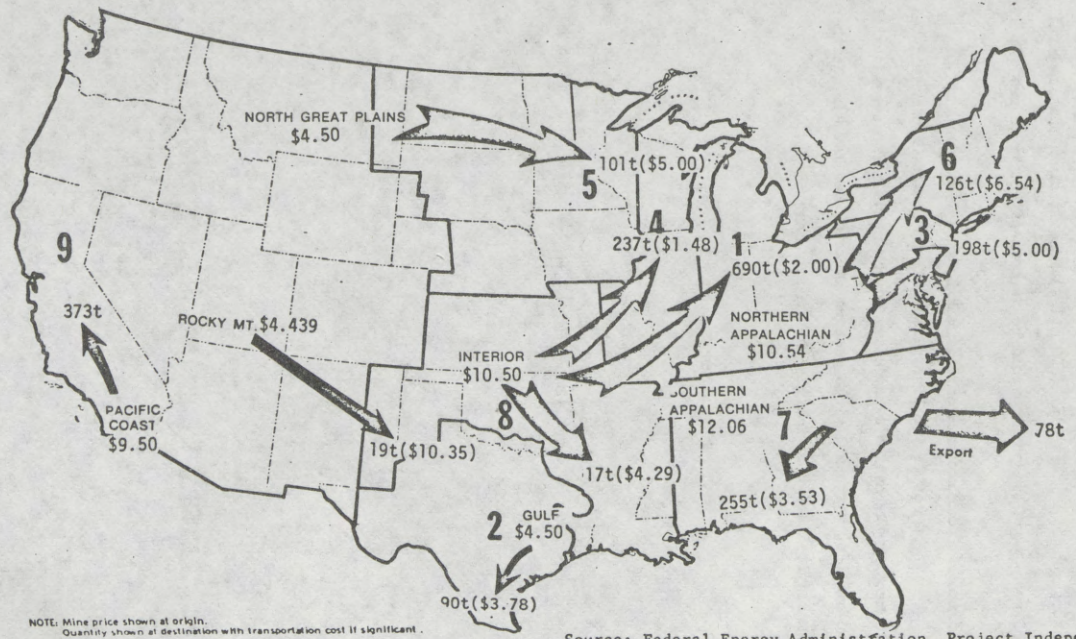
While there is no existing rail competition for the proposed New Mexico to Arizona pipeline, the FEA data on investment costs cited above coupled with the short length of this line (200 miles) make it clear that new rail transportation between these two points would be as cost-effective as new pipeline construction.

Failure to Meet Nation's Energy Needs

These latter two lines also fail to provide any meaningful assistance in meeting the nation's projected energy needs. Those needs will require the movement of western coal to eastern markets (See May 4). Neither of these two small pipelines will fulfill that requirement.

MAP 4

BUSINESS AS USUAL PRINCIPAL COAL FLOWS TO ELECTRIC UTILITY REGIONS [THOUSANDS OF TONS PER DAY]



NOTE: Mine price shown at origin.
Quantity shown at destination with transportation cost if significant.

Source: Federal Energy Administration, Project Independence

Legislative Policy Issues

Having examined the weaknesses and fallacies which underly the arguments made by proponents of coal slurry pipelines, it is encumbent to mention several of the broad policy issues which are raised in the various legislative proposals on this subject.

Eminent Domain

Initially, railroads received federal aid for right-of-way facilities, primarily in the form of land grants. The railroads repaid the Federal Government for these grants through tariff reductions for passengers, freight and mail. Reduced tariffs for civilian and military traffic were eliminated by 1945.*

Today, railroads not only own and maintain their rights-of-way, they also pay taxes on most of these facilities. Of the $400 million in local property taxes which railroads paid in 1972, about $185 million was related to property taxes on rights-of-way.**

No federal statute gives railroads the right of eminent domain. On the other hand, natural gas pipelines are given that right under 15 U.S.C. 717(h), and 39 states give eminent domain to oil, gas, or petroleum pipelines. Only about a half dozen states give this right to slurry pipelines.

It should be noted that there are many products other than fuel which are carried by pipelines. Copper, phosphate, sulphur, and nickle are presently shipped via pipeline. To grant a federal right of eminent domain to any one of

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* United States Railway Association, Preliminary System Plan, Vol. 1, p. 310.

** Ibid.

these might open up claims for a similar privilege by other pipeline users.

While Congress is being told that coal slurry pipelines cannot be built unless they have the federal power of eminent domain, the existence of neither natural gas or oil pipelines hinged on this power. Until recent years, pipeline was the only feasible means of transporting natural gas. In the case of coal, there are several viable means of transportation now available and in use.

In return for being granted eminent domain power, natural gas companies are strictly regulated by the Federal Government. The proposed legislation before Congress requires no such regulation of coal slurry pipelines.

In Thatcher v. Tennessee Gas Transmission Co., 180 F 2d 644 (5th Cir., 1950) the federal power of eminent domain to natural gas was upheld because it was part of a comprehensive regulatory scheme and because pipelines were the only feasible means of transporting natural gas interstate.

Lack of Federal Regulation

Natural gas companies can neither construct a new pipeline or extend an existing interstate pipeline without first obtaining a certificate of public convenience and necessity from the Federal Power Commission. While the proposed legislation before Congress (H.R. 1863) requires that such a certificate be obtained from the Department of the Interior, there is no effort in the legislative language to give the Federal Government authority to attach such terms and conditions to the granting of that certificate as the public convenience and necessity may require.

No agency of the Federal Government will be able to require that a coal slurry pipeline operator provide additions or extensions of its service. Contrary

to a natural gas pipeline, a coal slurry pipeline operator will be permitted to acquire its certificate of public convenience and necessity and later to abandon all or part of its pipeline without first obtaining another certificate of public convenience and necessity permitting that abandonment.

Common Carrier Status

Nor does the proposed legislation require that coal slurry pipelines operate as common carriers. Only if they seek the power of eminent domain are they required to get a certificate of public convenience and necessity, and there is nothing in the legislation to require that the pipeline operate as a common carrier in order to get that certificate.

It is clearly questionable just whose public convenience and necessity is being served by a coal slurry pipeline which runs from one or two large mines to one or two large public utilities. Nothing in the proposed legislation permits the Federal Government to require that the pipeline accept coal from other mines, or that it extend its service at the other end of the line to serve additional consumers.

All the proposed legislation does is to facilitate a convenient private business relationship between pipeline operator, mine owner, and utility.

Nor does the proposed legislation grant any power to the Federal Government to regulate the price at which coal slurry pipeline service will be performed. At the present time, no federal agency has control over the sale of coal. Thus, neither pipeline operator or mineowner is subject to any federal regulation governing the sale of coal.

Not only is this contrary to the treatment which is accorded natural gas pipelines, it is also contrary to the extensive federal regulatory scheme for railroads which governs the establishment, extent and abandonment of service together with rates charged for that service.

Under H. R. 1863, it is interesting to note that coal "carriers" are not required to be common carriers (Sec. 5 (a) and (b)); yet owners of feeder lines to the main coal slurry pipelines are required to be "common carriers" if they have any excess capacity (Sec. 5 (c)(2)(B)).

The power of eminent domain can be exercised only for a public use (U. S. Constitution, Amendment 5; U. S. ex rel. T.V.A. v. Welch 327 U. S. 546 (1946)), and the courts have made it clear that not all pipelines serve a public use. Unless a pipeline serves a public use, it cannot be considered a common carrier. And unless a pipeline is a common carrier, it does not come under the jurisdiction of any federal regulatory agency. (U. S. v. Champlin Refining Company, 341 U. S. 290 (1951)).

Coal slurry pipelines will not be common carriers; they will be private carriers. They will not be subject to federal regulation or control. Other available and adequate means exist for the transportation of coal. And the granting of the power of eminent domain has traditionally been a province of the several states. For these reasons, the federal power of eminent domain should not be granted.

Agency Responsibility for Federal Regulation

Coal slurry pipelines are a means of transporting coal. As such, if federal legislation is enacted on this subject, it should place responsibility for their regulation in the Interstate Commerce Commission.

The ICC has more than 85 years of experience in administering matters which affect national transportation policy.

In testifying on this subject before the Senate Committee on Commerce in 1962, ICC Commissioner Robert Murphy stated that he had no objection to the Interior Department having the power to grant eminent domain, but he opposed that department regulating the operation of coal slurry pipelines.*

A similar policy decision to place responsibility for the regulation of coal slurry pipelines in the Interstate Commerce Commission was made in 1974 when the Senate acted on coal slurry pipeline legislation.**

Effect on the Financial Condition of Railroads

It is clear that most of the planned coal slurry pipelines will be in direct competition with rail transit of coal. To the extent that they skim off the cream of coal shipments, that will result in a serious reduction of long-term financial commitment for railroads, reduce rail freight revenues, result in the loss of rail jobs, and quite possibly endanger the financial stability of one or more railroads.

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* Hearings before the Senate Committee on Commerce, April 18, 1962, p. 6.

** Unprinted amendment to S. 3879, passed by the Senate on September 18, 1974. Congressional Record, pp. S. 16865-7.

In an effort to lower their rates to compete with coal slurry pipelines, it is conceivable that there will be an adverse impact on other areas of the economy. For instance, in an area where a railroad is competing with a slurry pipeline, railroads throughout that area may be forced to lower their rates, resulting in a loss of revenue which cannot be estimated.

In an effort to make up for this loss of revenue, railroads would be forced to increase their rates for other commodities, having an effect on other areas of the economy which is impossible to predict. These rate increases might in turn encourage shippers of these other commodities to use other forms of transportation, thus resulting in a further loss of rail revenues.

All of this would take place at a time when Congress has made a clear commitment to revitalizing the nation's railroads. From the passage of the Rail Passenger Service Act in 1970 creating Amtrak, to the passage of the Rail Reorganization Act of 1973 creating a Consolidated Rail Corporation (ConRail) to revitalize passenger and freight rail transportation in the Northeast and Midwest, to its approval in 1975 of $387 million to keep the Penn Central Railroad in operation, Congress has made clear the national commitment to revitalize this nation's rail system. The profusion of coal slurry pipelines would run in direct opposition to this commitment.

Effect on Unemployment

Rail industry unemployment in April, 1975 was 5.8 percent, compared to 1.2 percent in April, 1974. By the estimate of the Federal Energy Administration, the construction of six new coal slurry pipelines compared to new rail construction would result in a loss of 725 jobs in the construction phase alone.

We have estimated elsewhere in this study (see Table 13) that the Wyoming to Arkansas pipeline might result in a serious loss of rail jobs. Taking the state of Kansas as an example, an estimate of that loss can be made.

There are more than 10,800 rail employees in the Kansas City metropolitan area alone.* Table 20 assumes that just 5 percent of these workers lose their jobs as a result of competition from the planned coal slurry pipeline from Wyoming to Arkansas. The dollars lost from those jobs are offset against the benefits which will accrue to the entire state of Kansas by virtue of the construction of that pipeline. The loss of these 540 jobs when compared to the yearly economic benefits to the state will produce an annual net economic loss of more than $2.5 million -- a loss that will be distributed throughout the economy of that state.

While Table 20 uses estimated employment figures, it is clear that coal slurry pipelines will result in increased rail industry unemployment at a time of rising national unemployment and at a time when Congress is making a commitment to increase rail employment.**

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* U. S. Department of Labor, Bureau of Labor Statistics, Bulletin 1717, Railroad Technology and Manpower in the 1970's, 1972.

** S. 1730, passed by the United States Senate May 16, 1975.

Table 20

Economic Loss to State of Kansas from Construction of Coal Slurry Pipeline

Increase in state tax revenue from pipeline*	$2,920,000
Payment to utilities for power used by pipeline*	1,800,000
Sub-total	$4,720,000
Loss of railworkers' income from pipeline competition*	-7,383,074
Net loss from construction of pipeline	$2,663,074 per year

* Figures supplied by Energy Transportation Systems, Inc., in testimony before Kansas State legislature, February 1975.

Transportation Flexibility

Coal slurry pipelines are not a diversified form of transportation. They can transport only one commodity, in large volume, from one or two large coal mines to one or two large public utilities.

Map 5 is an excellent example of the inability of coal slurry pipelines to provide a flexible means of transporting coal. While the proposed pipeline from Wyoming to Arkansas passes near more than a dozen coal-fired power plants which are either operating or planned, it will serve only from one to three such plants at the termination point of the line.

Both the existing and an expanded rail network have the ability to serve several mines in a geographic area, ship the coal via efficient transportation, and deliver it to several utilities. Those same rail lines carry many other commodities, and the same cars which carry coal can also carry other commodities.

While the coal slurry pipeline moves one product from one producer to one user (or at most, a few), railroads move a variety of products, from a variety of producers, to a variety of users. Even a rail line built primarily to move coal can also encourage the development of other industries which will use that rail line, thus encouraging the economic development of areas which would otherwise not experience economic growth.

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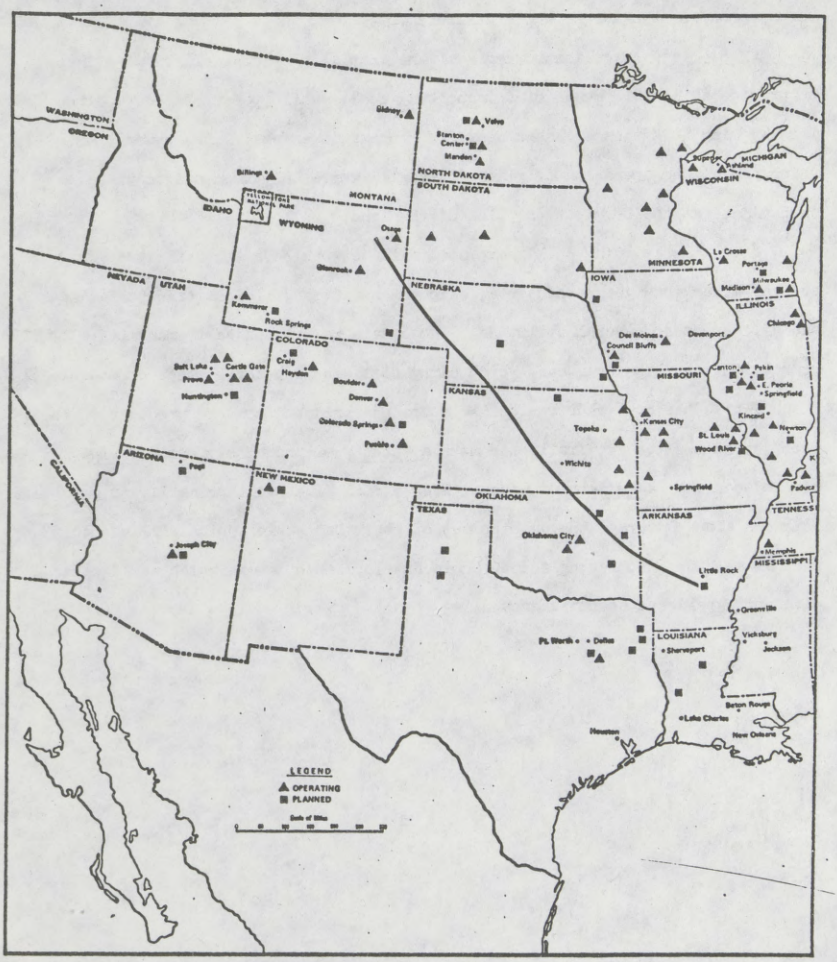
MAP 5

COAL FIRED POWER PLANTS OPERATING AND PLANNED



Source: Energy Transportation Systems, Inc.

Conclusion

Both on the economic facts and on the broad policy issues which underly those facts, it is clearly not in the national interest to encourage the construction of coal slurry pipelines or give those pipelines the unfair advantage of the federal power of eminent domain in competing with railroads.

STATEMENT ON S.740

by

Paul W. McCracken
Edmund Ezra Day University Professor of Business Administration
The University of Michigan

It is because the nation's energy problem needs effective action that S. 740 should not become law. This for three major reasons. First, it would move the country dangerously far toward a nationalized energy industry. Neither the logic of our energy problem nor experience with nationalized industries give any reason for optimism that our energy problem would thereby be resolved in an orderly way. This latter is true whether the industry's ownership is in the public sector (e.g., the post office) or whether the firms would be privately owned but subject to detailed regulation (e.g., the nation's railroads or electric utilities). It is no accident that these are precisely the industries in our economy performing ineffectively. A heavy burden of proof is on those who suggest that this time the results would be favorable.

Second, the bill proposes to deal with the tangled skein of agency jurisdictions in the energy area by laying down yet another agency. The most reasonable expectation would be another prolonged period of inability to achieve decisive action as agencies battled to defend or extend their jurisdictional boundaries.

Third, it does not face up to the fact of the economic era ahead that capital resources are going to be severely limited

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NOTE: Mr. Wendell E. Dunn assisted me in the preparation of this statement.

relative to requirements. The billions to be provided by the Federal Government will further restrict already tight capital budgets in the economy. The only rationale for this arrangement would be the expectation that these new companies would be more efficient than those now in the field. But if this is a reasonable expectation, the companies would need no access to the U.S. Treasury.

Finally, S.740 represents another attempt to find an easy answer without tackling the issue that must be central to any solution -- namely, the price of energy. The fact is that the bargain basement days for energy prices are over. It is only through higher energy prices that the domestic market for energy will be brought into balance through enlarged domestic production and more economical usage. There is much here that the Congress could do to move us toward better energy balance -- ranging from deregulation of natural gas through reasonable standards for pollution to elimination of the two-price system for domestic oil.

If we try to evade the price issue by a structure that inevitably would mean direct allocation and rationing, experience here and abroad is clear about what we must expect. Such controls spawn corruption as people work angles to get more. The productivity of the whole economy will be impaired as industries hit periodic shortages. After a period the whole program would lose the public support essential to make it function (e.g.,

the recent exceptionally well-administered wage-price program).

* * *

In reviewing the bill certain assumptions are involved which are worth a comment.

Implicit Assumption #1 - "This legislation is necessary because if enacted it will stimulate the economy."

While this is an unexceptionable objective, energy legislation cannot be saddled with responsibilities for the return to full employment. This is the task for basic monetary and fiscal policies.

Implicit Assumption #2 - "The energy crisis is similar to a war, and what worked well in 1940 and 1950 should be used now."

In wartime the Nation, united in its single-minded recognition of the danger, granted extraordinary powers to its President and his Executive Branch. Because the War Production Board performed well its function, it is tempting to argue that a nearly identical approach would work equally well with energy development. The case seems strong. The speed, reliability and perhaps the quality of decision-making might improve with strong centralized control. Information could be handled more efficiently and the allocations of men, money and materiel could be coordinated.

This, however, is not a wartime problem. The danger is not singular or so visible. It is not even widely recognized and agreed upon. The problem during wartime is not economic expansion, it is survival. People are willing to undergo greater

privation, endure longer hardship and subject themselves to far more direct and impersonal controls where the objective is clear. The solutions to energy development problems are not agreed upon. With the events of the recent past barely behind us and a populace so mistrustful of "big anything," the reaction to centralized control is apt to be perverse.

Implicit Assumption #3 - "Because it is not granted under this Act the Board does not have the power to control prices."

This would be a grossly erroneous assumption. First, to the extent that the bill attempts to legislate domestic supply it will determine (a) the relative supplies of new energy sources and thus the prices of energy substitutes, (b) the new total supply of domestic energy and, for any given, demand, its price, and (c) the structure and performance of several industries and their cost structures (insofar as authority to allocate within those industries is exercised) which become price structures.

Second, because the industries supplying energy-producing or related materials are largely basic industries, the enforced allocation of such materials, given declining capital investment in new capacity over the last decade and the consequent capacity constraints, will directly affect the availability of materials to other industries (e.g., construction). These changes will be reflected in price. Whether or not these price changes will be inflationary will be a function of competing material demands, the rate at which capacity can be increased, the rate of capital formation and many other complex factors. The essential point

is that there will be "ripple effects." This is not an argument against allocations per se but against this bill's failure to provide adequately for the needs and concerns of people outside the area of immediate interest.

To achieve this last objective, we may chose one of two routes. We could expand the Board's control, or we could streamline the decision-making and information generating systems and procedures and continue to place basic reliance on the use of natural economic forces. This is a fundamental issue which cannot be avoided.

Implicit Assumption #4 - "This bill will increase competition in the energy industries."

The reverse would be apt to occur. Sec. 301(d) explicitly permits the Secretary of the Interior to bypass the normal competitive bidding procedures and directly assign public lands to the National Production Companies. The fundamental question which arises here is: "Would increased control in the hands of federal Government really increase competition, or would it be more apt to deaden the forces of competition as the details of company operations became subject to control?" Experience points to the latter.

Another concern is Sec. 208, the Federal Facilities Energy Program which provides "for the utilization of idle, underutilized or surplus facilities, installations, properties and resources" of the federal government to "augment" the private

sector's capacity to produce energy-related materials including "pipe,... mining and transportation equipment, goods and supplies." Under the authority granted by this bill the government could enter the manufacturing business directly, either by converting existing facilities or by buying them in the open market. There is no requirement in this bill that the jobs be done by private concerns whatever their size or ability. This could become nationalization by strangulation.

The most reasonable expectation is that this bill would increase de facto concentration.

Implicit Assumption #5 - "If private industry cannot do the job with their present profits, then government should provide the funds and assume control."

The present bill provides a mechanism to determine negative ability, that is, to determine if industry can't "do the job." It does nothing to assure in advance the conditions, short of direct federal control, which would ensure that industry could "do the job."

The more fundamental assumption here is that government can provide the required funds and do so without damaging or short-changing other non-energy sectors and industries. The bill provides $2 billion in funding per year with the proviso that if the Trust Fund is inadequate, more is "hereby authorized to be appropriated." One of the following must occur. Spending elsewhere would be decreased by up to that amount, in which case some major re-allocations would be required. Or other public

spending is not decreased and new funds must be obtained. If the difference is funded through federal borrowing in the private markets then the question of displacement of private borrowers must be addressed. Because the lead times of energy projects are so long, a protracted displacement of private needs could easily result in the same type of stifled economy which this bill purports to resolve. This displacement issue is fundamental. Such federal borrowing would, of course, be in addition to any federally guaranteed or supported borrowings. Merely assuming that the government can finance or underwrite all this expansion with but limited effects elsewhere in the economy is an illusion.

Statement of Professor Edward J. Mitchell

Before the Committee on Interior and Insular Affairs

U.S. Senate

July 21, 1975

Mr. Chairman and Members of the Committee. I am Edward J. Mitchell, Professor of Business Economics at the University of Michigan and Director of the National Energy Project of the American Enterprise Institute. I offer this statement in response to your invitation to give my personal views on S.740, a bill to establish a National Energy Mobilization Board.

I oppose enactment of S.740. The bill is based on a misconception of what our energy problem is all about and if enacted, would result in a misuse of the nation's scarce resources and a decline in the general welfare.

My remarks will focus on two aspects of the bill: The planning and coordinating functions of the National Energy Mobilization Board (Title II, Secs. 201-203) and the exploration, production and subsidizing activities of the Board (Title II, Sec. 204; Title III, Sec. 302; Titles IV, V and VI).

According to Title II the Board would establish specific targets to meet national goals in energy production based on future energy "needs" over a ten year period. I suppose that one unfamiliar with markets and with the energy market in particular would find this approach appealing. We would

(1) carefully define the goal: find out how much energy we "need";

(2) determine the resources and technical knowledge available: find out how much energy we have and how much of each type we could produce;

(3) set production targets; and

(4) make sure the targets are met.

While such a program may make sense for putting a man on the moon it cannot be applied to what is essentially a market problem. There is no fixed simple goal involved in our energy dilemma. There are no 1985 national energy "needs". There is only a collection of future consumer wants, as yet unformed in the mind of the consumer and fully developed only when he knows the "facts", such as his income, energy prices,and tastes, upon which he bases his energy consumption choices. The only 1985 energy demands the government will ever know for certain are what the consumer wanted to buy in 1985 given the "facts" presented to the consumer at that time. The government will know this in the summer of 1986 when the statistics come out.

The ability to forecast accurately even the grossest measures of energy demand does not exist. Consider the forecasts of 1980 oil and energy consumption made in the 1960s. In 1962 this Committee developed a consensus forecast of oil and energy consumption in 1980 based on eleven independent studies. This committee forecast that energy consumption would grow by 34.6 quadrillion BTU's between 1962 and 1980. Current predictions say that increment will be 55 to 60 quadrillion BTU's, a revision on the order of 50 to 100 percent. This committee forecast U.S. oil consumption to rise by 5.8 million barrels per day. Current forecasts suggest it will have risen by twice that much by 1980. Indeed, we passed the forecast level in 1973, seven years ahead of schedule.

But even if we knew for certain what aggregate energy demand were going to be in 1985 it would not be that helpful in meeting

detailed consumer wants. A ton of coal in Wyoming would be about as helpful to a Boston homeowner on a cold December day as a tanker full of crude oil in Philadelphia would be to a farmer in Kansas. Planning to meet energy demand means planning to meet the demands of every citizen, every day, everywhere. This kind of planning is now carried out every day by private energy suppliers without the assistance of the government and usually without making forecasts of aggregate national energy demand.

Looking at the supply side of the problem aggregate forecasting has been much worse. Predictions of oil and gas resources are continuously being revised without any obvious stabilizing tendency. In the 1950s geologists' petroleum resource estimates seem to have been generally rising, some by as much as several hundred percent. In the past few years the geologists have become much more pessimistic about future petroleum reserves in the U.S. revising their oil and gas resource estimates sharply downward. There is little doubt in my mind these figures will be significantly revised again in the coming decades. Whether the next revision will be upward or downward is much harder to say.

But again, knowledge of the aggregative facts would not be as helpful as might seem. We must know precisely what exists and where. In spite of my sincere admiration for the U.S. Geological Survey, its work and its personnel, I must record again that it assured the nation we would not find oil in Texas. Fortunately, hundreds of companies and individuals chose to act on their own best guesses. Just as the knowledge of energy wants is distributed among the millions of consumers, inaccessible to any single person or organization, the "best guesses" about future petroleum resources are distributed

among thousands of oil men inside and out of the better-known companies.

Thus, in spite of the efforts of highly talented economists, geologists and engineers (and the vast sums of money thrown at them by federal energy bureaucracies), aggregate energy forecasting will improve little, if at all. It is in the nature of things that we cannot know what human beings will want to buy ten years from now nor precisely what we will find five miles under the earth. And what little we do know will always be scattered among the millions of "experts" we call consumers and producers.

The institutions required to plan for our energy future are not those that can make the best once-and-for-all forecast of overall energy consumption ten years from now. What we want are planning institutions that make the best use of the highly fragmented, low-quality data that exist and automatically and instantly revise their expectations when new data are presented. The principal qualities we want in our planning institutions are (1) the ability to make use of highly imperfect, widely diffused information and (2) the ability to quickly revise plans as new facts present themselves.

As I see it we have to choose among three planning options: (a) the political process; (b) government bureaucracy; or (c) the market. S.740 opts for a new government bureaucracy which differs from FEA mainly in that it has considerably more power to implement any plans it makes. (The board created by S.740, however, will not be autonomous, requiring Congressional support for many of its programs. S.740 therefore chooses what is really a mongrel institution, part political, part bureaucratic.)

Political and bureaucratic institutions do not exhibit the qualities we require. Bureaucracies change their collective minds at

a pace slower than glacial drift. Politicians views often depend upon who was in their office last. Neither respond much to the facts of the marketplace since they hear about very few such facts and then only through selected intermediaries.

Actors in the marketplace have an incentive to respond properly and quickly. Every day consumers tell producers what they want and how much they are willing to pay. They do this by buying or not buying various kinds and quantities of energy. Every day producers tell consumers what is available at what cost by offering various kinds and quantities of energy at various prices. Each has an incentive to utilize this information immediately; his own self-interest. No set of behavior guidelines or vague assignments can replace this system in its speed and efficiency.

While logic can make the case for the market as a superior planning institution, history does it more dramatically. In October 1973 the Arab members of OPEC made energy more scarce. As a response everyone seemed to agree that Americans should consume less energy and produce more. The market response, in fact, was to signal less consumption amd more production by means of higher prices. Sizeable declines in consumption of gasoline and electric power can be attributed directly to the price increases, while drilling activity for new petroleum supplies accelerated sharply. On both the supply and demand side the market response was correct and immediate.

What have energy politics and the energy bureaucracy accomplished? First, at the start of the oil scarcity the Federal Energy Office stepped in to create a gasoline shortage by (1) establishing price controls; (2) ordering that oil inventories be built up when they should have been reduced; and (3) allocating gasoline supplies to the

wrong parts of the country.

Then, the Congress-in contrast to its rhetoric-- gave clear signals to industry to produce less energy and to consumers to use more by maintaining price controls even after the bureaucracy decided it wanted to be relieved of them. In its only other major action on energy the Congress repealed the depletion allowance. While I believe depletion was an unnecessary subsidy to crude oil producers, its repeal coupled with the installation of controls was a peculair way of telling the industry to produce more.

If one goes back over the past few decades and looks at the behavior of the political system and the bureaucracy toward the energy industry the record remains sorry. It is not well known to the public but the history is one of oil surpluses caused by state prorationing and Federal import quotas, gas shortages caused by federal price regulation, and electric power shortages caused mainly by state regulation. Since the tale has been told before (for example, my U.S. Energy Policy: A Primer, American Enterprise Institute, 1974) I will forego that task.

History, I think, would support the notion that these public policy failures were conscious and deliberate choices of the political system. They were not based on errors of judgment or a lack of knowledge. Probably most people who supported them knew what the consequences would be.

But this is not the argument I am making today. I am saying that even if the members of the National Energy Mobilization Board were the best we could find and devoted themselves to the national, as opposed to special interests, they could not improve on the behavior of the market, and without the market they would be lost.

When the assimilation of new facts and ideas are critical and when one must admit mistakes and change direction regularly, political and bureaucratic institutions are in trouble because there is no incentive within them to exhibit these qualities. Whatever the comparative abilities and qualities of public and private sector personnel the people in the private sector have by far the better incentives and capabilites to reduce energy costs and meet consumer demand.

My general remarks about the wisdom of government planning in the energy sector leave open the question of whether or not there are special situations existing in the energy market that create a role for government. Several of these are dealt with in the bill. These include:

(1) the possibility that barriers to entry are great;

(2) the possibility that capital requirements exceed the capabilities of the industry to raise funds;

(3) the possibility that critical materials may not be available.

In addition, I would add:

(4) the possibility that energy supplies are being artifically withheld through collusion among sellers.

To my knowledge none of these possibilities is a reality. There are a number of studies of competition and entry into the energy industry, and except for those areas where federal and state governments restrict entry (e.g. electric power production and natural gas pipelines) all are competitive and entry is relatively easy. My own research findings (some of which have previously been reported to this Committee and some to the Subcommittee on Anti-trust and Monopoly

of the Judiciary Committee) support this conclusion.

Insofar as financing problems are concerned I completed a study last year for the Ford Foundation's Energy Policy Project (Financing the Energy Industry, Ballinger Publishing Co. 1974, co-authored with J. Hass and B. Stone) which concluded that no special public policies were needed to facilitate the shift of resources into the energy sector. Aside from the regulated sectors it was only necessary to let the market work. This report, although reviewed by numerous experts in various professions, stimulated no one to take the opportunity to dissent from the conclusions of the report. Subsequent research by other scholars has not contradicted our conclusions and I find them reinforced by events subsequent to the publication of the report.

On the subject of materials shortages I cannot testify as an expert. I understand from others that these shortages have disappeared which of course is what must happen if the materials market is free from controls.

S.740 would empower the National Energy Mobilization Board to explore for new energy resources and, with permission of Congress, engage in the production of energy. If none of the special circumstances just considered exist in the energy market, what useful purpose would be served by government exploration and production? The main result I foresee is that private exploration and production would be displaced by government exploration and production. That in itself would not be socially useful.

There would appear to be only two proper motives for major government intervention in the energy sector:

(1) for the reconciliation of environmental and energy wants;

(2) for the maintenance of national security.

I conclude that both the planning and production functions of the National Energy Mobilization Board would contribute nothing to solving our energy problem. To the contrary, the planning activities of a Board armed with powers not now possessed by FEA would only pose dangers beyond those already realized by FEA.

BUILDING AND CONSTRUCTION TRADES DEPARTMENT,
AMERICAN FEDERATION OF LABOR–
CONGRESS OF INDUSTRIAL ORGANIZATION,
Washington, D.C., June 13, 1975.

Hon. HENRY M. JACKSON,
Chairman, Senate Interior and Insular Affairs Committee, Dirksen Senate Office Building, Washington, D.C.

DEAR SENATOR JACKSON: Please find enclosed a copy of the remarks submitted by the Building and Construction Trades Department, AFL–CIO, regarding S. 740, the National Energy Production Board Act of 1975.

The Department has long been on record in support of such a concept and is pleased to have this opportunity to offer its comments for the record on the proposed legislation presently pending before your committee.

We welcome the opportunity of working together with you on this bill. If we can be of any help, please do not hesitate to contact us.

Sincerely,

ROBERT A. GEORGINE, *President.*

Enclosure.

STATEMENT BY ROBERT A. GEORGINE, PRESIDENT, BUILDING AND CONSTRUCTION TRADES DEPARTMENT, AFL–CIO

The Building and Construction Trades Department, AFL–CIO, would like to take this opportunity to submit for the record its comments on S. 740, the National Energy Production Board Act of 1975.

The Building Trades Department consists of 17 International building trades unions representing nearly 3½ million workers. The Department and its affiliated unions have a long history of involvement in energy issues and related matters.

On April 21, the Building and Construction Trades Department's National Jobs Conference adopted a resolution advocating the creation of a National Energy Production Agency "with authority patterned on that of the War Production Board of World War II". The Department has vigorously supported this proposal and was pleased to see its inclusion in "The Congressional Program of Economic Recovery and Energy Sufficiency". We view S. 740 as an important first step in providing the comprehensive and centralized energy authority required to enable this country to become energy self-sufficient.

In this regard, we believe the bill's program to develop to a state of ready availability the various naval petroleum reserves is particularly important. This country must free itself from the ever-present threat of a renewed embargo. It is estimated that the costs of a one-year embargo to this country's economy would be between 40 and 205 billion dollars. This is clearly an intolerable and inexcusable situation. There is no reason that this country should be so vulnerable given our immense resources.

The Building and Construction Trades Department also finds encouraging the provisions of S. 740 which authorize a Federal oil and gas exploration program in order to develop a more trustworthy data base for our energy resources. The Federal Government is the largest owner of fossil fuel energy resources in the United States. As much as 50% of all such resources may be on Federal lands. However, it is difficult to be sure because the government's knowledge of the resources it controls is generally sketchy and inadequate.

Included on Federal lands are the highly sought-after domestic oil and gas deposits of the Outer Continental Shelf, one-half of all domestic coal reserves, 80 percent of the high grade oil shale, and nearly one-half of the nation's geothermal resources.

The management of these lands by the Department of Interior has characteristically been very poor. Valuable lands have been leased at such cheap prices that many of these programs have amounted to give-aways at the taxpayers expense. The leasing process itself has been characterized by insufficient competition and many of these lands have been leased with no assurance of development. Many owners of the public domain are speculating with their properties, hoping for a higher return on their resource in the future.

It is the government's responsibility to manager the public lands in the best interest of its citizens. Developing more reliable resource data will serve this purpose, but only if this information is, in turn properly applied. It is our hope

that the Board, in preparing the coal production and oil and gas production programs under Title IV of this Act will fulfill this responsibility. For this reason, we believe it important that the authorizing legislation instruct the Board to examine within the context of these two programs the resource management program of the Interior Department.

In order to facilitate the collection of resource information, the Building Trades Department would like to offer two suggestions:

(1) At present, much of the resources information being collected by the Federal Government is done so by the Geological Survey. The existence of the Survey in no respect detracts from the need of the Board's oil and gas exploration program, because of the survey's restricted nature. Nevertheless, the Survey has an ongoing program in this area and it would be senseless for the Board to ignore it. We therefore suggest that a provision be included in S. 740 authorizing the Board's full acces to the data, surveys, etc., of the Geological Survey.

(2) For some time, the government has been allowing private industry to explore its public lands for natural resources. Data secured from this exploration, however, remains an industry trade secret. Consequently, the government is often placed in the position of knowing less about its own lands, than industries who might be bidding for leasing rights. We suggest that provision be made to secure this information as a matter of public record.

The Board's instruction to review and evaluate in order to expedite governmental actions as they relate to energy production is also a welcome feature of S. 740. The Building Trades Department has already gone on record regarding regulatory delays in testimony before this Committee on S. 619, the Energy Facilities Planning and Development Act of 1975. The need for a centralized agency to investigate the procedures and methods of departments, agencies, regulatory commissions, etc., which impede domestic energy production is large.

The Building Trades Department would like to raise one issue regarding the Board's redtape review feature. Concern in many quarters has been growing over procedural and substantive delays in the field of domestic energy production. At least two other major bills, in addition to this one (S. 619 and S. 1717) have been introduced to tackle the problem of procedural delay. We believe it is time that the Congress, before it enacts another series of bills, thoroughly review the entire problem-area, particularly its interface with environmental legislation, to the end that an orderly Federal system be developed to replace the present hodge-podge programs. For this reason, we view it both as wise and necessary that hearings be called to take a comprehensive look at the problem of procedural and statutory delays in the energy field.

The energy problems of the United States are not going to wish themselves away. Only a clear recognition of the problems before us and a willingness to take decisive action will prevent a serious problem from getting worse.

S. 740 is a first step. It acknowledges the problem of falling domestic production and procedural redtape, and the need for Federal planning and a central coordinator of energy production.

It does not address itself to the problems of import regulation and fuel allocation. We also have several other reservations as expressed in the foregoing. However, we are in agreement with the general provisions of S. 740, and urge this committee to favorably report an Energy Production Board bill this session.

EXXON CO., U.S.A.,
Houston, Tex., April 28, 1975.

HON. HENRY M. JACKSON,
U.S. Senate, Russell Senate Office Building, The Capitol, Washington, D.C.

DEAR SENATOR JACKSON: Exxon U.S.A. believes that the proposed legislation establishing a National Energy Production Board contains provisions which would damage the nation's capability to develop domestic oil and gas resources. I request that this letter and the statement attached, which present our views, be made a part of the record of the Interior and and Insular Affairs Committee hearings on S. 740.

The U.S. petroleum industry has been charged with "foot-dragging" in an attempt by the proponents of a National Energy Production Board to justify direct government efforts to explore for oil and gas on federal lands and the Outer Continental Self. However, the facts clearly show that the industry has not only the

capability and the desire to conduct a vigorous program to develop the nation's oil and gas resources, but has done so limited only by the pace of federal leasing programs and obstructions raised by environmental groups. The proposed legislation, if enacted, would represent an unprecedented deviation from the generally accepted functions of government in the United States. In Exxon U.S.A.'s opinion, enactment of the National Energy Production Board Act would set in motion a chain of events leading to nationalization of the U.S. petroleum industry.

For these reasons, Exxon U.S.A. opposes the creation of a National Energy Production Board and respectfully urges consideration of the attached comments.

Yours sincerely,

W. F. SLICK, Jr.

Attachment.

STATEMENT OF EXXON COMPANY, U.S.A.

1. GOAL

It has been stated that the goal of the proposed legislation is to mobilize the resources necessary to accelerate development of the nation's energy resources, particularly oil and gas reserves on public lands, on the Outer Continental Shelf, and in Alaska. Exxon U.S.A. supports reducing dependence on imported oil as being in the national interest. If a lessening of foreign dependence is to be achieved, the nation must move forward simultaneously on two fronts: (1) increased energy conservation, and (2) accelerated development of domestic energy resources. The proposed legislation reflects an appropriate sense of urgency in regard to energy resource development. The long lead times necessary to bring on new energy suplies dictate that constructive energy policies need to be implemented now if we are to have progress toward energy independence in the foreseeable future.

Although it appears that a consensus on the need for accelerated energy resource development is emerging, such a consensus is not enough when fundamental questions remain on how best to achieve the agreed-upon goal. Exxon U.S.A. believes that the proposed legislation's emphasis on a broad new role for the federal government in oil and gas operations will start the nation down the wrong path. The reasons for this belief are set forth in the following comments.

2. INDUSTRY PERFORMANCE

Contrary to the implications in the proposed legislation, the U.S. petroleum industry has demonstrated that it can and will, if permitted, carry out a vigorous program to develop oil and gas resources on the Outer Continental Shelf. It is well known that the primary limitation to development of Outer Continental Shelf (OCS) oil and gas resources has been federal leasing policies.

Between May 1968 and September 1972, *only one general lease sale was held.*

There have been no offshore California lease sales since 1968.

There have been no Atlantic OCS lease sales.

There have been no offshore Alaska lease sales.

This lack of leasing opportunities severely retarded OCS exploration, despite the industry's consistent requests for larger and more frequent lease sales.

It has been suggested that the petroleum industry has been less than diligent in developing oil and gas reserves on the leases that have been acquired in the OCS. These allegations are totally unfounded and cannot be supported by the facts. Exploration and development on the OCS is a complex, time-consuming task, involving a number of states. After leases are acquired, permits from the Army Corps of Engineers and the Coast Guard must be obtained before exploratory driling can begin. Then, if exploratory drilling leads to the discovery of economically recoverable reserves, platforms must be built—a process that can take several years. Finally, development wells must be drilled and pipelines must be laid. Considering the nature of the task, the petroleum industry has achieved an excellent record of evaluating and developing the leases it has obtained, as the following examples demonstrate.

The only general lease sale between May 1968 and September 1972 was held in December 1970. Six additional general lease sales were held through May 1974. As of the end of 1974, the industry's exploratory drilling programs on these leases had achieved substantial progress, as indicated below:

Sale	Number of tracts	Percent of tracts evaluated by exploratory drilling, year end 1974	Years since sale
December 1970, west Louisiana	117	92	4
September 1972, east Louisiana	62	65	2¼+
December 1972, west Louisiana	116	76	2
June 1973, Texas	100	65	1½
December 1973, MAFLA [1]	87	6	1 ½
March 1974, Louisiana	91	27	1 ¾
May 1974, Texas	102	4	1 ½

[1] Drilling permits on most MAFLA acreage could not be obtained until mid-1974 due to legal challenges to the sale.

Equally important, industry has moved rapidly to develop and produce those tracts which proved commercial. For example, on tracts purchased in the December 1970 Louisiana lease sale:

339 exploratory wells have been drilled.

25 discoveries have been announced, and 21 tracts are producing.

47 platforms have been installed, 524 platform wells drilled, and 31 platforms have been connected to production facilities.

First production from the sale occurred in late 1972, less than two years after the lease sale. By 1974 production averaged about 70,000 barrels of oil per day and 1.4 billion cubic feet of gas per day.

Only two years after the two 1972 sales, 20 platforms had been installed, with several more on order. Particularly significant are two tracts from the September 1972 sale (Grand Isle Block 76, Main Pass Block 140) on which exploration, platform installation, and development drilling were completed by mid-1974.

In the February 1968 Santa Barbara (California) Channel lease sale, industry leased 71 tracts in water depth ranging from about 200 feet to over 2,000 feet. At that time the water depth record for exploratory drilling was about 600 feet, and the deepest installed platform was 285 feet. Industry moved rapidly to drill about 70 exploratory wells on 30 tracts. These included 30 wells in water depth of over 600 feet and 5 in then-record depths in excess of 1,200 feet. Several discoveries were made, and one field (Dos Cuadros) was placed on production. Additional exploratory drilling and development of other discoveries have been delayed by federal drilling moratoriums and extensive environmental proceedings, not by failure of companies holding leases to take the initiative.

Much of the nation's undiscovered petroleum reserves are thought to lie in the OCS, and a significant portion of these are probably in deep water. If these reserves are to be discovered and developed, new technology is a necessity. Substantial progress has been made in recent years in such areas as geophysical exploration techniques, deepwater drilling, deepwater platforms, seafloor production systems, and storage and transportation. This progress has resulted from the research and operating effort of private industry, and a broad range of companies have contributed. The advances in deepwater technology provide a good example of the petroleum industry's dedication and ability to develop operating capability in frontier areas even in the face of great uncertainty about government leasing plans.

Because of the competitive nature of the free enterprise system, four separate seafloor production systems are now being tested by four different industry groups (Lockheed with 12 participants, Deep Oil Technology with 17 participants, SEAL, and Exxon). These systems incorporate widely different technical approaches to the complex problems of deepwater production. Some utilize one-atmosphere submersibles for installation and maintenance. Others are remotely controlled. Another system under development is being designed to use either divers or remote control, depending upon water depth. Still another is designed to be assembled and operated by a remotely controlled manipulator system. Yet another system will incorporate a one-atmosphere wellhead hemisphere and work chamber. Far from being wasteful, this multiple system approach greatly increases the probability that the nation will have a workable system at the earliest date to fit a variety of conditions and requirements. Development and testing are currenly in progress on all of these systems, totally financed by the industry. This work should lead to at least one practical seafloor production system (perhaps several) in the next few years, enabling production in water depths substan-

tially greater than 1,000 feet. In addition to contributions from numerous oil industry participants, these systems incorporate advanced electronics and aerospace technology through the use of leading contractors in these industries. Similarly, efforts are also underway in the areas of deepwater structures and pipelines. The result is another example of how a number of concepts and approaches are being evaluated simultaneously by private enterprise.

3. FEDERAL OIL AND GAS EXPLORATION PROGRAM

The proposed legislation directs a National Energy Production Board to carry out a federal oil and gas exploration program. Exxon U.S.A. strongly opposes this proposal. Not only is there no justification for federal entry into oil and gas operations, but there is no reason to believe that such a program would result in increased oil and gas supplies. Also, the competitive drive now existing in the industry will be diminished resulting in delays in the needed technology to permit development in frontier areas.

As discussed above, the U.S. petroleum industry has not only the capability, but also the demonstrated business incentive to explore and develop frontier areas. Therefore, a rational federal energy policy would encourage industry to develop the nation's energy resources at a pace constrained only by physical capabilities and appropriate regard for the environment. Instead, the government's role as defined by the proposed legislation would be to compete with industry in an unhealthy and counterproductive adversary relationship.

There is no reason to believe that a National Energy Production Board could bring about an acceleration in resource development. In fact, the proposed federal exploration program would represent a real and potentially very serious detriment to the development of domestic oil and gas. Scarce human and material resources, as well as the most promising leases, would be diverted from industry to the new governmental agency. Because the agency would be inexperienced, it would make relatively ineffective use of these resources for several critical years. At the same time, an atmosphere of uncertainty would tend to stifle private initiative in oil and gas exploration. Regardless of statements to the contrary, a federal oil and gas exploration program would be viewed by many as a first step toward nationalization of the U.S. petroleum industry. The massive investments that the industry has been making in the search for oil and gas would then become questionable ventures. Capital funds, already in short supply, would become more and more difficult to obtain. In short, the proposed legislation has the potential of crippling a vital industry that has the capability of spearheading a national drive toward energy independence.

4. LACK OF PRECEDENT

The name of the proposed National Energy Production Board implies a precedent in the War Production Board of World War II. This implication is invalid, however, for it is generally accepted that wartime emergencies justify extraordinary governmental exercises of power. In fact, there are no precedents in the nation's history for the federal oil and gas exploration program authorized by the proposed legislation. Never before has the federal government opted to inject itself on a large scale into direct operations in the private sector. Significant federal investments have been limited to areas where compelling special reasons dictate public rather than private sector ownership. Examples are the national defense establishment, federal flood control projects, and the initial development of atomic power. Clearly, exploring for mineral resources does not fit with these categories.

The Tennessee Valley Authority (TVA) has been cited by some as a precedent for federal oil and gas operations. However, the legislation establishing TVA stated that its primary purpose was flood control and land reclamation. Generation of electric power was a natural outgrowth of the dam building associated with these projects. In 1937 the U.S. Supreme Court found that a particular TVA project was constitutional as long as power production and sale was incidental to the other purposes of the dam. TVA has its origins in a generally accepted function of government in the United States: flood control. Its adventure into steam power generation, totally unrelated to its original purpose, is a cause of concern over the true motivation behind the National Energy Production Board proposal.

It is possible to contend that tampering with the U.S. economic system would be desirable if free enterprise were to fail to get a needed job done. This argu-

ment for governmental encroachment fails, however, in the case of oil and gas exploration: there is no demonstrated shortcoming in the private sector and no unique contribution to be expected from government operations. There is, however, ample evidence of government impediments to the petroleum industry's performance of its function. The answer is not to substitute government for the private sector, but to remove the government impediments.

5. FIRST STEP TOWARD NATIONALIZATION

Exxon U.S.A. believes it is probable that the National Energy Production Board would represent the first step toward nationalization of the petroleum industry. This conclusion is based on a straightforward analysis of the bill's probable impact. First of all, the federal exploration program would weaken the domestic industry by siphoning off trained personnel, scarce materials, and prime leases while discouraging sources of private capital. Some companies would be driven out entirely. The reduced capabilities of industry would then result in calls for another round of governmental expansion which would further weaken industry. The dynamics of this situation make increasing governmental encroachment on the private sector inevitable once the door is opened.

The language of the bill itself makes clear that its intent is ever-expanding governmental involvement in energy production. Title IV directs the Board to develop and recommend to Congress legislation that would provide for the "development and production of oil and gas under the direct management, supervision, and control of designated agencies of the Federal Government." Obviously, the intent of the legislation is not to stop with a federal exploration program.

CONCLUSION

The National Energy Production Board bill is based on the false assumption that private industry cannot do an adequate job of developing domestic energy resources, and that the federal government has some innate ability to perform these desired functions. The proposed remedy is a direct federal role in energy resource development, beginning with a federal oil and gas exploration program. Exxon U.S.A. believes the facts show that the U.S. petroleum industry has the capability and the desire to conduct a vigorous program to develop the nation's oil and gas resources. The entry of the federal government into oil and gas operations is completely unwarranted and would be counterproductive. Less, not more, government encroachment on the private sector is needed if progress toward energy independence is to be achieved.

FEDERAL RESERVE BANK OF CLEVELAND,
April 25, 1975.

Hon. HENRY M. JACKSON,
Chairman, Committee on Interior and Insular Affairs, U.S. Senate, Washington, D.C.

DEAR SENATOR JACKSON: I am sorry for the delay in responding to your request for comments on S. 740, a bill to establish a National Energy Production Board. I was out of the country when your letter arrived and only now am I starting to catch up with the accumulation on my desk.

I share the Committee's deep concern about the severity and complexity of our nation's energy problem. It is clear that there is an immediate need for the Federal government to develop a unified policy that has as its principal objective an expanded supply of domestic energy. Moreover, I am convinced that the energy problem is much broader than simply the need to find new supplies of oil and gas. Our energy policy should be directed toward the alternative sources of energy that will reduce over time the U.S. dependence on oil and gas.

Currently, a number of our utilities are experiencing financing difficulties that will limit their plant expansion and inhibit their ability to meet future demands for power. This problem may require the attention of the Federal government to make sure that they are able to raise funds in both equity and debt markets. The regulatory lag in various states has had serious consequences on utility earnings and this problem must be solved promptly since the lead time for the resolution of some of these problems is growing preciously short.

The energy needs for the 80s require the development of new sources and new capacity now. Any catch up in the energy short fall in the 80s may not be physically possible if action is delayed much longer. Hence, imaginative action is required quickly if the nation's economic growth is not to be materally dampened in the next decade. This entails serious examination of the suggestion for tax exemption for preferred dividends on new issues by utility companies; the need to acelerate depreciation charges to generate funds, as well as to make these charges realistic in today's environment; the possibility of developing a futures market for power; i.e., the government contracting now for future power delivery that could in turn be resold, but such contracts would provide the basis for current financing of new capacity; the purchase or the arrangement by the government to lease strategically placed generating plants, including offshore floating installations, with the expectation that the new capacity would be leased or sold to private companies once the power demands of the 80s were established; and there are many other similar possibilities for achieving the ultimate energy requirements.

I am convinced that all of the dimensions of our energy problem need to be considered by the Federal government if a new agency is formed. Therefore, the creation of a National Energy Production Board is an important proposal that should be given serious consideration by the Congress and the American people. The NEPB would appear to provide the Federal government with a vehicle through which it could channel all Federal government efforts to accelerate developments of domestic energy resources. I must admit, however, that I have some reservations about an effort to come to grips with a problem as basic as our situation by creating a new government agency that does not have its objectives and responsibilities specifically defined. It's not clear from the materials that I have reviewed whether or not the NEPB would replace or just duplicate some of the current government efforts in the area of energy. For example, what relationship would exist between NEPB and the Federal Energy Administration?

In summary, it seems clear to me that our government must play an important role in fostering solutions to the energy problem. However, I am reluctant to recommend the establishment of a new organization until I have a better understanding of its range of powers.

Thank you for permitting me to comment on S. 740.

Sincerely yours,

WILLIS J. WINN.

FORD MOTOR CO.,
Dearborn, Mich., April 11, 1975.

Hon. HENRY M. JACKSON.
U.S. Senate,
Washington, D.C.

DEAR SCOOP: Thank you for your letter inviting my comments on S. 740. I am sorry that it will not be possible for me to participate in the hearings on April 14 or 15, but I am pleased to have the opportunity to submit my views in writing *for the hearing record.*

First, let me say that I do not feel qualified to comment on all aspects of the bill and I am therefore restricting my remarks to those provisions about which I feel strongly. I have mixed feelings about the bill as a whole. I like its positive approach to the need to increase energy supplies but I do not think that Federal production programs for coal, oil and gas are necessary or desirable.

War-time experience suggests that the establishment of a National Energy Production Board, as proposed in Title I, would give us the decision-making authority required to oversee and expedite a national energy program. I support the concept of a "one-stop" agency as a vital necessity in the energy field.

I am opposed, however, to the establishment of a Federal oil and gas exploration program to supplement the activities of the private sector, as proposed in Title II. It seems to me that the private sector is both able and willing to carry out the necessary exploration, whether on private land or the public domain, subject to payment of bonus fees and royalties on a bid basis. So long as investment by the private sector is deferred by price controls, as in the case of old oil and interstate gas, I do not see how we can say that private capital will not do the job. Demands on the public treasury already are so great, so urgent and so varied that it is difficult for me to see why the burden of public investment should be placed on taxpayers when gradual decontrol of oil and gas prices would make it possible to accomplish the desired results with private funds.

I believe that the orderly development of Naval Petroleum Reserves to create a strategic stockpile for national defense and critical civilian requirements is necessary to the country's policy independence, and I support this provision of Title III.

I don't know whether the Federal Government could in fact augment the Nation's capacity for the production of goods essential to an accelerated domestic energy program through the conversion of idle or surplus federal facilities, but it does seem to me that the proposed procedure for expediting energy projects may be a useful way to avoid the kinds of delays experienced in the past.

I am opposed to the Federal coal and gas production programs proposed in Title IV for the same reasons that lead me to oppose the Federal exploration programs proposed in Title II. It seems to me that the Federal energy budget will be large enough if it includes only those things the private sector cannot do. Long-run energy research, strategic stockpiling of oil and gas and emergency stand-by facilities are examples of acceptable federal activities in the energy field because they cannot be undertaken by private enterprise. Production can be, and therefore should be, undertaken by private firms.

Without passing judgment on the specific language in Title VI, calling for the establishment of a National Energy Trust Fund, I believe the idea has merit, particularly if the Fund can serve to insure offshore risks in such a way that independent producers can safely participate, thus increasing competition, and unavoidable accidents can be remedied quickly without undue damage to our shorelines.

In summary, I strongly support an action-oriented approach to increase our national energy supply and I endorse the concept of building a strategic stockpile to protect against any future supply interruption. On the other hand, I would prefer to see progressive deregulation of oil and gas prices in order to encourage increased exploration and production of fossil fuel in the private sector rather than price controls for the indefinite future and public sector takeover of the responsibility and financial burden for energy exploration and production.

Best regards,

HENRY.

LEHIGH VALLEY RAILROAD CO.,
May 6, 1975.

Re: Title IV of S. 740.

Hon. HENRY M. JACKSON,
Chairman, Senate Committee on Interior and Insular Affairs, U.S. Senate, Washington, D.C.

DEAR SENATOR JACKSON: Giving private industry the right of eminent domain to build slurry pipelines is being considered as a part of the National Energy Production Board Act.

I should like respectfully to point out that enabling additional competitors to enter the already overcrowded transportation field would further erode the precarious situation of the railroads with respect to other modes. Coal traffic is the major commodity handled by the nation's railroads.

To particularize, in 1974 of the Norfolk & Western Railroad's gross revenues of $945,830,978, 36.4 percent was produced by coal traffic; of the Chessie System's $1,282,791,996 in revenue 33.4 percent resulted from carrying coal. Our railroad depends on coal traffic, as well, revenue attributable to coal amounting to $5,496,344 or 8.1 percent of our gross revenue for 1974.

From the foregoing, it is obvious that diverting coal traffic away from the railroads may result in the bankruptcy of railroads now solvent and further complicate the task of revitalizing the railroads which are now bankrupt.

An equally important consideration from the national point of view is the environmental factor. Carving new rights of way for slurry pipelines out of the American countryside can only lead to a further degradation of the environment.

An obvious solution to the problem, if slurry pipelines are requisite to meet the needs for increased energy availability, is to use existing railroad rights of way for the purpose and to give the railroad companies the right to operate slurry pipelines on their properties. The pioneering builders of the railroads have already selected and acquired the routes giving the best curves and grades for the most economical transportation. The installation of pipelines along railroad rights of way can be accomplished with minimum temporary interference with

railroad traffic and with no adverse effects on the environment. Pipelines would give an additional source of badly needed revenue to the railroads, whereas diverting commodities now carried by railroads to pipelines might very well result in making any solution to the national railroad problem impossible.

I realize, of course, that solving the nation's energy problem is beyond my abilities and responsibilities. However, I believe that it is my duty to respectfully remind you that the energy problem should not be solved at the expense of the nation's railroads.

Sincerely yours,

ROBERT C. HALDEMAN,
Trustee and Chief Executive Officer.

UNITED MINE WORKERS OF AMERICA,
Washington, D.C., April 11, 1975.

Hon. HENRY JACKSON,
Chairman, Committee on Interior and Insular Affairs,
Washington, D.C.

DEAR MR. CHAIRMAN: The UMWA has reviewed S. 740, the National Energy Production Board Act of 1975, with a particular interest in Section 402 on Coal Production. Our general reaction is favorable. However, in its present state, the bill is largely a skeleton and needs a great deal of specific language. In anticipation of a more thorough bill to be developed, the UMWA would like to bring to the Committee some of its views on the bill, specifically on the subject of increasing the use of coal.

Since the Arab embargo has made the goal of energy self-sufficiency a vital concern of the nation and our lawmakers, it has been accurately stated that as our most abundant energy resource—coal must provide the cornerstone for the nation's future energy needs. Yet when it comes to specific energy proposals, coal ultimately plays a second role to oil and gas. It is almost as if the oil crisis were expected to disappear as abruptly as it appeared. The proposed legislation fails to emphasize the future dominant role of coal.

We must realize that the future is upon us. Regardless of whether the Arab nations temporarily relax their stranglehold on the industrialized nations, one fact has become quite clear: we cannot rely on foreign energy imports. We must develop alternative energy sources and coal offers a multitude of possibilities for the not too distant future.

So far, other than public pronouncements, the federal government has failed to demonstrate a serious long-term commitment to increasing the production and utilization of coal and synthetic fuels derived from coal. This lack of commitment by the government has not inspired the confidence of the private sector of the economy that is needed to provide the enormous outlays of capital connected with these projects, and, as a result, progress in these areas has been negligible This legislation should confirm the nation's commitment to domestic energy self-sufficiency by establishing coal as the priority energy fuel.

While many of the projects to be undertaken by the Board proposed in S. 740 have been undertaken by other energy agencies, the most innovative feature of the bill is the provision for direct federal involvement in energy production. A recent Ways and Means Task Force, headed by Representative Joseph Karth, supported this approach. The task force, in discussing capital investment incentives suggested that direct governmental incentives in the form of subsidies guaranteed loans, etc., rather than tax incentives, would be more effective in attaining the nation's energy goals. We share this opinion and applaud that feature in S. 740.

In terms of who should receive federal assistance in undertaking energy production projects, we share the sponsor's intentions that it should be the smaller independent companies. Today we have a situation where, for speculative and anti-competitive reasons, large energy conglomerates are holding captive large tracts of federal energy resources. It is our feeling that these companies should not receive any form of compensation from the government. Of the 474 Indian and public land coal leases containing over 15 billion tons of coal, 89% are non-producing. Most of this coal is leased to non-coal producing companies and in the 54 years of the federal coal leasing program, less than 1% of the nation's production has come from these leases.

It is quite evident that one way to increase national coal production is to free up this land for production or impose and enforce stringent diligence require-

ments on new and existing leases. If the proposed board is to become a comprehensive production agency, it should have the authority to make available federal resources for production.

The language of S. 740 does not contain provisions for federal efforts to assist and accelerate coal gasification and liquefaction. As these technologies will be essential in expanding coal use in environmentally acceptable ways, we strongly suggest that such language be incorporated in the bill and the board's authority in this area be expanded.

The text of S. 740 refers to converting electric utility generating plants from oil and gas to coal in an "if" context. A recent Ways and Means Task Force Report on Conversion, headed by Representative Joe Waggoner, recommended that laws outside the jurisdiction of that Committee should be enacted to require the conversion of certain facilities to coal. Presently, the Federal Energy Administration has this authority under the Energy Supply and Environmental Coordination Act of 1974, but has not forced the first conversion. The funding authority provided for in S. 740 would be an ideal vehicle for including this provision. Thought should be given to empowering the board to require conversion of oil and gas electric generating plants to coal.

The UMWA has often made known its support for the planned expansion of the nation's energy resources. We believe that the current energy crisis has become a consumer's crisis because of a lack of planning. We welcome the introduction of S. 740 as a source of energy production planning that will place the nation's energy needs above the private goals of the major energy producing companies. To accomplish this, the board must have the authority to act and not merely gather information and make recommendations. Hopefully, S. 740 can be given more substance and truly become an energy production planning board. Incorporation of the above suggestions of the United Mine Workers of America will strengthen it in that regard.

Sincerely yours,

ARNOLD MILLER.

[Telegram]

ELK GROVE VILLAGE, ILL.

Senator HENRY M. JACKSON,
Chairman, U.S. Senate, Committee on Interior and Insular Affairs, Washington, D.C.

SENATOR JACKSON: I am wiring our response to your 3/28/75 letter concerning S. 740 because of the short time period before the hearings are initiated.

We have reviewed the essential features of S. 740 and make these comments: United is for the stimulation of increased exploration and development of new energy sources both through the public and private sector. The airline industry is uniquely bound to the utilization of petroleum products as an energy source and does not enjoy the freedom to utilize alternate sources of energy production as do other ground-based industries. Therefore, our future growth is closely tied to increased supplies of crude oil. We understand that additional reserves of well over 100 billion barrels of petroleum deposits may lie in the Outer Continental Shelf and we eagerly encourage the development of these resources. This sizeable offshore potential should be regarded as a possible energy bridge between today's fossil fuel period and the time when other forms of energy will be available. Although we support Government efforts to stimulate exploration, particularly in the OCS, we strongly feel that the vast majority of exploration and development work should be conducted in the private sector where the technical expertise and experience lies.

I appreciate your invitation to participate in the hearings next Monday and Tuesday, but my schedule will not permit me to be in Washington on those days. I thank you for considering our opinion in this important matter.

EDWARD CARLSON,
Chairman, United Air Lines.

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