STRATEGIC STOCKPILE POLICY

HEARING

BEFORE THE

COMMITTEE ON BANKING, HOUSING, AND URBAN AFFAIRS UNITED STATES SENATE

NINETY-FIFTH CONGRESS

SECOND SESSION

TO EXAMINE THE UNDERLYING ASSUMPTIONS OF STRATEGIC STOCKPILE POLICY AND THE OPPORTUNITY COSTS OF STOCKPILING

NOVEMBER 14, 1978

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STRATEGIC STOCKPILE POLICY

TUESDAY, NOVEMBER 14, 1978

U.S. SENATE,
COMMITTEE ON BANKING, HOUSING, AND URBAN AFFAIRS,
Washington, D.C.

The committee met at 10:05 in room 5302 of the Dirksen Senate Office Building, Senator William Proxmire (chairman of the committee) presiding.

Present: Senators Proxmire, Lugar, and Schmitt.

Also present: Senator Gary Hart.

OPENING STATEMENT OF CHAIRMAN PROXMIRE

The CHAIRMAN. Please come to order.

Today's hearing on strategic stockpile policy is another in the series of defense industrial base hearings initiated by the Joint Committee on Defense Production in 1976. The 1976 hearings raised serious questions about the new Ford stockpile policy. Despite President Carter's reaffirmation of this policy in 1977, serious questions still linger and require further congressional scrutiny.

These questions do not concern the basic wisdom of maintaining some stocks of strategic and critical materials. These stocks both insure the integrity of our defense industrial base and deter the would-be aggressor. Nevertheless, the size of the strategic stockpile is still subject to question.

The current policy would cost nearly $12 billion and would prepare us to fight World War II. It is astonishing that this enormous cost has received so little attention. But, it is even more astonishing that part of our national security establishment is still preparing for World War II.

Not surprisingly, our military capabilities, preparation, and planning have evolved considerably since the 1940's to the point where reliance on the World War II scenario borders on the absurd. Why are we stockpiling for this age-worn contingency when logic points us in another direction?

Today's hearings will focus on the three stockpile policy assumptions which reflect World War II-era thinking. First, the policy assumes a major war of at least 3 years' duration. Second, it assumes a protracted period of prewar industrial mobilization. And third, it assumes some civilian austerity, but still provides for considerable nonessential civilian consumption.

Each of these assumptions greatly inflates the overall cost of stockpiling. The first roughly triples the cost of a stockpile based on a 1-year war; the second adds over $3 billion, and the third adds over $6 billion.

During the 1976 hearing, I questioned General Bray of the Federal Preparedness Agency about the 3-year major war assumption. General Bray responded that we should keep our options open. He suggested it would be extremely risky for us to enter a situation in which we do not have the option to continue a large-scale non-nuclear conflict.

I agree that we should keep our options open, but within reason. Preparation for a protracted major conflict of at least 3 years seems to go beyond reason.

The strategic stockpile is the only component in our national security structure geared to this extreme contingency. If this contingency threatens, why is it virtually ignored by the rest of our national security establishment?

To argue that this situation is possible though highly improbable, does not offer sufficient justification for the expenditure of $12 billion. One must argue instead that this is the best allocation of our limited resources available for national security purposes. One must argue that the increase in our level of national security justifies an added $4- or $8-billion expenditure in the strategic stockpile. And, if one can make these arguments, one must explain how we can afford, from a national security standpoint, to delay fulfillment of the stockpile goals for 15 to 20 years. To argue the national security need on the one hand, and to delay the acquisition of materials on the other, strikes me as highly inconsistent.

A second issue we will address today is the assumption about a period of prewar industrial mobilization. I understand this assumption to mean a period of mobilization such as that which preceded World War II.

During World War II we sat out the first 2 years and had an opportunity to prepare. Does this mean that stockpile planners assume we could do the same today? If so, how? Our troops are already at the front line in Europe.

If the stockpile planners envision alternative scenarios in which we mobilize industry in a situation short of war or imminent war, it would be interesting to hear these scenarios. I find it extremely difficult to think of any, that are realistic, anyway. The political and economic considerations surrounding a full-scale industrial mobilization would be prohibitive.

But, for the sake of argument, let's assume such a scenario would be probable. Why don't we have contingency plans to mobilize industry? And, why don't we have plans to expand our stockpiles of strategic and critical materials during this period of mobilization? These, too, are glaring inconsistencies.

The third issue we will consider concerns the level of civilian austerity during a major conflict. The stockpile planners assume some shift from durables to nondurables and some reduction in overall civilian consumption. And yet, nearly 55 percent of the stockpile cost is geared toward nonessential civilian consumption.

How do we justify this? We have a stockpile for defense purposes, but only 20 percent is intended for military needs and another 25 percent for essential civilian needs. The other 55 percent is, in effect, an economic stockpile—insurance that nonessential industries will stay open and that civilians will maintain relatively high levels of nonessential consumption.

During the Ford administration's review of stockpile policy, the Office of Management and Budget, the Treasury Department, and the Council on International Economic Policy all recommended a policy which omitted the provision for nonessential civilian consumption.

These agencies felt that inclusion of this nonessential tier did not reflect sufficient belt-tightening efforts.

That point is particularly important. The agencies in the best position to judge the needs of a wartime economy felt this economic tier was unnecessary, so why was it included? It is not necessary for the military effort, it is not necessary for essential civilian needs, and it is not necessary for the economy. It is fluff—fluff which increases the stockpile cost by $6.3 billion.

During today's hearing we will examine all of these issues concerning the stockpile assumptions. We will also hear from Dr. Philip Gramm and Dr. Charles Maurice, who have studied the opportunity cost of conservation and stockpiling. Their work sheds new light on the argument that the strategic stockpile benefits the American taxpayer by appreciating in value over time.

But first, we will hear from Senator Gary Hart of Colorado. As chairman of the Armed Services Committee, Subcommittee on Military Construction and Stockpiles, the Senator has spent considerable time studying stockpile issues, and is certainly one of the outstanding experts in the Senate on the issue.

Before we turn to you, Senator Hart, I would like to ask Senator Schmitt to speak.

OPENING STATEMENT OF SENATOR SCHMITT

Senator SCHMITT. Thank you, Mr. Chairman.

I think it is extremely important that you have scheduled these hearings in order to examine the issue of stockpiling.

I think in your opening statement, however, you have focused on only one part of the question; that being the relation of stockpiles to our national security—the direct relation of stockpiling to our national security.

I do not believe that we will agree on all aspects of that.

I also, however, think that these hearings must focus on threats to our national economy and to our foreign policy options that are represented by excessive dependence on foreign supplies of various commodities.

If the oil embargo of 1973 and 1974 has taught us anything, it taught us the dangers of being overly dependent on the import of any particular essential commodity. And our reaction to that has been to begin to stockpile oil.

Now I support that action, although I do not think that in that timeframe it was the best option. I believe very strongly that in general where we have the natural reserves ourselves, the natural resources ourselves, that it is much better to develop those natural resources either for production or for standby rather than stockpile. Stockpiles are used up very rapidly in a state of crisis, whereas natural reserves can provide the same options as stockpiles over a longer period of time.

The United States began stockpiling in 1940 when legislation authorized the Treasury Department to purchase modest quantities of certain strategic materials for which this country is heavily dependent on imports.

I would ask, Mr. Chairman, that the remainder of my statement that discusses the history of stockpiling, be included in the record at this point.

The CHAIRMAN. Without objection, it will be so included.

[The remainder of Senator Schmitt's statement follows:]

At the conclusion of World War II, the United States held considerable quantities of essential metals and minerals needed either in a wartime or peacetime economy. Thus, when, in 1946, Congress enacted basic stockpile legislation, large tonnages of essential metals and minerals were already on hand.

U.S. involvement in the Korean war in the early 1950's greatly accelerated interest in stockpiling, and until 1957, there was a period of active procurement by the Government.

Shortly after John F. Kennedy became President in early 1961, an evaluation of the stockpile program was conducted, and in the mid-1960's, many of the commodities in the stockpile were liquidated. Of the six major nonferrous metals held in the Government stockpile—aluminum, copper, lead, nickel, tin and zinc—the Government, since 1963, has greatly reduced its holdings of lead and zinc, and has substantially reduced its holdings of tin, a commodity for which this country is entirely dependent on imports, originating primarily from countries of the Third World.

Unfortunately, the large budget deficits of the Kennedy, Johnson and Nixon administrations made the liquidation of these inventories for their cash value a temptation too great to pass up.

Following President Nixon's declaration that the national security would be adequately met with stockpiles equivalent to only 1 year's military requirements, Members of the Congress raised questions as to the adequacy of such limited stockpile objectives. As a result of congressional reluctance to authorize further disposals, the Ford administration undertook a new stockpile study. The study restated the objectives of the national stockpile in terms of a 3-year emergency, including consideration of the needs of the civilian population as well as security needs. Last fall, the Carter administration reaffirmed its agreement with the general principles of the program as outlined by the previous administration.

The stockpile goals, however, remain largely unachieved. There have been no major acquisitions for the national or supplemental stockpiles since 1959 while disposals between 1959 and 1977 have totaled $7.2 billion. The United States thus remains vulnerable to critical shortages of strategic materials. The oil embargo of 1973 should have demonstrated the dangers of a short-sighted policy of not holding quantities of critical commodities in reserve, and while we have made efforts to increase our reserves of oil since then, we have made no progress in regard to other critical commodities. It appears that we have not yet learned our lesson.

I am particularly concerned about the shortfall in copper. Copper has literally dozens of strategic uses. It is needed in the manufacture

of motors, machinery, transmission lines, cartridges cases for small arms, fuses, and time devices, and most of its military uses overlap with applications in the private sector. But there are at present only 20,433 tons of copper in the stockpile against a goal of 1,300,000 tons. On the other hand, there are over 200,000 tons of tin in the stockpile, but the tin goal is only 32,500 tons. I was pleased to cosponsor legislation in the last Congress which would have authorized the sale of 45,000 tons of tin and simultaneous purchase of 225,000 tons of copper in order to balance out this situation. I intend to work actively for the passage of this legislation in the next Congress as a first step in meeting stockpile goals.

There has been concern expressed with regard to the $7 billion acquisition costs involved with achieving the objectives of the national stockpile. However, in a $2 trillion economy, an investment in this range, made over several years, is not excessive. The United States must remain prepared for whatever emergency may confront us and must, to the greatest extent possible, maintain its self-sufficiency in critical materials. I hope these hearings will provide an added impetus to the fulfillment of the objectives of the strategic stockpile as soon as possible.

I am particularly concerned, as many western Senators are, about the shortfall of copper. Copper has literally dozens of strategic uses. It is needed in the manufacture of electrical equipment, transmission lines, a variety of materials for artillery and other armaments. And its military uses clearly overlap with essential applications in the private sector.

Again I would like to emphasize though, an issue that we have not discussed adequately in the 95th Congress, which I hope will be discussed further there today, and that is the tradeoff between the purchase of stockpile materials versus the encouragement in a variety of ways of the development of natural resources of the same material.

Again, if we develop a major oil field that is capable of producing 1 million barrels a day for a period of 10 or 20 years, we have a much better stockpile in quotes, than we do putting a year's supply of oil that could be produced, one million barrels a day, in salt water.

The same kinds of arguments can be applied to the copper industry, lead, zinc, silver or gold or any other strategic materials that one may want to list.

Now there are some strategic materials that we literally do not have a close approximation of economic reserve in this country. Tin at the present time is one such reserve. So a tin stockpile is very important for our national security and national ecomony. However, at the present time it is clear that the tin stockpile is in excess and the copper stockpile is not, and that some trade can be made there not only for strategic purposes, but also for domestic economic purposes related to a presently extremely depresed industry; namely, the copper industry.

Mr. Chairman, I look forward to the remainder of the hearings. I thank you again for holding these hearings on this very important issue.

The CHAIRMAN. Thank you, Senator Schmitt.

Senator Hart, glad to have you. Go right ahead, sir.

STATEMENT OF GARY HART, U.S. SENATOR FROM THE STATE OF COLORADO; ACCOMPANIED BY JIM SMITH, PROFESSIONAL STAFF, SENATE ARMED SERVICES COMMITTEE

Senator HART. Thank you, Mr. Chairman.

Mr. Chairman, I am appearing today at your request for the purpose of presenting my views, and where appropriate, those of the Armed Services Committee on strategic stockpile policy.

As you know, Senate Resolution 4, which set out jurisdictional responsibilities for the 95th Congress specifies that the Senate Committee on Armed Services shall have jurisdiction over "strategic and critical materials necessary for the common defense."

That jurisdictional responsibility has been further delegated to the Senate Armed Services Subcommittee on Military Construction and Stockpiles of which I am pleased to be chairman.

My appearance at this hearing today should in no way be construed as agreement on my part that the Senate Banking Committee has jurisdiction over strategic stockpile policy. In fact, I considered at length whether my appearance before the committee would be appropriate in that regard.

However, I feel that the strategic stockpile is of such importance to our national defense, that it deserves discussion in any public forum.

The committee is, I assume, aware of the history of the strategic stockpiles and I shall not dwell on it. But it is important to note that until last year, the strategic stockpiles had been in a state of legislative limbo. Essentially, no acquisitions for the stockpile have been made since 1959, no disposals have been authorized since 1973.

Needless to say the strategic stockpiles are badly out of date—the wrong commodities are stored in the wrong places in the wrong form. A complete overhaul of our strategic stockpiles is badly needed.

In late 1975 the Ford administration undertook an exhaustive study of the strategic stockpiles and, in the fall of 1976, announced a new stockpile policy.

Before the Ford administration could implement that policy, President Carter was elected and early in his tenure, he placed a moratorium on all stockpile activity until stockpile policy could be reviewed.

About a year ago the Carter administration announced its endorsement of the Ford stockpile policy with one important modification and the fiscal 1979 budget submitted to Congress by the administration reflected that position.

The modification made by the Carter administration was to reorient priorities to provide for the early acquisition of materials needed for a NATO contingency.

My subcommittee held an oversight hearing on September 9, 1977, to get a report on the evolving Carter stockpile policy, and then on March 8 and 9, 1978, the subcommittee heard indepth testimony from the administration and industry to examine all pending stockpile legislation including that requested by the administration in support of the fiscal 1979 budget.

During our review it became apparent that existing stockpile law, the Strategic and Critical Materials Stock Piling Act of 1939 was, like the stockpiles themselves, badly out of date and in need of substantial revision.

The subcommittee completely rewrote stockpile law to bring it up to date and to bring it into conformance with current stockpile policy.

That bill, which used the House-passed bill H.R. 4895, as a legislative vehicle, was unanimously ordered reported by the Senate Armed Services Committee. This legislation was fully supported by the current administration.

In that regard, Mr. Chairman, I would ask your consent and that of the committee to introduce at this point in the record, letters from the administration, particularly from the Office of Management and Budget, indicating the administration's support for that legislation. I consider the enactment of this legislation to be necessary before any buying and selling of commodities is undertaken.

[The information follows:]

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

August 2, 1978

Honorable Gary Hart
Chairman, Subcommittee on Military
Construction and Stockpile
Committee on Armed Services
United States Senate
Washington, D.C. 20515

Dear Mr. Chairman:

I would like to state strong Administration support of National Defense Stockpile legislation, H.R. 4895 and S. 2635, now under consideration by the Senate. We have reviewed proposed Amendments to these Bills put forward by Senator Proxmire (Amendments No. 3313 to S. 2635 and Nos. 3314-16 to H.R. 4895). We oppose these Amendments for the reasons put forth in the letters to you dated 31 July 1978 from Joseph Mitchell of the Federal Preparedness Agency.

We also understand that an Amendment to H.R. 4895 may be offered during Senate floor debate which would direct the Administrator of General Services to sell tin and other excess materials from the stockpile and to use the proceeds from such sales for the purchase of 250,000 tons of copper. We are strongly opposed to this Amendment. We endorse the letter to you on this subject, again dated 31 July, from the Federal Preparedness Agency.

Sincerely,

Edward R. Jayne II
Associate Director for
National Security and
International Affairs

General Services Administration
Federal Preparedness Agency
Washington, DC 20405

Honorable Gary Hart
Chairman, Subcommittee on Military
Construction and Stockpiles
Committee on Armed Services
United States Senate
Washington, DC 20515

Dear Mr. Chairman:

It has come to my attention that Senator Proxmire has had Amendments No. 3314, 3315, and 3316 printed with a view toward proposing their addition to H. R. 4895.

Amendment No. 3314

The apparent intent of Amendment No. 3314 is to limit the stockpile in order not to provide for the general industrial needs for raw materials. The Administration opposes this amendment. In the past, the strength of the United States industrial base has provided the critical difference during national emergencies. It has been the clear intent of past Congresses to provide for and maintain this industrial base. This Administration also supports such an objective. In addition, the definition of the term, "essential civilian" in this amendment seems inappropriate in view of the fact that the other terms in the sentence (i. e., "military, industrial") are not defined.

Amendment No. 3315

Amendment No. 3315 proposes to change the period of stockpiling for a national emergency from three years to one year. The Administration opposes this amendment on the grounds that it could jeopardize national security. Two Presidents, President Ford and President Carter, have approved the stockpile planning process within the context of a three-year conflict. It is the belief of the Administration that a reduction to one-year planning will not provide sufficient protection for our Nation. Strategic and critical materials are materials for which the United States is heavily import-dependent. The Administration feels that providing such materials for a one-year emergency only is not prudent.

Amendment No. 3316

Amendment No. 3316 would require that interest on the value of the National Defense Stockpile be paid annually. The Administration opposes this amendment as a useless bookkeeping transaction. It would mean that the Executive Branch would have to seek an appropriation which would be paid out of the Treasury and which would be repaid into the Treasury. Such a requirement was placed on the Defense Production Act Inventory in 1974. However, the Congress has consistently ignored the requirement and has never voted any appropriations for such a payment.

The Office of Management and Budget has advised that, from the standpoint of the Administration's program, there is no objection to the submission of this letter.

We request your support and the support of the Congress in opposition to these amendments.

Sincerely,

Joseph A. Mitchell

JOSEPH A. MITCHELL
Director

Senator HART. Unfortunately, consideration of this legislation was forestalled during the final weeks of the 95th Congress.

My current intentions are to reintroduce this legislation early in the 96th Congress and to get it considered and acted on at the earliest possible time.

Let me say, Mr. Chairman, in this regard, that my intent and that of the subcommittee and the full Armed Services Committee in separating policy from commodity, is to address one of the fundamental issues that I think concerns the chairman of this committee.

It became apparent to me as a relative novice in this field, once I got into it, that part of the reason that the policy of stockpiling is so fouled up is that it has constantly been a vehicle for special interests.

We are not going to get a modern, updated stockpile policy for this country and for our national security until we separate the two. So long as we make every stockpile bill a vehicle for one interest or another to add or subtract or manipulate the market, we are not going to have the kind of stockpile that we need, and that was exactly the intent of this Senator and the subcommittee which I have chaired and the full committee.

So I think for those who are concerned about the integrity of the stockpile—the integrity of the stockpile—we are going to have to have a modern stockpile policy and a piece of legislation that reflects that policy separate from individual commodity transactions.

If we let that policy bill become the vehicle for the purchase or sale of any commodity, we are going to let every Senator or every member in the Congress reflect his or her own individual preference, regional interests, home town or home State political concerns, and genuine concerns about the economy in one part of the country over another.

We will have a botched up, confused, complicated stockpile policy that does not reflect the genuine total national interest.

To the degree that this committee or any other Members of the Congress are concerned about the integrity of the stockpile and having it separate from its impact on economic policy, I would invite their support for the policy bill or some variation of it, which I attempted to get passed in the last Congress.

I know that the chairman is concerned about three aspects of this legislation. I would like to discuss each briefly.

First, let me begin in an area where I think we are in agreement. The purpose of the stockpiles is to provide "strategic and critical materials necessary for the common defense." The buying and selling of materials will have an impact on the market; however, the overriding consideration in any transaction must be to satisfy the requirements for national defense.

That is what the law says—not to stimulate the economy in one industry or another, not to help out the unemployment picture, not to salvage a failing or dying or crippled industry, not to impact international economics, but to provide for the national defense.

Therefore, in my view it's absolutely necessary to define a system for determining national defense stockpile requirements, and to follow that system exactly. This was done by the Ford-Carter policy. It was reflected in the policy bill reported by the Armed Services Committee.

Some of the most pervasive lobbying I have seen on Capitol Hill occurred by special interest groups who were trying to control or at least influence commodity prices on many stockpile materials.

The only way to fend off this lobby is to define and follow a system for determining national defense stockpile requirements.

The Ford-Carter stockpile policy provides for sizing the stockpiles to accommodate a 3-year war. While I do not feel that a long-term, 3-year conventional war is the most likely threat scenario faced by the United States, it is the threat that dictates the ultimate stockpile size. In this regard, let me make three points.

First, strategic planners in two administrations, two recent administrations, have examined this question in depth and have concluded that the 3-year, 1½ war threat scenario should drive stockpile sizing.

Now, Mr. Chairman, if we could count on a 1-year war, as the chairman's opening statement indicated, we could make some other substantial changes in addition to reductions in the stockpiling, and they would be substantial. For example, we could reduce our mobilization base, get rid of standby production facilities, and in addition eliminate large segments of our reserve forces.

Now, all of those things and others might be desired by individual Members of Congress. But they are there because of the strategic planners' beliefs, and prudent beliefs I think, in what the world threat represents to this Nation, I think it is prudent, and I for one have not seen evidence sufficient to make that substantial risk worth taking.

My point here is that if one determines that a 3-year, 1½ war scenario is unrealistic, then an awful lot of consequences flow from that, other than just reducing the size of the stockpile.

I think that if it should become the policy of the Congress and the Government of the United States to reduce the stockpile, we might as well take a hard look at those other substantial defense requirements that are reckoned as part of our defense strategy and policy also, because they are linked, I think, inextricably together.

Second, the Soviet Union's strategic planners consider a sustained, conventional war as an option with a high chance of success.

That is borne out by a variety of kinds of literature by the Soviets themselves. Numbers of people, natural resources, ever-increasing naval power, and basic ideology would all favor a foe such as the U.S.S.R. in a protracted, non-nuclear war that would tax the moral courage and the industrial might of the free world.

A 3-year stockpile of vital raw materials should give the Soviet Union considerable pause before undertaking such an option.

Let me point out also, Mr. Chairman and members of the committee, that all out war with the Soviet Union isn't the only scenario. The last two wars in which this country has been involved—and that point has been made a variety of times—have been in Korea and in Southeast Asia.

In the Korean situation we're talking about a 3-year or more commitment. And in Southeast Asia, anywhere from 5 to 8 years, depending on how one defines it.

In neither of those situations were our sea lines of communications challenged because we weren't up against enemies with either the intent

or the capability of doing that. But what we're trying to contemplate, I think, and what the strategic planners are trying to contemplate, is a situation somewhere between the Korean and Vietnam situation, and perhaps short of all-out war with the Soviet Union or anyone else, where sea lines of communications might be reduced or where the supply of vital raw materials for our own economy was tied up in Africa or Latin America or somewhere else; such as, petroleum or any one of a whole variety of other raw materials that are necessary to keep the economy going for a long period of time whether we are in fact in all-out war with the Soviet Union or anybody else.

Finally, Mr. Chairman, the stockpile policy that has evolved will not result in a 3-year stockpile overnight.

There is an orderly, systematic procedure to reshape the existing stockpiles over time. In fact, for the next 3 to 5 years excess stockpile materials can be sold to finance the highest priority requirements at no net cost to the taxpayer. When we reach that point where the highest priority requirements are filled and the stockpile excesses are gone, then appropriations will be necessary to acquire additional materials, if they can be justified at that time. We now have a step-by-step procedure requiring annual authorization and appropriation by the Congress which is a quantum increase in congressional oversight. If the world changes, stockpile policy can be changed correspondingly.

As a part of this step by step process that I have mentioned, stockpiles have been hierarchically categorized into three levels: defense, essential civilian, and general civilian or industrial.

This is done to assist in the priority setting process as it relates to acquisitions of needed materials. The chairman of this committee has suggested that the third tier, general civilian needs or industrial needs, could be eliminated. I do not want to substitute my judgment for the executive branch in this regard.

I suggest to the committee that if we start that process that once again we're opening up the door for every Member of Congress to come in and say: "my reading of the national defense situation is that we have got to beef up X industry or Y industry or Z industry, and we're going to have 100 strategic planners or 535, as the case may be."

I think that is chaos. I think it is going to result in a stockpile that responds more to the political and economic needs of individual Members of Congress, whatever pork barreling and logrolling can take place, and not national security interests as strictly defined.

I recognize that forecasting stockpile requirements is something of an art, but I am convinced that the current stockpile sizing model is as accurate as it could be.

Mr. Chairman, I hope this statement has been useful. I don't profess to be an expert in every facet of stockpile policy, but I would be pleased to answer questions if you or other members of the committee have any.

I just want to make one other final comment, Mr. Chairman. In your opening remarks you and others talked about the cost to taxpayers and the impact on the budget. I would call your attention to transactions having to do with stockpiles, like investments in roads, hospitals, schools, national parks, and a variety of other things, are capital investments in the future of this country.

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These are net budget outlays for which there is something in return. We have commodities. We have raw materials in the stockpile in Federal control which can be utilized, if the situation requires it, so it's not money down a rathole that has no return for the investment.

And I think anybody can look at the results of those investments and see whether they are prudent or not.

Thank you very much.

The CHAIRMAN. Thank you very much Senator Hart for a very interesting and helpful statement.

As you know, I agree wholeheartedly with your position on not having this as an economic football. I put a hold on that copper purchase last year. As you know, we were under lots of pressure to let it go and go ahead and make a purchase.

And I did it for the very reason that you specify. I thought it would be a mistake to use this to help an industry under any circumstances. The purpose of stockpile is to defend our country by providing the resources we need in the event of an emergency.

There is a great deal that you say that I certainly wholeheartedly agree with. There is much with which I have some basis, I think, for disagreement. You seem to imply that this committee has no jurisdiction in this area, or at least you can't find any. Or you don't want to give the impression that your appearance here implies that we have any jurisdiction.

You certainly have jurisdiction as far as the national stockpile is concerned, but this committee has clear jurisdiction, according to the Senate rules, over the Defense Production Act and the Defense Production Act inventory.

The Defense Production Act inventory has been, as you know, sharply reduced, but it's still over $100 million. There's no question that your committee and you as subcommittee chairman, specifically, have jurisdiction with respect to the national stockpile, and that is certainly a major area where most of the commitment is at the present time.

I think that the division of jurisdiction is sensible, in as much as stockpile policy and military policy is not simply a matter of mobilizing troops and mobilizing the resources necessary to support those troops. It's economic, and it's a matter of recognizing the economic strength and what is necesary to sustain the economic strength in wartime.

This, as you know, is an economic commitee, one of the two or three principal economic committees in the Senate, and the Senate in its wisdom or lack of wisdom has seen fit to give us jurisdiction with respect to the policies necessary to encourage and sustain those industries that are necessary to support a war effort.

And I think that that jurisdiction is clear. I can see your jurisdiction, but I think that we have jurisdiction, too.

I would like to point out, too, that two witnesses that will follow you, Dr. Gramm and Dr. Maurice, will respond to part of the issues that you raised this morning with respect to stockpiling policy.

And General Hollingsworth will also respond in part to the issues that you so ably raised for us this morning.

But I do hope that you will recognize that this committee does have a responsibility here in the Defense Production Act and that we will

do our best to meet that responsibility. We concede that you have a very clear and heavy responsibility with respect to the national stockpile.

Senator HART. Mr. Chairman, I would only say that my purpose in making that statement was to state once again my strong conviction and I think that of the Armed Services Committee as a whole, that the primary jurisdiction of stockpiles is in that committee, and I think your remarks are in that direction.

What concerns me is when discussion moves into the arena of whether we're talking about a 3-year, 1½-year war scenario, or a 1-year war. That seems to me to be getting very close.

I think the chairman knows that I am low down on the ladder of jurisdictional turf concerns. My own feeling is that many of them are misplaced and unnecessary. I think we are all Senators, and we all share many of the main concerns for orderly business transaction, that it is advisable in an organization of human affairs and parliamentary institutions to divide up responsibilities and try to keep those divisions as clean and clear as possible.

It does concern me somewhat that this committee would begin to look into areas of whether we're talking about 3-year wars or 1-year war. That's getting very, very close to the heart of the Armed Services Committee's responsibilities.

The CHAIRMAN. Before I yield to Senators Lugar and Schmitt, let me just say that I think we absolutely have to get into that, Senator. I don't know how we can avoid it. After all, if we are going to make any judgments at all on the responsibility that we have with respect to industry and having the American industry prepared and ready to do the kind of job it should do in the event of war, we have to make those assumptions as to whether it's realistic to expect a World War II type of thing or something—as you say—something between the Korean war-Vietnam, on the one hand, and World War II, on the other.

After all, the modern war as we all know is likely to be waged primarily—the victory determined primarily—on economic strength and economic muscle. And we have to make assumptions as to whether or not it is realistic to expect a war to last more than a few months.

That's why we have Dr. Gramm and Dr. Maurice testifying before us on this. They have done a great deal of work and a great deal of thinking in this area.

General Hollingsworth is a military expert. We all recognize he has some very clear and emphatic thoughts on this matter. So I think it is necessary to get into this.

Furthermore, 80 percent of the stockpile is geared to civilian needs, not military, at the present time. And after all, that is a responsibility of this committee as an economic committee, as an economic committee responsible for the Defense Production Act.

Senator Lugar?

Senator LUGAR. Mr. Chairman, Senator Hart, I appreciate very much bringing before this committee a situation that to say the least is flexible in terms of interpretation of both policy and cost.

In your testimony you mention legislation that came before your subcommittee, and I believe that I am correct in assuming that this

legislation did not make it through Congress and that you would like to see it reintroduced in the 96th Congress.

You mentioned that the subcommittee undertook to completely rewrite the stockpile law, bringing it up to date and bringing it in conformance with the current stockpile policy. In your opinion, you see the reshaping of that legislation, essentially what would it accomplish?

In other words, is it a formulation in your judgment of policy judgments that have already been made or promulgated by previous administrations? And if, in fact, that legislation passed, how much purchasing would be required on the part of the Federal Government to simply bring all of this into conformity?

Senator HART. Well, first of all, I would ask the chairman's indulgence in consenting to permit our committee report to be introduced in the record. It responds directly to the questions, including a section-by-section summary.

Calendar No. 777

95TH CONGRESS
2d Session

SENATE

REPORT
No. 95-846

NATIONAL DEFENSE STOCKPILE ACT

MAY 15 (legislative day, APRIL 24), 1978.—Ordered to be printed

Mr. HART, from the Committee on Armed Services, submitted the following

REPORT

[To accompany H.R. 4895]

The Committee on Armed Services to which was referred the bill (H.R. 4895) having considered the same, reports favorably thereon with an amendment and recommends that the bill (as amended) do pass.

PURPOSE OF THE BILL

The purpose of this bill is to revise and amend the Strategic and Critical Materials Stock Piling Act which provides for the acquisition and retention of stocks of certain strategic and critical materials in order to preclude, whenever possible, a dangerous and costly dependence by the United States upon foreign sources for supplies of such materials in times of national emergency and to provide for the timely disposal of such materials that are excess to the needs of the act.

FORM OF COMMITTEE ACTION

The committee held hearings on four different bills that provided for changes to the Strategic and Critical Materials Stock Piling Act. These bills were H.R. 4895 as passed by the House, S. 1198 which is identical to H.R. 4895, S. 1810, and S. 2575. The committee consolidated its consideration of all of these bills by striking all after the enacting clause of H.R. 4895 and inserting an amendment. The committee amendment is in the form of a complete revision to the existing Stock Piling Act (50 U.S.C. 98-98h).

BACKGROUND

The committee has been concerned for some time that the strategic and critical materials stockpile program is in need of substantial updating and revision. No significant additions to the stockpiles have been made since 1959; the Congress has not authorized the release of excess stockpiled materials since 1973. Stockpile policy has fluctuated sharply in recent years as successive administrations have changed the stockpile guidance frequently.

In the fall of 1976, President Ford announced a new stockpile policy, basing goals for commodities to be stockpiled on a 3-year contingency and providing for a method of computing stockpile requirements that takes into account the many variables that affect commodity dependence. Before this policy could be implemented, President Carter declared a moratorium on all stockpile activity and directed a restudy of stockpile policy. In September of 1977, President Carter reaffirmed the Ford stockpile policy with a reordering of priorities to address the NATO wartime contingency as the highest priority.

Under this new stockpile policy which the committee endorses, the current stockpiles are badly out of balance. There are currently 93 different materials stockpiled with an estimated market value of $8.6 billion. Based on the current stockpile policy, 41 of the commodities stockpiled are in quantities that exceed requirements; the estimated market value of these excess commodities is $4 billion. Conversely, 53 commodities are short of estimated requirements; to acquire these necessary materials to bring the stockpiles into balance will require many years and expenditures that are estimated to exceed the value of materials that are currently excess.

The Strategic and Critical Materials Stock Piling Act of 1939 (50 U.S.C. 98–98h), like the stockpiles themselves, is badly out of date. It has been amended numerous times and many provisions are now confusing and conflicting. For this reason, the committee elected to completely revise and update the act to conform to current stockpile policy and to strengthen the role of the Congress in stockpile matters.

The committee had under consideration four bills that dealt with stockpile policy:

H.R. 4895, as passed by the House, revised existing stockpile law to (1) require authorization of stockpile acquisitions, (2) encourage barter as a means of acquiring and disposing of stockpile materials, and (3) establish a fund for the accounting of receipts and expenditures relating to stock pile transactions that would insure that receipts would be made available only for the acquisition of needed stockpile materials. The committee has used this bill as the vehicle to report its recommendations and has embodied all of the concepts put forth in H.R. 4895.

S. 1198, introduced by Senator Chiles, is identical to H.R. 4895, as passed by the House.

S. 1810, introduced by Senator McClure, includes the same provisions found in H.R. 4895, and in addition the bill specifies a formula for determining the quantity of a material to be stockpiled (referred to as the stockpile goal) as a function of the quantity of such material that is imported. The intent of such a formula is to specify a simple

procedure for determining stockpile goals that will also reduce indiscriminate changes in stockpile requirements which have a significant adverse impact on the commodity market. While attracted to the simplicity of the goal-setting approach recommended by the bill, the committee felt that the approach was too insensitive to actual wartime requirements and to the wartime vulnerability of certain imports. Therefore, the committee has not included such an approach in its amendment; however, the committee was sympathetic to the argument that constant stockpile goal changes are disruptive to the market and a requirement has been included to limit stockpile goal changes to those larger than 10 percent or those reported and justified to the Congress.

S. 2575, a bill jointly introduced by Senators Hart and Thurmond, is a complete revision to the existing Stock Piling Act. This bill provided the basis for the committee amendment to H.R. 4895 and is discussed in more detail in this report. This bill, with some minor revisions, was supported by the current administration during the hearings of March 8, 1978.

SUMMARY OF COMMITTEE ACTION

All of the aforementioned stockpile bills were referred to the Senate Armed Services Subcommittee on Military Construction and Stockpiles. The subcommittee held oversight hearings on September 9, 1977, and then held more indepth hearings on March 8 and 9, 1978. Witnesses from the administration—Departments of State and Defense and the Federal Preparedness Agency of the General Service Administration—and from selected industries were heard. The subcommittee met on March 23, 1978, to develop markup recommendations for the committee, and by unanimous vote agreed to recommend to the committee the amendment as contained in this report.

The Armed Services Committee met on May 11, 1978, to consider the recommendation of the Subcommittee on Military Construction and Stockpiles, and by a unanimous vote, agreed to report H.R. 4895, as amended, and recommend that the Senate consider it favorably.

SECTION-BY-SECTION ANALYSIS OF THE COMMITTEE AMENDMENT

The committee amendment contains four sections. Section 1 consists of the revisions to 50 U.S.C. 98–98h and is discussed in more detail below. Section 2 sets an effective date of October 1, 1978, the start of fiscal year 1979, for the changes made by the first section. Section 3 "saves" acquisition and disposal authorities that may be contained in Acts other than the Strategic and Critical Materials Stock Piling Act. Section 4 changes any reference to the Strategic and Critical Materials Stock Piling Act to the National Defense Stockpile Act. The following paragraphs are a section-by-section analysis of the changes to the Strategic and Critical Materials Stock Piling Act (50 U.S.C. 98–98h) as contained in section 1 of the committee amendment:

Section 1 provides a new title for the act—the National Defense Stockpile Act—to emphasize that the stockpiles are for national de-

fense purposes only and are not to be used during peacetime for economic or budgetary purposes.

Section 2 sets forth the policy and purposes of the act. The key words in this section are "in times of national emergency". Economic stockpiles are not within the jurisdiction of the Armed Services Committee, and the National Defense Stockpile is designed only to protect and preserve the common defense and to deter an enemy who might otherwise be more inclined to provoke conflict if we could not demonstrate a clear capability to sustain our military-industrial base during a prolonged, general conflict.

Section 3 provides two key definitions. "Strategic and critical materials" are defined broadly enough to give the President adequate latitude in selecting commodities to be stockpiled so long as they are required for a national emergency situation. The committee intends for stockpiled materials to be essentially in the form that the 93 commodities exist today—raw and refined materials in a form best suited for storage and best suited for use during a time of national emergency. It is not intended that the stockpile include "end products", since such items are likely to become obsolete before they are required. The form of the material to be stored must also consider (1) the form capable of being handled and processed by current U.S. industry technology, (2) the form that minimizes energy demand consistent with other variables, and (3) the form that anticipates defense requirements during a national emergency.

The term "national emergency" is defined to be consistent with the National Emergencies Act.

Section 4 gives authority to the President to determine stockpile requirements and provides, for the first time, congressional guidance as to how these determinations are to be made. The committee expects that these determinations will be changed from time to time as underlying assumptions change and as technology dictates the obsolescence of some materials. The committee considers it very important, however, that three principles guide the President in making these determinations.

First, as expressed previously, these stockpiles are for the purpose of the common defense of the United States. They are not to be used as a means of controlling or influencing commodity prices and they are not to be sold off indiscriminately to produce receipts that offset other defense costs.

Second, the stockpiles are to be sized to meet a three year contingency. While the committee does not necessarily feel that a 3-year war is the most likely contingency that we may face, it is nevertheless a plausible scenario that must be addressed. Despite technological advances in weapons systems, the United States must be prepared for a protracted war, sustained at a high level that would stress our industrial capability. The committee supports the current stockpile policy that sets forth a priority system for reshaping the stockpiles in an orderly manner with first emphasis on those materials needed in the first year of a NATO contingency. However, the committee feels that the stockpiles should continue to be reshaped over the next several years to provide a tangible deterrent to any adversary who might question the "staying power" of the United States.

Third, the committee amendment includes a provision designed to stabilize stockpile goals. The constant fluctuation of goals (formerly referred to as "objectives") in the past has been a constant source of irritation to the materials industries, causing market prices to vary speculatively. The committee feels that the stockpile goals are merely estimates that cannot be precisely accurate. Therefore to make numerous, small adjustments in the stockpile goals serves no purpose.

The committee has provided that goal revisions of less than 10 percent may be made simply by notifying the Armed Services Committees, but the committee would expect that use of this exception provision would be rare.

Section 5 constitutes the National Defense Stockpile by combining the three existing stockpiles into one for simplicity of management. In addition, a provision in the existing Stock Piling Act, requiring excess materials under the control of any Federal Department or Agency to be transferred to the National Defense Stockpile, is retained. Such transfers are to be made without reimbursement to the Department or Agency controlling the excess material, but all costs incident to the transfer are to be borne by the stockpile manager.

Section 6 deals with the authorizing legislation required to support stockpile operations. Basically the committee amendment retains the provision in the existing Stock Piling Act that requires authorization by commodity by quantity before any excess commodity is released from the stockpile. In addition a requirement has been added that acquisitions of required materials also be authorized, except that acquisition authority will be by lump sum amount due to the market sensitivity of the commodity-quantity information.

Subsection 6(a) concerns procurement and requires authorization for appropriations for all procurements except those resulting from the processing, refining, or upgrading of existing stocks or for the rotation of stocks with a fixed "shelf life." The requirement for authorization pertains to direct procurements as well as procurement by the use of barter.

The committee will receive and examine the list of commodities that aggregate to the authorization sum. The committee recognizes that there will be some deviation from this list to accommodate market considerations; however, the committee would expect to be notified in advance of any significant deviations from that list and in no event will the total of acquisitions exceed the amount authorized.

Subsection 6(b) requires that all disposal, whether by direct sale or by barter, be authorized to include the commodity and the quantity of such commodity. Exceptions are granted for rotation sales, for sales of excess materials with a limited shelf life that might deteriorate if disposal were delayed seeking authorizing legislation, and for releases ordered by the President in time of national emergency or for the common defense.

Subsection 6(c) provides standing authority for routine stockpile operations which would then be subject only to annual appropriations requirements.

Section 7 concerns the management of the stockpile. It provides that the President shall designate the appropriate department or agency to manage the National Defense Stockpile and outlines those manage-

ment responsibilities, and it provides guidance on acquisitions, disposals and barter.

The committee has left the appointment of the appropriate management to the President because of the pending, publicly-announced reorganization study of Federal agencies involved in disaster assistance (the Federal Preparedness Agency, the Federal Disaster Assistance Agency, and the Defense Civil Preparedness Agency). The committee has no prejudice against the use of the Administrator of General Services to manage the stockpiles; to the contrary, industry and other Federal agencies have applauded the GSA stockpile management in the past and it may be entirely appropriate for the President to designate all or some part of the stockpile management effort to GSA in the future. The committee would, however, expect to be consulted on any new management arrangement. The stockpile manager's duties include (1) acquisition of the necessary stockpile materials as may be authorized by law, (2) provision of the proper storage, maintenance, and security of stockpile materials, (3) accomplishing the necessary refining or upgrading of stockpile materials in order to put them in the form best suitable for stockpile purposes, (4) accomplishing the necessary rotation of stockpile materials, and (5) disposing of excess materials as may be authorized by law.

The committee has specified that procurements will be made in accordance with established Federal practice—as required by Federal Procurement Regulations—both to protect the interests of the Government and industry. The committee has added two special guidelines. First, the use of competitive bidding is to be maximized. The committee would expect only rare instances where advertised competitive procedures are not appropriate and directs that all procurements made by other than publicly-advertised, competitively bid procedures he summarized in the semi-annual report required by Section 12. Second, the committee has required that procurements not unduly disrupt the usual commodity market. The committee recognizes that every stockpile transaction affects the commodity market to some degree; however, according to testimony, GSA has been extremely successful in the past at minimizing market impacts and the committee expects that record of performance to continue.

Likewise, the committee has specified guidance for disposals. Again, the committee directs that all disposal efforts accomplished by other than publicly-advertised, competitively bid procedures be included in the semi-annual report. An additional guideline has been provided for disposals, requiring that U.S. industry and consumers have first call on excess stockpile materials. The committee recognizes that there will have to be exceptions to this guideline as well—for instance some excess commodities may only have foreign markets—but these exceptions should be relatively rare. The committee directs that any exceptions to this guideline also be summarized in the semi-annual report required by Section 12.

Subsection 7(d) requires and encourages the use of barter as a means of accomplishing stockpile transactions. In addition to authorizing the use of excess stockpile materials, the provision encourages the use of other excess property owned by the United States as barter material. No new barter authority is created. The committee is seeking to revitalize the barter program which has in the past resulted in the acquisition of stockpile materials in trade for surplus agricultural

commodities, excess defense supplies, etc., in accordance with other provisions of law.

Finally, subsection 7(e) provides the President an escape clause if he finds for some reason he cannot accomplish a stockpile transaction in accordance with the previous three subsections. All such exceptions require a report to the Armed Services Committees of Congress before they are undertaken.

Section 8 provides the authority for the disposition of the stockpiles for their intended purpose. First, the President may order the use of the stockpiles when in his judgment such use is required for the purposes of the common defense. Appropriately, releases have been authorized by the President previously in response to situations short of a national emergency. For example, in 1956 and again 1959, releases of mercury from the stockpile were made to the Atomic Energy Commission for the nuclear weapons production program when mercury was not available through commercial sources, and in 1973, quinine was sold to pharmaceutical manufacturers because the Vietnam war had depleted the commercial supply. The committee approves of such releases and has retained the language of the original Stock Piling Act in that regard. Second, authority is granted for the release of stockpiled materials during a period of national emergency that may be declared by the President or the Congress. A new requirement has been added to require the President to report in writing any release under the authority of this section to the Armed Services Committees of Congress. The committee does not want to slow down the release process, but would expect notification as soon as possible after the decision to release stockpile materials is made.

Section 9 is broad authority for the President to direct studies and investigations directed toward improving the readiness and the reliability of the stockpile. Similar authority is contained in the existing Stock Piling Act.

Section 10 specifies the establishment of a special account on the books of the Treasury for recording and auditing receipts and expenditures associated with stockpile transactions. The purpose of this account is twofold—first, it earmarks receipts from stockpile sales for use in purchasing other necessary stockpile materials, and second, it provides a ready reference for analysis of the scope and status of stockpile activity.

The committee desires that stockpile transactions be reasonably balanced for the foreseeable future to minimize any impact on the taxpayer—that is, the requirement for funds for stockpile acquisitions should be approximately offset by receipts from the sale of excess stockpile materials. With over $4 billion in excess materials now on hand, this balanced transaction program should be possible for the next 5 to 7 years at least. The committee recognizes that there are many variables—for example, the commodity market—which make a perfectly balanced transaction program unlikely, but the objective of a balanced program should still be a constraint on the Annual Material Plan.

The account will include receipts from the sale of excess materials and from the sale of materials being rotated. Receipts from the sale of excess materials remain in the account until appropriated for acquisitions, or until the start of the third fiscal year following the fiscal year in which the receipts were realized at which time they revert to

the Treasury as miscellaneous receipts; once appropriated they remain available until expended.

Receipts from the sale of rotated materials remain in the account until appropriated for the acquisition of replacement materials, and once appropriated they remain available for two years.

Section 11 provides for the establishment of advisory committees under the provisions of the Federal Advisory Committee Act to assist and advise on stockpile operations. The committee considers this provision necessary in order that industry representatives will be involved in stockpile matters. Activities of advisory committees will be reported in the periodic report required by Section 12.

Section 12 retains the existing requirement for a report to the Congress on stockpile operations every 6 months. The committee commends GSA on the quality and content of reports that have been submitted in the past. Reports under this bill are expected to contain the same information as has been provided in the past, and in addition, the following information will also be included:

(1) The reasons for any revised goal determinations made under the provisions of Section 4,

(2) Departures from the preferred form of stockpile transactions as provided for in Sections 7(b) and (c) as mentioned elsewhere in this report,

(3) A summary of barter transactions as encouraged by Section 7(d)

(4) A discussion of the status of the account as required by Section 12(b), and

(5) A review of the activities of advisory committees appointed pursuant to Section 11.

Section 13 retains the current provisions in the Stock Piling Act that permits the importation of any needed stockpile material notwithstanding any other provisions of law that may seek to limit such imports. The provision specifically provides that the President may not prohibit the import of any strategic material if (1) the country exporting the material is not a Communist-dominated country as listed in the general headnote 3(d) of the Tariff Schedules of the United States (19 U.S.C. 1202) and if (2) the importation of that same material is permitted from such Communist countries.

BUDGET ESTIMATE

The Congressional Budget Office has advised that this legislation has no direct budgetary impact. The report from the Congressional Budget Office follows:

CONGRESSIONAL BUDGET OFFICE,
U.S. CONGRESS,
Washington, D.C., April 11, 1978.

Hon. GARY HART,
Chairman, Subcommittee on Military Construction and Stockpiles, Committee on Armed Services, U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: In response to your request of March 29, 1978, the Congressional Budget Office has reviewed H.R. 4895, a bill to amend and revise the Strategic and Critical Materials Stockpiling

Act, as ordered reported by your Subcommittee. The bill would change the budget presentation of certain stockpile transactions but would have no net budget impact.

The bill provides that certain materials, the disposition of which has been authorized, may be used for barter to acquire stockpile materials or services incident to maintenance of the stockpile. Barter transactions are not recorded in the budget. This differs from the budget presentation under current law, where budget authority and outlays are associated with the acquisition of materials and services and offsetting receipts are associated with the disposition of materials.

The bill also creates a special account, the National Defense Stockpile Transaction Account, which would be designated to receive all proceeds from the disposition of stockpile materials. For a two year period, moneys in the account would be available, upon authorization and appropriation, for the acquisition of stockpile materials and the maintenance of the stockpile only. The special account has the effect of "earmarking" receipts from the disposition of materials for future stockpile acquisition and maintenance. The creation of the special account will not affect the total budget authority and outlays, or change any budget function or subfunction totals.

Sincerely,

ALICE M. RIVLIN, *Director.*

Senator HART. I will outline that for Senator Lugar's purposes. Section 1 of the policy bill—first of all, I want to reemphasize something that I said fairly often in my statement. That is my own strong feeling and that of the principal professional staff member of the Armed Services Committee assigned in this area, Mr. Jim Smith, who accompanies me here, that the only way we can modernize and reform stockpiles and satisfy a lot of the concerns expressed by Senator Proxmire and others was to separate commodity purchase from what the policy regarding stockpiling should be.

And that was a very fundamental methodological step, I think, on the part of us over the last 2 years. That met with a lot of grievance from people who wanted to buy this or sell that. But nevertheless it was done. It didn't work out for a variety of reasons. But it was an important step.

The first section provides a new title for the act, called the National Defense Stockpile Act, emphasizing once again that stockpiles are for national defense only.

The second section did, in fact, set forth the policy and the purposes of the act, and the key words were, in that section were "in times of national emergency."

The report also makes a point that economic stockpiles are not within the jurisdiction of the Armed Services Committee, and the national defense stockpile was designed only to protect and preserve the common defense and to deter an enemy who might otherwise be more inclined to provoke conflict.

Section 3 of the bill—and there are just a half dozen or so that I would outline—provides key definitions of exactly what the strategic critical materials are, a definition of a national emergency, and so on.

Section 4 gives authority to the President to determine stockpile requirements and provides, for the first time, congressional guidance as to how these determinations are to be made. And this is the arena in which Congress should exercise its appropriate oversight activities in looking at the policy, not specific commodities, not trying to affect the economies of various areas one way or the other by purchases or sales. That can be done, if need be done at all, in separate legislation having to do with the quantities of materials to be bought or sold, commodities legislation.

As I have already discussed with the chairman, the report on the legislation goes into the theory and the threat scenarios that drive the size of the stockpiles—the 3-year, 1½-war scenario—and discusses those at some length.

Section 5 constitutes the national defense stockpile by combining the three existing stockpiles into one for simplicity of management. I think that's another major innovation, if you will, and modernization.

And section 6 deals with the authorizing legislation required to support stockpiling operations, and so on and so forth.

There are other sections, but I think you can get from the report itself the fundamental provisions. Basically the bill offers standards and guidelines for structuring and managing both the size and the operations of the stockpile.

Senator LUGAR. As you understand the act, either present or the act as it will be amended by legislation you mentioned, is it your intent or those supporting such legislation to have almost a self-effecting

mechanism? By that I mean, with the outlines of stockpiling known, commodities or items would be purchased at some point without activity by the Congress or specific, affirmative action, in a legislative sense.

In other words, what I'm driving at, so that you might comment on this, is if we get into this legislation, will we be locked into purchasing items almost in a mandatory way so that this would be almost an entitlements program of sorts, as opposed to things that might be tailored and controlled?

Senator HART. On the contrary; first of all, the bill—the policy bill—proposes to completely substitute for what now is a fairly archaic 1939 act, which is the original legislation and a whole hodgepodge of amendments which over the years has attempted to tinker with this or that. So it's a complete reform, modernization, and replacement of existing laws.

Second, we have attempted to strike—and I think we have hopefully succeeded—to strike a balance between administrative prerogatives and legitimate congressional oversight; balancing them, hopefully, in such a way that we do not let the stockpile become a political football or an economic tool of some kind or another—pork barrel, if you will.

And that's a tough act to achieve, and I think we have done it as well as it can be done. We certainly took a lot of time in doing it. But it does contemplate that first of all that there would be congressional oversight of the policies by the administration. There would have to be testimony by administration officials, what the President intended to do; any acquisitions would be in the budget for whatever fiscal year and would go through the normal authorization and appropriation process.

Now, in the short or midterm, the bill contemplates that there will be a variety of operations to rearrange the stockpile within its present financial parameters. That is to say, there is sufficient material in the stockpile now that needs to be sold off because of changed circumstances to provide funds to acquire other needed materials.

And we think that rearrangement of the stockpile would take something like 3 years, 3 to 5 years, after which time there would be additional appropriations necessary to acquire new or additional commodities for the stockpile.

And during that 3- to 5-year interim period, the administration would have to report to appropriate committees of Congress, identify the quantities and commodities, and justify the decisions with regard to them in the normal routine oversight process. And, of course, after that, we would have the authorization and appropriation tools at our disposal, to either ratify or deny them.

Senator LUGAR. Essentially, during this 3- to 5-year period of time, do you see additional expenditures by the Federal Government? Do you believe that the reshuffling of volumes within the stockpile will finance the reshaping, essentially?

The reason I ask this question, is the thought that the stockpile might have been depleted by as much as $7 billion, according to one figure floating around. And clearly, if more money is to be expended, this does become a critical factor, at least on two grounds within the defense posture itself. First, a judgment would have to be made as to what money ought to be spent for stockpiling, as opposed to weapons system or other defense aspects.

Second, at a time when the United States is selling gold, for example; depleting a very valuable stockpile, the question will certainly be raised with regard to the acquisition of other items. All of this discussion is taking place in a time of attrition for our economy in terms of our budget.

In your judgment, though, this doesn't have budgetary implications over a 3- to a 5-year period. Is it merely a reshuffling situation?

Senator HART. Based upon 2 years of hearings which are, of course, available, we would encourage the staff and members of the committee to review. That is the judgment of the Armed Services Committee.

The CHAIRMAN. Would the Senator yield on this point?

The interesting thing is that, obviously, it could have favorable budgetary implications. If we dispose of a part of the stockpile as being unnecessary—if the Congress as a whole and the President decide that the stockpile is unnecessarily large because the scenarios are totally unrealistic, then it would be possible to sell off part of the stockpile with a favorable impact on the budget.

Senator HART. No question about it. We could dispose of the stockpile today and help our budgetary situation substantially.

The question is do you want to do that? And the further question, two other issues I would mention, is whether you want 535 people managing the stockpile? Obviously, we've got to oversee it. Obviously, our view should be made known.

But there comes a point when, if you have 535 hands in there saying "no I think we ought to sell this much gold, no, we ought to buy this much cadmium," or something else, I think we all know what kind of broth we are going to get.

I would also point out that as of yesterday, the administration announced plans to implement a substantially beefed up civil defense program, to contemplate some sort of improved suvivability of the civilian population and other infrastructure during, presumably, a nuclear exchange.

If we are going to be in the business of the Congress reducing the size of the stockpile, we're going to be doing it in the heat of another policy issue that tends exactly the other way.

Senator SCHMITT. Thank you, Mr. Chairman, and thank you, Senator Hart, for your testimony. I agree completely that you must separate policy from purchases. However, I'm very disappointed in the implications of some of your remarks and the Chairman's—that those of us, and not just myself, but many others from copper-producing States are acting completely with parochial interests in mind.

Senator HART. I'm sorry, Senator. No, I didn't say that.

Senator SCHMITT. Well, it may have been implied. And I must admit to a great deal of concern about my interest in the local economy of New Mexico and my home county, Grant County.

I am sure other Senators from copper-producing States are similarly concerned.

However, we also, it turns out, are maybe more knowledgeable about the role that copper plays in our overall strategic situation, not just defense, but economic as well, and also aware that you can't start and stop a copper production capacity. And there is a price that we sometimes may have to pay for that in a very artificial economic situation that we have allowed to develop in the world with respect to copper. And it is not only artificial; it's extraordinarily unstable as we are

becoming more and more dependent on the imports of cheap copper from nations abroad which may or may not be able to continue to export that material to us, depending on various situations in Africa and South America, how they develop.

So our concern, really, is not only for the parochial interests, which I think are very appropriately motivated, the welfare, at least over the short term of the economy of local areas, and also, a very deep concern about what are we going to do for copper in the long term.

And trading stockpile items is only a short term mitigation of that problem. We can't forever trade tin for copper and solve the present adverse situation that exists within the copper economy.

That is something that's going to be determined by other policy considerations, having little or nothing to do with the development of our stockpile.

The short term desire to purchase copper by selling tin is only to buy some time in order to see if there is some way that we can protect an industry that is vital not only to our economies, but vital to our national economy.

We can't afford not to have a copper production industry in this country. We just literally can't.

It's not only a defense question; it's a question of foreign policy and our total economy, and that goes to other portions of the stockpiling issue.

Now I agree and I think we must define what our stockpile policy is, but for the Congress to say it has no expertise in this area and defer completely to the executive branch in decisions on what is to be purchased and what is to be traded, I think would be a terrible mistake.

We are elected in order to represent these local areas, as well as the national interest, and they are not necessarily incompatible. I don't think they ever can be incompatible.

I believe that very strongly.

Senator HART. Let me respond to what the Senator said. First of all, I did not say, and I certainly did not intend to say that those who represent the copper-producing States were totally and exclusively motivated by parochial concerns.

That wasn't the thrust of my remarks.

Second, I am from a mining State. I think over the last century, at least as big a mining State as any other. We have had copper production in the State of Colorado. We've had just as difficult a time there as anyone else.

I personally am mindful of those problems and not unconcerned.

Third, we had a vehicle, an appropriate vehicle in dealing with the problem. It was not a policy bill. It was a commodities bill, and that commodities bill had a copper purchase in it. And it was because of the parliamentary situation on the Senate floor and in the House that pressure was brought to bear to put the copper purchase on the policy bill. It was an accident of time and place having to do with the parliamentary situation. I resisted it, and I said, "let's fight the copper purchase question and tin exchange and all the rest of it out on the commodity bill." I couldn't get that kind of agreement.

The administration agreed to a copper buy, and the commodity was in accordance with the administration's policies and priorities and was endorsed by the administration.

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I'm here to testify on the policy bill this morning, and I'm going to continue to resist the use of that bill, the reform modernization piece of legislation, to adjust or accommodate any particular industry.

We had copper, we had tin, we had diamonds, we had silver, we had zinc, we had cobalt, we had a raft of commodities in a separate bill. And all I'm saying is if you open that door, you're in a lot of trouble. And you don't just say, I'm going to open it for the copper people and for no one else. It doesn't work that way.

Senator SCHMITT. Senator, you are correct, and my concerns are very similar to yours about policy and purchase. However, we are in a very critical situation, and sometimes, we need to take extraordinary steps in order to solve the problems.

The copper situation is becoming critical in this country. There may be other stockpile situations that are becoming critical and we are going to have to learn to be flexible in order to solve these particular problems.

I would prefer not to have copper or any other commodity on our policy bill. That may or may not be possible to do, depending on how parliamentary and other situations develop, and I understand what you're saying.

Finally, Mr. Chairman, I really think that we have essentially dropped our soul on the question of continually going back to the defense policy relative to stockpiling.

Clearly, stockpiles are important to our national defense and the various acts tend to focus on that. But from the standpoint of this committees activities dealing with the economy of this country, I think we must realize that commonly, the though of a short-war scenario is probably the most unlikely scenario for a future conflict, and that the aims of foreign policy, the aims of other nations as potential adversaries, are going to be achieved, if they're ever achieved by nonwar-like acts.

They will try to beat us by economic and foreign policy activities, initially, and not by war if they can possibly avoid it.

Now I don't think we ought to get into a discussion of the various war scenarios. All we have to do is look at Africa and what the Soviet Union is doing with respect to attempts to deny the Western world—the United States, in particular—of a variety of strategic commodities.

And they are so far being extraordinarily successful on that. At least their steps forward have been far more numerous than ours. And I think that's what we have to be concerned about.

With respect to stockpile discussions, with respect to development of our own natural resources, is that we may reach a point where these resources can be denied to us, not through war-like acts, but through just basic political acts, foreign policy acts. And that's where I think this committee really has to be concerned, because that's a threat to our overall economy, which, in the long term, is a threat to our national security.

The CHAIRMAN. That's an excellent point.

We do have a witness coming up to testify on that precise point.

Senator Hart, I want to thank you very, very much for your excellent testimony.

Senator HART. Thank you. Mr. Chairman.

The CHAIRMAN. Incidentally, we'd be delighted to have you stay here and question the witnesses.

Senator HART. Thank you very much. I will try to return.

The CHAIRMAN. It would probably improve the quality of our hearings.

The CHAIRMAN. Our next witnesses are Dr. Charles Maurice and Dr. Philip Gramm, Dr. Maurice is professor of economics and head of the department of economics at Texas A. & M. University. He joined the University in 1967 and has been a consultant to the U.S. Government in energy matters and resource conservation. He is involved in consultation with the Ontario Ministry of Natural Resources. He has written on minerals, economics, industrial organizations, and microeconomic theory.

Dr. Philip Gramm is professor of economics at Texas A. & M. University. He joined the faculty there in 1967. He's been a consultant to the U.S. Department of HEW, and Texas Hospital Association. He is a consultant to the Ontario Ministry of Natural Resources and has written on environment, energy, and macroeconomics. And I'm happy to announce he is currently the Congressman-elect from the 6th district of Texas. So, he is especially welcomed to those of us here who are Members of Congress, too.

We understand you took Tiger Teague's place?

Dr. GRAMM. I'm going to try to fill that position. I won't say I took his place.

The CHAIRMAN. You have big shoes to fill, but from all indications, you're extremely well qualified.

STATEMENTS OF DR. S. CHARLES MAURICE, PROFESSOR OF ECONOMICS AND HEAD OF THE DEPARTMENT OF ECONOMICS, TEXAS A. & M. UNIVERSITY, AND DR. W. PHILIP GRAMM, PROFESSOR OF ECONOMICS, TEXAS A. & M. UNIVERSITY

The CHAIRMAN. We're delighted to have you, gentlemen.

Dr. Gramm, will you start off, and then we will go to Dr. Maurice.

Dr. GRAMM. Mr. Chairman, we're delighted to have an opportunity to be here today because I think the research that we have done over the last 4 years is very relevant to the matter being discussed here.

It has to do with the cost of stockpiling, the economic feasibility of the process of providing resources for future use, no matter whether they are used for economic purposes or for the military.

It has to do with an assessment of an actual stockpiling policy undertaken by our country at the beginning of the century.

I think the work we have done produces some points that are relevant to the discussion here. No. 1, it points out very clearly that the historic stockpiling policy has been very expensive to the American economy. It also points out that the option of simply holding back production of resources in hopes of economic gains, by and large, has not historically existed. And I think it also points out that there are very real costs involved in engaging in stockpiling.

We heard a comment made by Senator Hart today that we are not just pouring resources down a rathole, but after all, we have got oil down that rathole. The idea being that somehow perhaps these resources are going to appreciate. I think we have actual data in the

American experience showing that, in fact, historically, stockpile of resources have not appreciated commensurate with the opportunity for holding those resources.

What I would like to do very briefly before I turn over our discussion to Dr. Maurice is to present a thumbnail sketch of our study and the methodology of his findings. I would like to give a very brief history of what we have done and a summary of what those conclusions have been.

We were asked by the National Science Foundation to assess the feasibility back during the Arab embargo period of the Arabs and other major producing states of simply exercising the option of leaving the petroleum in the ground.

That was very hotly discussed and debated during those days of the Arab embargo as being a realistic economic option.

So what we did, basically, was to go out and collect data on resources, depletable resources in the 20th century, and we assessed the feasibility of the short-term and the long-term stockpiling of resources for economic gain.

We asked could a nation or a firm or an individual have made money during any period in the 20th century by holding back production of resources for the hope of gaining by the appreciation of those resources?

And I think our results are rather startling to those who basically don't appreciate the opportunity costs of investing in one resource rather than another.

I think they are rather startling to those who don't understand compound interest, for example. And just to throw out one example which, I think, makes the point very clearly.

In 1900 gold was a bargain, $20.67 an ounce. If you had bought an ounce of gold for $20.67 an ounce in 1900, that gold today would be worth almost $250. And one who simply looked at those figures could have said one could have gotten rich by buying gold in 1900.

But the point that is missed in that discussion is that 78 years have elapsed and if one had bought a triple A corporate bond in 1900 for $20.67, that bond would have been worth $593.73.

If one had invested that $20.67 in American industry and obtained the average rate of return before taxes in manufacturing, that investment would have been worth $1,025,600 today.

The CHAIRMAN. Say that again. [Laughter.] If one had invested $20?

Dr. GRAMM. $20.67 at the before-tax rate of return in manufacturing. Now we've got a problem here in that we have to take the data that exist for the last 25 years on that rate of return and project it backwards because we cannot calculate the figure prior to the Second World War.

But the point is that for private industry to have made money by stockpiling resources would have required that those resources yield rates of returns commensurate to what was being made in ongoing businesses. And the before-tax rate of return of manufacturing in the last quarter century has ranged around 18 percent.

And 18 percent compounded annually is an extremely powerful figure.

You may have seen references to suits filed about a fence being torn down during the Revolutionary War and a church, possibly for publicity purposes, suing the British Government to replace the fence and to pay them the lost opportunity cost in the interim.

The suit was for over $1 billion, whereas, the fence was worth only $2.50.

The point is that interest is a very powerful thing. That's why our society is so blessed by having economic growth.

In any case, I think that makes the point that there is a very real cost involved in resource stockpiling. We looked at the principal American experience with resource stockpiling, and that principal experience had to do with the Teapot Dome scandal.

We found that no matter what his motives may have been, Secretary Fall claimed that his motives were that resources were being wasted by impounding them, and that the public would be better served by selling those resources. This was Secretary Fall's principal defense in court, when he had charges brought against him for bribery.

Writers of the day scoffed at that argument. He may have been guilty of bribery, but his idea was one of a public benefactor because the American people, if one takes a reasonable discount rate to determine the alternative costs that were available, had better options available for investing the public's money rather than in the Teapot Dome oil reserves. We found, using an 8-percent interest rate, that despite the massive increase in the cost of petroleum during the Arab embargo period when this study was done in 1975, that the American people lost almost $12 billion in terms of a simple alternative of investing those funds and possibly buying back public debt by holding crude petroleum reserves.

So in summary, before I turn the discussion over to Dr. Maurice, who will go through our methodology and the definition that we are using of alternative costs, we know a lot about resource conservation. You listen to folks talk about it, you think that we're the first generation that's ever thought about it. That's not true.

At the turn of the century, it was the big vogue in America of conserving our resources for the future.

We have looked at this conservation simply from the point of view of costs and benefits in terms of appreciation. What we say here today and what Dr. Maurice will present is not an argument that we shouldn't have military stockpiles of resources, but it is an argument that we need to take the cost of that stockpiling into account.

In general, we have found that stockpiling of resources has been a very poor policy economically. It has been a very expensive policy economically. And certainly, it has not paid its way. But there would have to be very strong justification for resource stockpiling that go beyond the simple argument that we're not pouring resources down a rathole because the resources are still in that rathole.

The problem is there are alternative things that can be done with the public's money. High on the list would be giving the public back its money.

So with that, let me let Dr. Maurice go through a very short summary of our work and his conclusion and his methodology. Then we would be very happy to answer questions.

The CHAIRMAN. Dr. Maurice, go ahead.

Dr. MAURICE. Mr. Chairman, I will expound on the theory and evidence of stockpiling in my summary.

I will begin with a brief oral summary of our prepared statement, and I will begin with the theory explaining why a firm would hold back extraction or stockpile, or reduce the rate of extraction substantially.

This will apply to Government, as you will see.

If someone owns a sterile asset worth $1 and the relevant rate of interest is 10 percent, that person would hold the asset until the next period, if the price of the asset is expected to be above $1.10. If the price expected in the next period is less than $1.10, the asset should be sold because the value of the dollar invested now at the market rate of interest will be $1.10 in that next period.

In general, a business would withhold the sale of an asset, including a mineral, if it expected the value of the asset to increase at a rate greater than the relevant rate of discount. Otherwise business would maximize wealth by selling the asset and investing the return.

This analysis holds whether we are discussing the decision to withhold an entire deposit or to increase or reduce the rate of extraction.

Now, the above theory, as I mentioned, applies not only to businesses which are interested in profits, but to the Government as well.

I would like to explain this. In the first place, whatever Government wishes to do and whatever the motivation, the cost to society of carrying out the decision must be considered or taken into account in making these decisions.

For example, increasing welfare benefits has a cost to society even though the increase in benefits is not motivated purely on economic grounds.

The same thing applies to increases in the military budget or those of any other Government agencies. Even though increases in the military budget may be carried out for other than purely economic reasons, the total cost must be considered.

This cost is the opportunity cost of the project. The same type of cost consideration has to apply to natural resource stockpiling or conservation, even though holding these resources in the ground, rather than extracting them involves no out-of-pocket cost to the Government treasury.

And even though the delayed extraction or stockpiling is ordered from purely noneconomic motivations, no matter what the motivation, economic or otherwise, the decision to hold resources involves opportunity cost and these costs may be considerable.

In fact, we show that they would have been considerable in the past.

If the value of the resources increases less rapidly than the rate at which the investment of the value of the resource increases, society loses economically by withholding extraction or stockpiling.

That is, the value of the resource must increase at a rate greater than the relevant rate of interest.

The difference between the rate of increase of the value of the reserve and the interest rate is the cost to society of withholding the extraction or stockpiling.

Of course, if the value of the resource stockpiled grows at a more rapid rate than the rate of interest over the time period, society is, in fact, better off.

If these circumstances occur, society benefits economically; it is an empirical question as to which is the case.

In conservation decisions or stockpiling decisions, Government must recognize that the true cost of withholding extraction of resources is as real a cost as the price of goods purchased, even when the motivation for conservation is noneconomic. This real cost is all too frequently neglected in the conservation literature and in discussions of the desirability of resource stockpiling.

The key variable in the process of analyzing the decision to delay extraction is the break-even price, which is the value in some future year that could be obtained from investing the price of a unit of the resource in the present year at the relevant rate of interest.

Even though the motive for stockpiling is for reasons entirely divorced from economic interest, the break-even price gives a good indication of the cost of stockpiling.

In any year, the ratio of the break-even price to the actual price indicates whether or not society does, or does not, benefit economically from the stockpiling.

I present some results of our study in my prepared testimony and Dr. Gramm has mentioned some of them. I will simply summarize the short- and long-term results.

The results point out some deficiency of long-term resource stockpiling for economic purposes. Clearly, during the 20th century, resource stockpiling over a long period of time has not been a viable alternative to investment at the AAA corporate bond rate.

When higher effective rates are employed, the results are even more overwhelming than those that were obtained with AAA corporate bond rates.

This is not to say that resource stockpiling with other economic motives may not have been desirable during the 20th century. It does, however, indicate, the extremely high economic costs that were incurred by the action.

Clearly, such costs must be weighed against noneconomic advantages in order to determine the optimality of the decision.

The historical feasibility of short-term production holdbacks or stockpiling over periods from 1 to 5 years have also been calculated.

Using all of the 14 resources and the AAA bond rate, only 34 percent of the time during the 20th century would firms have gained by holding back production from 1 year to the next. That would have meant an economic loss to society of stockpiling 66 percent of the time. The results are similar for the two other interest rates used.

When the before-tax rate of return in manufacturing is employed as a discount rate, in only 11 percent of the time would production holdbacks or stockpiling from 1 year to the next have resulted in an economic advantage for the decisionmaker.

That is, in 89 percent of the time during the years under consideration, there would have been losses or additional costs of stockpiling.

I would like to reemphasize in closing that governmental holdbacks, both longterm and short term, can certainly be ordered for reasons other than economic.

All we wish to show here is a method for estimating the social costs of such activity and some historical evidence of such costs.

These costs should be taken into consideration in making stockpiling decisions. Just judging by historical evidence, stockpiling has been costly in terms of lost opportunities.

I would like in closing to summarize two paragraphs in the preface to a monograph we did on the subject for the International Institute of Economic Research based in the University of California at Los Angeles.

This preface, or introduction, was by Prof. Hendrik Houthakker of Harvard University.

Professor Houthakker says, after summarizing the study:

> The burden is now on those who consider government action in stockpiling indispensible. They will have to show how laws and regulations administered and enforced by a largely unaccountable bureaucracy can do a better job than the market. Since most members of the latter group have only the vaguest notion of the specifics of optimum allocation over time, they may find it difficult to make the case.

And more germane to this committee, "a second implication is that government actions, such as the establishment of a naval petroleum reserve many years ago need be reviewed from time to time."

Only thus will we be able to learn from past errors and to minimize Government waste.

That concludes my statement, sir.

The CHAIRMAN. Gentlemen, thank you very, very much. This is extraordinarily useful information.

I can't tell you how grateful I am for your testimony, being it is so timely. As you said, Mr. Gramm, you pointed out, Congressman Gramm, that the preceding witness, Mr. Hart, indicated that after all, when you're putting this money into a stockpile, it's not as if you're just throwing it down a rathole. You are putting it into something that is capable of being sold at a later time, has economic value as well as a strategic value, and you point out, if you are realistic about it, and recognize the opportunity costs, you are a loser about 89 percent of the time.

Dr. MAURICE. Using the return on manufacturing, yes.

Dr. GRAMM. That's a loser in just simply holding it 1 year in the 76 years we studied. When you move beyond 1 year, the probability of losing gets higher and higher, and once you have passed, I think it was the 3-year period, using the before-tax rate of return on manufacturing, there were no winners.

The CHAIRMAN. No winners.

Dr. MAURICE. After 3 years, yes, sir.

The CHAIRMAN. Well, now, you gave a dramatic demonstration on gold. We welcome that because we're all aware of the skyrocketing price of gold. If you had put money into gold in 1900, you'd be a big loser.

Gold, however, is not a strategic material. How about aluminum? Can you summarize the finding in that case? That is a strategic material.

Dr. GRAMM. We basically have the following results: You could have bought aluminum at $32.72 in 1900. You could have sold it in 1975 when this study was completed at $39.80.

If you had invested the 32.72 in AAA corporate bonds, it would have been worth $933.90. If you had invested it at the Consumer Price Index plus 2 percent, it would have been $950.

The CPI plus 3 percent, it would have been $1,941. If you could have obtained the before-tax rate of return on manufacturing, it would have been worth over $1,600,000.

The CHAIRMAN. Now, your section on short-run conservation has particular relevance to arguments we heard on several occasions during the last session. Proponents of a proposal to purchase a large amount of copper for the stockpiling argue now is the best time to purchase because the price is depressed. How would you respond to that argument?

Dr. GRAMM. Well, I think it's important to recognize that what we are saying really has more relevance in the long term, and basically says that holding sterile assets in the long term is a costly matter.

In the short term, if one believed that there was going to be a dramatic upturn in the cost of copper, one might argue, even using historical data that for 1, 2, or possibly 3 years, if one possessed a conviction that price was going to rise substantially, it might be a good move economically.

The CHAIRMAN. Isn't it also true that there's no way you can have that conviction but on the basis of all economic experience? There's no way you can predict it? If you could, you could get awfully rich.

Dr. GRAMM. I guess one of the things——

The CHAIRMAN. Especially in the short run.

Dr. GRAMM. What Dr. Maurice and I have been struggling with is that despite all the discussion here in Washington about resource depletion, despite all the books that are being written about limited Planet Earth and our consulting with the Canadian Government, their big problem is they have the most mammoth stockpile of resources, unsold, unmarketable, in the history of mankind. And these are principally resources like zinc and copper.

And that's just primarily why the market is so depressed. So the burden of proof would certainly have to be on one who would argue that buying it now would be a good investment.

And I point out, Mr. Chairman, that private industry has people who are experts in the buying and selling of resources. And I'm not trying to zero in on copper, I don't know that there is any copper produced in Texas, but my point is this: If copper is really underpriced, why aren't private speculators buying copper long, which would be a process whereby price would be driven up?

I think that's a question we have always got to remember when government is going to get into the speculation business. I just don't believe that we can outguess the marketplace.

The CHAIRMAN. Let me ask you just one more question and then I will yield to the other members of the committee.

The Defense Production Act currently has a provision requiring interest payments from the stockpile agency to the U.S. Treasury based on the current market value of the materials in the DPA inventory. The purpose of this provision is to highlight the cost of holding this inventory and to speed the disposal of unnecessary materials. I proposed a similar provision to cover the rest of the strategic stockpile. What do you think of that idea? At 8 percent, this payment would have amounted to nearly $700 million in this last fiscal year.

In other words, this provision would require that we make an appropriation to cover it, recognizing, of course, that we still might very

well do what we should do in some cases where we obviously have the material that is strategic, and is of great defense importance so we are reminded of the fact that this is a real cost.

Dr. GRAMM. I think it's a good idea and I think anything we can do to focus public attention on the fact that opportunity costs exist, are good, and I think it gives the public a good indication as to what the actual cost of these policies are.

The CHAIRMAN. Isn't it also realistic to recognize that when we invest several billion dollars in a sterile asset, sterilized in the process to keep it idle, that we are, because of our fiscal situation in this country, we are, in effect, imposing a cost on the American people of the interest on that amount of asset we just keep idle? Isn't that right?

Dr. GRAMM. Not only is that the case, but all of these schemes to transfer resources to the future, at least, if history is any guide to the future—and I believe it's the only guide we have—all of these schemes are primarily schemes that transfer from people who are poor to people who are relatively richer.

When we tied up petroleum reserves at the turn of the century, the per capita income of the United States was substantially lower than it is today.

So we imposed a burden on those people to transfer—assuming that we exploit the resources—to transfer to us when our per capita income is over a dozen times higher than theirs. So any time you get to these intertemporal transfers in a growing society, you run into those problems of equity.

The CHAIRMAN. Senator Lugar.

Senator LUGAR. Mr. Chairman, Dr. Gramm, Dr. Maurice, I am intrigued by the fact that it seems to me you make a case that is overwhelming against having any reserves at all on economic grounds.

It seems to be the problem that we have in these hearings, although the definition of turf as to who has responsibility, is divided simply from a strategic and military standpoint or a national defense standpoint, what resources might not be available and over what period of time?

In other words, it seems to me to come back to a question which is not purely an economic one although it always is in a sense, as opposed to opportunity, calls for defense expenditures of other types, if one were to look at it in strictly a different situation.

If you could, either or both of you, focus on that problem for a moment, what are the opportunity costs if we were to take a look at strategic stockpiles as opposed to, for instance, development of additional weapons systems?

Dr. GRAMM. I guess it would probably be best for both of us to respond to that question. I think what we are saying is basically this: It's important in setting our policy of stockpiling that we not deceive ourselves concerning the actual cost of that policy.

We do a lot of things in Government that don't pay. Some of them are good; some of them probably bad. The point that we're trying to make here today is that if we are going to make rational decisions, we need to know what the cost of the programs are in order to assess our alternatives.

And I think that what you are saying, Senator, is that we should consider our alternatives. If it's going to cost us x amount to hold

resources in the ground, then whether or not we should do that depends on whether or not that x amount can be spent more efficiently to achieve the same goal or other alternative goals with the same cost incurred in resource stockpiling.

We are certainly not trying here today as economists to say that there are no legitimate reasons to stockpile a resource. That's a decision that you as individuals who are working in the public trust have got to make, and you have got to take not only economic but military factors into account.

What we are saying is that there is very real cost involved. If you were to make the right decisions that need to be taken into account, that's the point.

I think what our results show is that the costs are high, and therefore, the returns have got to be pretty big if you are going to justify this process.

Dr. MAURICE. Senator, may I address that? I have tried to make it clear in my statement that I wasn't talking about anything other than the cost. It seems to me that something like Senator Proxmire's adding on this interest to the payment can make comparison between, say, stockpiling or withholding resources comparable to building an aircraft carrier or something on that order, and it would make comparing these costs of withholding resources with other alternatives easier, because it brings out the true cost.

We weren't trying to say that some of these things were not good, and I tried to get that across in the testimony.

Senator LUGAR. Well, allow me to follow up on that, for a moment because I think the chairman's idea is intriguing. Suppose that the lost opportunity costs amount to $700 million, which was suggested, or maybe some other substantial figure. At least it occurs to me just applying commonsense at the moment, that the initial reaction, I think, of the press, the public, everybody else, looking at this would be a sense of, at least surprise, and possibly one of outrage.

In other words, I would guess that you're right. If your theoretical premises prove to be accurate, this would seem to be a fair estimate of cost to our Nation.

What do you gentlemen think when you look at this as economists and as people involved in public policy? What is likely to be the reaction if, in fact, Senator Proxmire's idea sails through both Houses and we begin to apply $700 or $800 million cost annually to withholding all these stockpiles?

It appears to me that the public is going to want to see the stockpiles decreased and the opportunity costs change rather dramatically in this respect.

Dr. GRAMM. Well, I think your question really goes out of the sphere of discussion that we as economists would be competent to comment on.

I think the fact that the press and the people in general would find this a peculiar idea is to some extent an indication of the fact that the Government has done historically a very poor job in taking these things into account in the past.

We have taken actions that, unless they incur direct cost outlays, have from the point of view of the man in the street been free, so maybe it's late to try to educate the fellow in the street, but I think it would be good policy.

Senator LUGAR. I don't disagree. I'm raising these questions almost rhetorically to obtain some of the answers that you are providing because it appears to me that clearly the idea of opportunity costs weren't altogether foreign. The budget Congress now promulgates each year without the slightest evidence that the opportunity costs of this program, or many others for that matter——

Let me ask the question from another standpoint. We were over in the Agriculture Committee recently and we were talking about the stockpiling of various commodities. The groups there are still fairly even in terms of how they approach the problem.

For example, there would be some agricultural groups in our society that would suggest to the Agriculture Committee that it would be helpful in terms of staving off famine in this country, indeed, famine throughout the world, if we had stockpiling of many goods.

They would also indicate that that would enhance farm income temporarily, and take some commodities off the market when prices became depressed.

An equally sophisticated group of people would say, however, that whenever the Federal Government has gotten involved in stockpiling of agricultural resources, it has, as a rule, depressed the prices for farmers, in the short run, and immediate run, even long run if it persisted, and it might even do that abroad, likewise.

So, as a result, there has been a great deal of tension. What comments do you have about the types of things that presently are in the military stockpile? Why haven't the same tensions been there in those sorts of markets among people who have resisted stockpiling as opposed to those that appear to want to stockpile more?

Mr. GRAMM. I'm just speculating on the answer to that, because that's not really an economic question. I think the reason there's been less tension and less controversy is that the American people historically have tended to be more willing to spend money for defense purposes, no matter how vaguely that was defined, than for the purposes of price supports or social programs.

And I think that's why the tensions have not occurred.

Senator LUGAR. So, essentially, you are saying that, by and large, farm people and farm commodities have suffered in comparison because the rest of these commodities have been under the umbrella of defense.

Mr. GRAMM. Of course, agriculture has used the defense argument, I believe. It's been a long time since I have looked into existing tariff policy, but we have protected agricultural products under the national defense argument, and getting under that umbrella obviously has some tremendous advantages.

Senator LUGAR. I appreciate your testimony very much.

The CHAIRMAN. Thank you.

Mr. Schmitt?

Senator SCHMITT. Thank you.

Senator Lugar, I think your questions are to the point. I think it's also very important that we have an economist now of your stature and obvious background and experience in the Congress. It will be very useful. I think you will find, however, that you are going to have broaden now and try to look at the other aspects of public policy rather than just pure economic analysis, which I think is extremely valuable.

It's one of the variables that we have to look at, and for many commodities it is probably the essential area. But I would like to draw your attention to a method of analysis that we used in order to evaluate factors other than costs in the space program with which I was associated with for some time.

And that is so-called single point failure analysis, where you try to see whether there is a particular failure in your system that will kill you, applying that, and if there is, you try to get rid of it. And you pay a considerable amount of money to get rid of that single point failure.

I think the same thing can be looked at in terms of various commodities and particularly strategic mineral resources, which ones, if the supply disappeared, would be of critical, damaging impact to the economy, to our manufacturing capability, to our defense capability, whatever capabilities you care to define.

There probably are few such commodities that we presently use in this country that are imported, for the most part, where if that supply suddenly was withdrawn, we would be in very, very serious trouble in a relatively short period of time, a timeframe that is small compared to the time in order to come in with production domestically or to find an alternative material, alternative technology, or alternative source from some other part of the world.

So I think that has to now be applied to what you have done by comparing those commodities that are single point failures with those with which your analysis is clearly the dominant factor. Then maybe we can come to the right decision of what our strategic stockpile policy should be.

I will point out as a case an immediate point, and that is over oil. We are importing 50 percent of our petroleum, and significant percentages of that, like 20 or 30 percent, come from single points in this world which are extraordinarily vulnerable to political, military, or economic disaster. Then we have a single point failure and pure economic analysis relative to stockpile investment in our own productive capacity can't be the sole determining factor.

In fact, it becomes a minor factor in that kind of situation over a short-term period.

Copper is another potentially similar example because, as I am sure you are aware, there is not a natural marketplace for copper. Zaire, particularly, is selling copper for low cost. It is a way in which they enhance their cash flow as a nation. Without that, Zaire would be in worse economic trouble than they are today. We hopefully understand that, but it still makes it extraordinarily difficult to maintain a productive capacity for copper in this country.

Over the short term one solution has been to balance, for instance, copper against the sales of tin. I don't think that's a long-term solution, but I think we do have to realize that occasionally the marketplace gets distorted. So, again, the kind of analysis that you have given us is not the sole determining, or cannot be the sole determining, factor.

It's more of a comment than a question, but I would appreciate your comment on my comment.

Mr. GRAMM. First of all, I was asked, along with Dr. Maurice, to come in and present the economics. And that's what we have done.

I think each of us as a citizen has a more general viewpoint than just the economics, but I think first of all we tried to do what I perceived Senator Proxmire, as chairman of the committee, had asked us to do, and that is to present an analysis of those things which we possess some expertise in.

And so I suspect that when one is siting on the other side of the table that there are broader interests, but I don't think——

Senator SCHMITT. We're just trying to make sure that Senator Proxmire doesn't use your analysis in areas where we might not agree with his use. [Laughter.]

Mr. GRAMM. My response to that would be that the analysis is valid. I think what it does is puts the burden on you and on others who want stockpile policy, who want stockpile resources. I think what it says is—not that you're not correct—but it just says that you have got to justify a cost that is substantially higher than just the acquisition costs.

That's not to say that we throw out national defense. That's not to say that we don't or that we're not willing to pay substantial amounts for assistance in the space program which means life or death to the people that we are paying to be astronauts.

But what it does say is that we need to be aware of these costs and the burden of spending the public's money; the burden of justifying it needs to be on those who want to spend it.

In the case of stockpiling, we need to take into account the full cost of that policy. A perfect example, in terms of oil where we are very vulnerable, is that 50 percent of our production now is imported, much of it coming from highly unstable sources.

But I think taking into account the cost of stockpiling might induce us to have some stockpiles, but also to spend resources on our alternatives, such as expanding the degree to which we drill off the east and west coasts of the United States, amending the strip mining law, deregulating the price of new natural gas.

I think that an accounting of the full cost is the only method by which we are ever going to have a chance to let logic and analysis displace just strictly political rhetoric.

Senator SCHMITT. I hope you're correct, and I hope we can add your voice to that kind of analogy.

Mr. GRAMM. I was just following up on your comment about how my expertise is welcomed here. I would welcome your help on committee. [Laughter.]

The CHAIRMAN. Unfortunately, we can't help you much here in the Senate. I wish we could. I wish you were over here. We could certainly use you.

Senator SCHMITT. I think it is very important that all witnesses, they are asked to comment in their area of expertise, and they realize, though, as we start out questioning, we come from different points. And we're trying to adjust that testimony to fit generally a broader picture based on our own prejudices or biases or what we think is an objective view of the problem. And that's all these questions—particular those of Senator Lugar and myself—are designed to do, to make sure that to the extent we can, that this very persuasive economic argument on a theoretical basis is not taken completely out of context

in every area, and I don't think it will be. It is, as I say, the critical factor in areas where there is not a single point commodity problem where withdrawal of a commodity can, in fact, cause serious obstruction.

In other areas, however, it will be subordinate to other factors, some of them political, some of the facts that we've been unable to get the Congress to do the things, for example.

All the administration that you suggested probably should be done with respect to mitigating our dependency on foreign imports of oil. As long as we don't do the right things we may have to pay another price, and that price may be the kind of price that you have described, is inherent in stockpiling.

Mr. MAURICE. Senator, may I just add this. I do have a bit of expertise in economic history, and I think we can go back and show many, many instances when a really crucial material that was so critical militarily and otherwise was made obsolete in times of emergency. Several cases just come to mind, but I can just mention rubber. When we were about to enter World War II, not being able to get raw rubber, an eminent chemist presented a paper proving beyond a doubt that it was impossible to make synthetic rubber at any reasonable price. And du Pont was doing it within 1 year and selling it for less than regular rubber.

Technology does have a way of making some of these resources obsolete.

Senator SCHMITT. No question about it, particularly in times of obvious and visible crisis. But as I indicated earlier, our crises are not so obvious and visible today. At times such as—it certainly is not an obvious and visible shortage of petroleum to anybody in this country that drives an automobile or otherwise.

But it is clear there is a potential crisis, and it's in that kind of situation we have to view the questions of stockpiling or which I prefer also the development of our own resources in this area and most other areas.

Thank you, Mr. Chairman. And thank you, gentlemen, for your very, very enlightened talk.

The CHAIRMAN. Thank you. We're very much in your debt for excellent testimony. And congratulations on your election to the House. I think it's a good thing for the country.

Now, we have some questions for you, Dr. Gramm and Dr. Maurice, for the record. We hope you will get a chance to answer them in writing.

Mr. MAURICE. Yes.

[The following was ordered inserted in the record:]

Dr. Chas. Maurice
Dr. Philip Gramm
Defense Production
PW/jr

November 17, 1978

Dr. S. Charles Maurice and
Dr. W. Philip Gramm
Economics Department
Texas A & M University
College Station, Texas 77843

Dear Dr. Maurice and Dr. Gramm:

Thank you for your excellent testimony on the opportunity costs of stockpiling. As an addition to the hearing record, the Committee would appreciate written responses to two additional questions:

(1) In your monograph, you mention the possibility that unforeseen technological change will make the conserved resource obsolete. Your example of whale oil is particularly interesting since at one point the U. S. government stockpiled over 23 million pounds of sperm oil. More to the immediate point, the risk of obsolescence threatens the value of stockpiled materials. Would you address this point?

Doesn't the potential cost of obsolescence increase with the size of a stockpile?

(2) There is another hidden cost of stockpiling which is generally ignored. The mere existence of a large stockpile often effects the economic decisions of materials producers and consumers. For instance, consumers may hold suboptimal levels of materials inventories or producers may limit production capacity in anticipation of stockpile releases. This effect seems to have contributed to the current tin shortage. Conversely, stockpile acquisitions may cause over-expansion of production capacity and lead to an over-supply when acquisitions are curtailed. Have you given any consideration to this sort of hidden cost?

Your response should be directed to the attention of Paul Winslow of the Committee staff. If you have any

questions about this request, please contact Mr. Winslow at (202) 224-2337.

Again, thank you for your extremely helpful contribution.

Sincerely,

William Proxmire
Chairman

WP/jr

TEXAS A&M UNIVERSITY
DEPARTMENT OF ECONOMICS
COLLEGE OF LIBERAL ARTS
COLLEGE STATION, TEXAS 77843

TELEPHONE
713 845-7351

December 7, 1978

Mr. Paul Winslow
United States Senate
Committee on Banking, Housing
and Urban Affairs
Washington, D.C. 20510

Dear Mr. Winslow:

I enclose my comments on Senator Proxmire's questions about stockpiling of natural resources set forth in his letter of November 17 to me and Dr. Gramm. I apologize for the delay, but I have not seen Dr. Gramm since receiving the letter. I think he has been in Washington. I, therefore, decided to comment by myself. Thus the answers reflect only my analysis and opinions and should not be taken as his position, although, having worked with him for 12 years, I believe that Dr. Gramm would agree with most of the points.

In my comments on the questions I tried to be brief but thorough. One could, of course, write a full article on each question, but I did not think that is what is desired. If Senator Proxmire wishes further information or analysis please feel free to call on me. Also, please express to the Senator my pleasure in testifying before his committee and my appreciation of his interest and understanding of this very important, but extremely complex,economic issue. Again, if I can be of further help you may call on me.

Sincerely,

Charles Maurice

S. Charles Maurice, Head
Department of Economics

SCM/br

Enclosure

COMMENTS ON SENATOR PROXMIRE'S QUESTIONS ON MINERAL STOCKPILING

1. I will first address the last point in Senator Proxmire's first question:

Doesn't the potential cost of obsolescence increase with the size of the stockpile? The answer is an unqualified yes. If the stockpiled resource becomes obsolete or even declines significantly in value because of technological change, the more of the resource that is stockpiled, the greater the opportunity cost to the economy of having forgone the use of a resource that becomes less valuable, or at the limit even worthless. The risk of obsolescence certainly does threaten the value of stockpiled material.

There is a more subtle point to be made in regard to this question, however. It may well be the case that the larger the stockpile, the greater the probability that the resource will, in fact, become obsolete, or possibly far less valuable, because of technological change in the private sector. Let me explain. To the extent that increasing the size of the government stockpile of a mineral increases the total demand for that mineral (the demand by government plus private demand), its price will be driven up. As the price of the mineral increases, firms in the private sector of the economy will be increasingly motivated to undertake research and development designed to search for substitute minerals in production processes. That is, the higher price will, to some extent, induce firms to spend money in order to find ways to use other resources or less of the stockpiled resource. Historically, much technological change that has made certain production processes obsolescent has been induced by an increase in the price of one or more of the important inputs used in the production process. One extraordinary example that comes immediately to mind is the change in England from charcoal to coke in steel production as wood

became more and more expensive during the early part of the industrial revolution. To summarize, increases in the size of the stockpile not only increase the potential cost of obsolescence but also increase the probability of obsolescence if stockpiling increases the price of the mineral.

I think I have at least partially addressed the first point in question one. But, let me elaborate a bit further. Unless government stockpiles a resource on purely political grounds (induced possibly by special interests), the probability that the resource will become obsolescent would generally exceed the probability that a non-stockpiled resource will become obsolescent. To explain, consider why government would even wish to stockpile a resource unless it felt that (1) the resource is necessary for military use or some other important purpose and (2) the resource is expected to be in short supply in the future. But if government officials feel that the resource will become increasingly scarce, would not firms in the private sector feel the same way? Thus private firms would be more induced to carry out research and development to find substitutes or alternatives for a mineral they felt would become more and more scarce. There is little inducement to search for substitutes for a mineral when there exists a 100 year known reserve of the mineral. Neither would there be much incentive for the government to stockpile much of the mineral. Thus there would seem to be some correlation between the amount of private research to find alternatives to a mineral stockpiled and the amount stockpiled. I hope this material answers the Senator's first question.

2. Next I shall turn to the second question, the answer to which is not so clear cut. To answer the last part of the question, "Have you given any consideration to this sort of hidden cost?", no, not until now.

To generalize, I would certainly agree that unquestionably the mere existence of a large stockpile of a mineral would affect the economic decisions of both producers and consumers of the mineral. To generalize even more, it is a generally accepted economic theory that anything that increases uncertainty in a particular area - and certainly a large stockpile would increase uncertainty - investment and hence long-term production would be reduced. To this extent an increase in the stockpiled resource would have a hidden cost and affect relative prices.

To be more specific, however, I would say that the effect on private production and consumption decisions, and hence on social cost, depends in large measure on expectations - that is, on what consumers and producers expect government to do with the stockpile. If they expect portions of the stockpile to be dumped on the market, investment and production and consumption would tend, to some extent, to be postponed in anticipation of a price decrease. The cost would depend on the correctness of the assumption; i.e., what government actually does. In any case production would be lower than it would have been, and would cause the mineral to be scarcer in the interim. This action would be costly.

Again, in the latter part of the question the Senator is correct in stating that if producers expect government to increase its stockpile of a mineral, they would tend to produce more than they would have otherwise. If government ceases stockpiling or decreases its rate of stockpiling, the increased production will increase supply and cause a lower price over some

period, the length of which depends upon the amount of oversupply. To summarize, it is much more difficult to calculate the type of hidden cost of stockpiling mentioned in the letter than it is to calculate the lost opportunity cost to society discussed in our monograph and in our testimony. The question lends itself primarily to an ad hoc or case-by-case analysis. I can only say that certainly if producers and consumers expect government to act in a certain way and government does something else, e.g., increases its stockpile when producers expect it to decrease, production and consumption will be distorted as will relative prices. Expectations about the future frequently depend on what government has done in the past. That is, has government been consistent or inconsistent in its activities in this area. If government has been inconsistent, there is more uncertainty, and investment and production will decrease. Furthermore, I think that I can make one additional general statement concerning the second question. If producers know that government possesses, or will possess, a large stockpile of some mineral, they also must know from past experience there is some probability that government will reduce the stockpile by selling it on the market. They also know that this activity tends to reduce the future price of the mineral. Thus they would be more cautious in their production, and particularly their exploration, decisions. Producers must know that there is some probability of stockpile reductions. The extent that production and exploration are reduced is a true opportunity cost to society -- the reduction of mineral production and consumption along with the higher price of the mineral. But, since the cost depends on the expectations of producers, and these are not always quantifiable, these hidden costs, which are very nebulous, must be estimated on a mineral-by-mineral basis. This task could be done but it would involve a rather extensive amount of research.

SUMMARY OF MONOGRAPH

Does Resource Conservation Pay?

by

Gerhard Anders
W. Philip Gramm
S. Charles Maurice

I. INTRODUCTION

Conservation of natural resources and resource stockpiling have recently become extremely important issues. All aspects of the resource conservation question are being hotly debated not only in academic circles but also in the popular media. Of course, the topic of natural resource conservation is not new. Conservation has received a certain amount of attention throughout history. At the end of the nineteenth century ardent conservationists were extremely vocal and had a significant impact on public policy in the United States. Many writers thereafter, both in the popular and in the academic press, have published extensively in the area of conservation. The emphasis in most cases throughout the period has been that natural resources were being exploited far too rapidly and government must intervene in order to save resources for future generations.

Within the past few years the interest in the conservation and exploitation of natural resources has increased astonishingly. The recently renewed interest is due to several factors: Doomsday theories, recent oil embargos, the drive for self sufficiency in certain resources and so on. Many conservationists emphasize that there must be control of resource extraction or future generations, lacking natural resources, will be impoverished. They argue that government should consider delaying extraction in order to make future generations better off.

Seldom is anything learned from history because people tend to view each problem as being unique and without precedent. In the cases of production holdbacks, stockpiling and resource conservation we have an excellent historical case study in the conservation movement in the United States during the early part of the twentieth century. The study of the conservation era can shed considerable light on the public policy debate regarding stockpiling and resource holdbacks as well as long-term conservation. Specifically we can analyze empirically the costs of holding back resources from production during the twentieth century. In this paper we shall attempt to measure whether or not long-term resource conservation has, in fact, made future generations better off economically. In such a framework the historical benefits and costs of resource conservation can be assessed.

The conclusions of this study, which follow directly from simple economic analysis and from the existing data on resource prices in the twentieth century, are largely in contradiction with the general opinion concerning conservation of depletable resources. Our conclusions are, first, that at any time during the twentieth century enforced long-term conservation or production holdbacks of mineral resources would have been a poor economic decision, not only for the generation giving up the consumption of the conserved resources but also for the later generation that did obtain the use of the resource. Secondly, we conclude that whatever justifications may be used for stockpiling, such as military or political considerations, the exhaustion of resources has historically not been a valid justification.

II. THEORY OF EXTRACTION HOLDBACKS & STOCKPILING

In order to examine the costs and benefits of government short-term or long-term resource holdbacks, we will begin our analysis with a study of why private firms might follow such a policy. We can then easily adapt the theory to fit governmental decision making.

Private owners or leasors of a non-renewable resource deposit would have two economic reasons to postpone exploitation of the deposit or to curtail extraction significantly. The first reason is if the firm has significant monopoly power in the relevant mineral; that is, if the firm's rate of output has a substantial effect on the world price of the resource, it may withhold extraction to increase the market price. While exploitation of monopoly is a reason why a firm might hold back output, this type of inducement is not the argument generally given in recent discussions of stockpiling and is certainly not an argument for long-term conservation. Neither is it the point in which we are interested here.

The theory explaining why a firm would withhold extraction or reduce the rate substantially is really quite simple. If someone owns a sterile asset worth one dollar and the relevant rate of interest is ten percent, that person should hold the asset until the next period if the price of the asset is expected to rise above $1.10. If the price expected in the next period is less than $1.10, the asset should be sold, because the value of a dollar invested now at the market rate of interest will be $1.10 in the next period. To generalize, a business would withhold the sale of a sterile asset, including a mineral, if it expected the value of the asset to increase at a rate greater than the relevant rate of discount. Otherwise, the business would maximize wealth by selling the asset and investing the returns. This analysis holds whether we are discussing the decision to withhold an entire deposit or to increase or reduce the rate of extraction.

Let us emphasize in the case of minerals that this analysis applies to the price of the resource less the cost of bringing the resource to market, rather than to the market price of the resource alone. A firm may well postpone profitable extraction even though the market price of the resource is expected to remain constant, if the cost of extracting and selling is expected to decrease sufficiently - a "sufficient"

decrease being defined as a decrease at a rate absolutely greater than the rate of interest. Of course, when cost generally varies in about the same way as price, one can concentrate exclusively upon price variations when analyzing stockpiling decisions. For example, if price is expected to increase by ten percent, so long as cost increases by ten percent also, profit will increase by ten percent. Therefore, when analyzing the economics of selling now or postponing sales, one is justified in looking at the variation in selling price when price and cost generally vary together.

Thus the most relevant test of the economic feasibility of resource stockpiling is a comparison of the discounted (at the relevant interest rate) difference between price and cost in some future period with the same difference in the present period. If the discounted future difference exceeds the present difference, production of the resource should be withheld. If the opposite is the case production should occur in the present. The generalized test would be

$$\frac{(P_t - C_t)/(1 + r)^t}{(P_o - C_o)} \begin{matrix} < 1 \text{ sell} \\ > 1 \text{ hold} \end{matrix}$$

where

P_o and P_t are respectively the price in the present period and the price expected in the target sale year t.

C_o and C_t are respectively the cost in the present period and the cost expected in the t^{th} period;

r is the relevant rate of discount.

The above theory applies not only to businesses, which are interested in profits, but to government as well.

In the first place, whatever a government wishes to do and whatever the motivation, the cost to society of carrying out the decision must be considered or taken into account when making decisions. For example, increasing welfare benefits has costs to society, even though the increase in benefits is not motivated purely on economic grounds. The same thing applies to increases in the military budget or other programs carried out by governmental agencies. Even though increasing the military budget may be carried out for other than purely economic reasons, the cost of the increased budget must be considered and compared with alternative uses of the funds. Thus any project of government involves a cost, which is the loss of the resources in alternative uses. This cost is the opportunity cost of the project.

The same type of cost consideration must also apply to natural resource stockpiling or conservation, even though holding resources in the ground rather than extracting them involves no out-of-pocket costs to the government treasury and even though the delayed extraction is ordered from purely non-economic motivations. No matter what the motivation, economic or otherwise, the decision to hold resources involves opportunity costs and these costs may not be inconsiderable.

If the value of the resource increases less rapidly than the rate at which the investment of the value of the resource increases, society loses economically by withholding extraction. That is, the value of the resource must increase at a rate greater than the relevant rate of interest or there is a social cost involved. The difference between the rate of increase in the value of the resource and the interest rate is the cost to society of withholding the extraction. On the other hand, if the value of the resource conserved grows at a more rapid rate than the relevant rate of interest over the time period of conservation, society is in fact better off economically for having postponed exploitation of the resource. If these circumstances occur, society benefits economically from a withholding action, which may have been motivated by non-economic considerations.

In conservation decisions, government should recognize that the true cost of withholding extraction of resources is as real a cost as the price of a good purchased, even when the motivation for conservation is non-economic. This real cost is all too frequently neglected in the conservation literature and in discussions of the desirability of resource stockpiling.

The key variable in the process of analyzing the decision to delay extraction is the break-even price, which is the value in some future year that could be obtained from investing the price of a unit of the resource in the present year at the relevant rate of interest. Even though the motive for stockpiling is for reasons entirely divorced from economic interests, the break-even price gives a good indication of the cost of stockpiling. In any year the ratio of the break-even price to the actual price indicates whether or not society does or does not benefit economically from the stockpiling.

The second reason for applying economic analysis to the governmental decision to withhold extraction of resources concerns long-term resource conservation in order to make future generations better off than they would be otherwise. If the real value of the resource appreciates less rapidly over time than the relevant rate of interest, the future generation would be made better off economically if the philanthropic generation exploits the resources and invests the return at the market rate of interest. On the other hand, if increasing scarcity causes the value of the natural resource to appreciate more rapidly than the interest rate, the later generations benefit more by having inherited the resources in the ground. Again when a society considers conservation as a method of enoowing future generations, it cannot neglect the cost of the endowment; that cost is the lost opportunity of investing the return from the resources at the going rate of interest. The endowing generation bears the cost of foregoing income from using the resources. The endowed generation bears a cost when it could have been made better off if the previous generation had exploited the resource and invested the returns in capital for the later era. Which program would leave future generations better off--leaving resources or

3

exploiting the resources and investing--is an economic question that can be answered empirically.

To summarize, the value of a natural resource in the ground in any period is the price at which the resource would sell minus the cost of extraction. If the decision criterion for conservation is to make some future generation better off than it would otherwise be, the decision to force production holdbacks would be uneconomical when the value of the conserved resources increases at a rate less rapid than the relevant rate of discount. Otherwise, as noted, exploitation and investment of the returns would maximize the wealth of the future generation. We will concern ourselves here only with the economic feasibility of conservation or stockpiling decisions regardless of motivation, in order to isolate the social costs of such decisions.

III. STATISTICAL ANALYSIS

Let us examine the historical facts concerning resource prices, using 14 depletable resources for which price data were available throughout most of the 20th century. These resources are listed in Column 1 of Table 1. The purchase price of 11 of the resources in the U.S. in 1900 is shown in Column 2. In the case of three resources, crude petroleum, lime, and magnesium, price data were not available until later years, noted at the bottom of the table. In these cases the prices in Column 2 are prices in the first year in which consistent data were available. Column 3 lists the average price of each resource in 1975.

The following types of tests are carried out. Using four rates of interest or rates of discount, (1) the rate of return on AAA bonds, (2) the average yearly rate of return in manufacturing before taxation, and (3) two measures of a pure interest rate (% of change in CPI plus 2 and plus 3 percent), we calculate the value in 1975 that could have been realized by investing the value of a unit of the resource in 1900 (or in the first year for which data are available). The costs or benefits of conservation or production holdbacks can be measured by subtracting the value of the investment from the price of the resource in 1975. If the 1975 price of the resource exceeds the value of the alternative investment that could have been made by selling the resource in 1900 and investing the proceeds of the sale at the going interest rate, then society clearly benefits from conservation as a method of transferring wealth from one generation to another. If on the other hand the value of the alternative investment that could have been made by producing and selling the resource exceeds the 1975 market price, conservation of the resource in question was not the most efficient method of wealth transfer and cost was imposed on society by the conservation decision.

Table 1 shows the break-even price for the 14 resources for the 4 interest rates. The break-even prices indicate the value in 1975 that would have been obtained by selling the resource in 1900 and investing the proceeds at the given interest rate. (We used price rather than price less extraction cost because our data, not included here, indicate these varied in the same way.)

The relevant question is whether resource prices increased between 1900 and 1975 more or less than the value that could have been obtained by investing the proceeds from the sale of the resource.

Columns 4a, 5a, 6a, and 7a show the values that would have been obtained by investing the sales price of the resource in question in 1900 at the AAA corporate bond rate, the percentage change in the consumer price index plus two percent, the percentage change in the consumer price index plus three percent, and the before-tax rate of return in manufacturing, respectively. Columns 4b, 5b, 6b, and 7b show the percentage of respective yields on investment at the various interest rates relative to the purchase price in 1975.

In no case for any of the 14 depletable resources would stockpiling from 1900 through 1975 have been a viable economic alternative to simply investing the proceeds of the sale of the exploited resources in 1900 at the AAA corporate bond rate. The average value of the investment obtained by exploiting the 14 resources in 1900 and investing the proceeds of their sale in AAA corporate bonds was 733 percent of the sales price of the same resources in 1975. Of the 14 resources, in only two cases did the value of the investment fail to exceed 200 percent of the value of the resource in terms of its 1975 sale price. These two resources were coal and crude petroleum, both of which experienced a rapid acceleration in price between 1973 and 1975. Even so, the value of a AAA corporate bond investment of the proceeds of selling coal in 1900 was 159 percent of the sales price of coal in 1975. The value of the investment that could have been obtained in AAA corporate bonds by selling crude petroleum in 1905, the first year for which price data are available on a consistent basis, was $14.30 a barrel which was 191% of the average market price of crude petroleum in 1975. The results shown in Columns 5a, 5b, 6a, and 6b, using "pure" interest rates, are quite similar.

The largest discount rate employed was the before tax rate of return in manufacturing, which to some extent represents the investment opportunity cost of American business. This extremely high discount rate produced such large numbers that it was necessary to drop the last three zeros in Columns 7a and 7b. For stockpiling of crude petroleum between 1900 and 1975 to have been a viable alternative to investment at the before-tax rate of return on manufacturing, the price of crude petroleum in 1975 would have had to exceed $12,900 a barrel. The break-even price of gold would have been over $1 million an ounce. On average, the break-even price for the 14 depletable resources exceeded the market price in 1975 by 929,000 percent. Obviously, long-term stockpiling of depletable resources has not been

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TABLE 1. Purchase Price in 1900, Sale Price in 1975, and Break-Even Prices in 1975 Employing Four Interest Rates and Percent of Break-Even Prices to 1975 Sale Prices for 14 Depletable Resources.

1	2	3	4a	4b	5a	5b	6a	6b	7a	7b
			Real Break-Even Prices							
	Purchase Price	Purchase Price	R=AAA		CPI+2%		CPI+3%		R=BTM	
Resource	1900	1975	$ or ¢	%	$ or ¢	%	$ or ¢	%	$ or ¢ (x 1,000)	% (x 1,000)
Aluminum	32.72	39.80	939.90	2361	950.20	2387	1941.40	4878	1623.40	4079
Bauxite	3.87	15.00	111.20	741	112.40	749	230.60	1531	192.00	1280
Coal	1.04	18.75	29.90	159	30.20	161	61.70	329	51.60	275
Copper	0.17	0.64	4.80	745	4.80	753	9.80	1539	8.20	1287
Crude Petroleum	0.62+	7.52	14.30	191	15.00	200	29.30	389	12.90	172
Gold	20.67	162.25	593.70	366	600.20	370	1226.40	756	1025.60	632
Iron Ore	4.00	18.62	114.90	617	116.20	624	237.30	1275	198.50	1066
Lead	4.41	21.60	126.70	587	128.10	593	261.70	1211	218.80	1013
Lime	3.68/	22.18	89.00	401	91.00	410	179.00	807	91.20	411
Magnesium	1.81+	0.82	22.60	2758	19.50	2374	33.60	4093	3.90	481
Nickel	27.00	210.50	775.60	368	784.10	373	1602.00	761	1339.60	636
Silver	61.33	443.00	1761.70	398	1781.00	402	3638.90	821	3042.90	687
Tin	30.00	346.00	861.70	249	871.20	252	1780.00	514	1488.50	430
Zinc	4.40	39.10	126.40	323	127.80	327	261.10	668	218.30	558

/ Series begins in 1904, +1905, †1918.

Sources: Moody's, Bureau of Labor Statistics, Quarterly Financial Report for Manufacturing, Commodity Data Summaries, 1974, Appendix 1, Federal Reserve Bulletin, Minerals Yearbook, Statistical Abstract of the U.S., Trends in Natural Resource Commodities. (Complete references available from authors.)

a viable alternative to investment in American manufacturing during the 20th century.

The results of Table 1 cast grave doubts on the efficiency of long-term resource stockpiling for economic purposes. Clearly, during the 20th century, resource stockpiling over long periods of time has not been a viable alternative to investment at the AAA corporate bond rate if the objective of stockpiling was to increase economic welfare. When higher effective interest rates are employed, the results are even more overwhelming than those obtained with AAA corporate bond rates. This is not to say, however, that resource stockpiling with other economic motives may not have been efficient during the 20th century. It does, however, indicate the extremely high economic costs that were incurred by such action. Clearly, such costs must be weighed against non-economic advantages in order to determine the optimality of the decision.

The historical feasibility of short-term production holdbacks--periods of from 1 to 5 years--have also been calculated. Using all of the resources and the AAA bond rate, only 34 percent of the time during the 20th century would firms have gained by holding back production from one year to the next. The results are similar for the other interest rates. When the before-tax rate of return in manufacturing is employed as a discount rate, in only 11 percent of the time would production holdbacks from one year to the next have resulted in an economic advantage for the decision maker.

Under uncertainty with randomly distributed expectations one might expect profits from short-term holdbacks about half the time and losses about half of the time, with the average returns from holdbacks being about zero. If firms would have gained from additional stockpiling or production holdbacks a very large percent of the time, one might deduce that private firms exploited the resources too rapidly from a social point of view. If, on the other hand, short-term holdbacks would have occasioned losses in a large majority of the periods, it would appear that the resources may have been extracted too slowly. Those who assert that a system that relies primarily on private firms uses up natural resources at a wasteful rate must defend the assertion on grounds other than historical data and economic analysis.

Let us re-emphasize in closing that governmental holdbacks, both long-term and short-term, can certainly be ordered for reasons other than economic. All we wish to show here is a method for estimating the social cost of such activities and some historical evidence of such cost.

The CHAIRMAN. I'd like to ask our final three witnesses to come together. We have General Hollingsworth, Mr. Joseph Mitchell, the Director of the Federal Preparedness Agency, and Mr. Dale Church, who is the Deputy Undersecretary of Defense for Research and Engineering.

Mr. Church has to leave early and rather than bring him in this afternoon, we are going to try to wind up now.

STATEMENT OF LT. GEN. JAMES F. HOLLINGSWORTH, U.S. ARMY (RETIRED); AND JOSEPH A. MITCHELL, DIRECTOR, FEDERAL PREPAREDNESS AGENCY, ACCOMPANIED BY EDWARD K. ZABROWSKI, ACTING ASSISTANT DIRECTOR FOR CIVIL CRISIS PREPAREDNESS; AND DALE W. CHURCH, DEPUTY UNDERSECRETARY OF DEFENSE FOR RESEARCH AND ENGINEERING, ACCOMPANIED BY RICHARD E. DONNELLY, STAFF DIRECTOR FOR RESOURCES POLICY AND PROGRAMS

The CHAIRMAN. Our first witness will be General Hollingsworth. General Hollingsworth, in 2½ years as commander of I Corps group in Korea, completely changed the strategy of defense and developed a short-war concept which has become the example of the U.S. Army's forward defense strategies. Prior to retirement in 1976, he also served as special assistant of the Army Chief of Staff where he offered an assessment of the U.S. Army's war-fighting capabilities in Europe.

Mr. Mitchell was appointed Director of the Federal Preparedness Agency in November last year, assuming the post after serving in the White House as President Carter's Deputy Assistant for congressional liaison.

Mr. Church is the Deputy Undersecretary of Defense for Research and Engineering, as I indicated.

General Hollingsworth, I would like you to answer a question first, then I'm going to ask Mr. Mitchell, who I understand has a statement, to give us his statement, and then we'll question all of you.

As you're aware, General Hollingsworth, the current stockpile is based largely on a World War II scenario: A major war lasting at least 3 years preceded by a lengthy period of industrial preparation. That scenario appears out of step with the current defense planning and preparedness. What changes in warfare over the past 30 to 40 years have had the greatest effect on the duration of future conflict? And also, I would like you to comment in the course of your answer on changes of Soviet naval and military planning preparedness.

General HOLLINGSWORTH. Thank you, Mr. Chairman.

As you know, I got involved in designing a new strategy in Northeast Asia, which I labeled at the time short war forward strategy.

This whole business of duration of war is one of judgment, Mr. Chairman. It's one of looking at the capabilities of the enemy and looking at your own capabilities to respond. It's a matter of looking at the will of the people. It's a matter of putting important things in perspective.

In this regard, to me, people are important. We find over on our adversary side, on the Communist side, people don't seem to be very important, which is directly opposed to our way of life.

So I think that the real key to the duration of war, of course, certainly has to do with our national interests in the area. But a dramatic change has occurred over the last 30 to 40 years. It's a matter of time and space. Time to mobilize, time to start a draft in this country, which means you will produce a soldier after about 8 months, time to mobilize the industry and to build equipment in 2 to 3 years. We know that from experience.

Space and time is no longer available to us in this regard. Three years' conventional war, as we have heard people say, and we plan a stockpile for, I just can't believe that the will of the people will permit that.

I can't believe that our economic base, as we stretch out throughout the world today to look for strategic materials, ones that we don't produce. I don't think that the economics will support that.

As Senator Nunn said to me, and I hold very high regard for that great gentleman, he visited me in Korea and he said to the Ambassador there and to my boss:

> Your short war strategy is the only type of war the Congress or the people of the United States will ever support again. And I want you, when you finish here, to go to Europe and design the same strategy in Europe.

Now we had good reason to say that because he understands the Soviet doctrine and philosophy. He understands what they are doing.

They are mobilizing now while we sit.

We look at the Warsaw Pact capabilities, what they're going to do, that's something else, we don't know, Mr. Chairman. I don't know what they're going to do, and I don't think anybody in our country knows what the intentions of the high moguls in the Presidium want to do. But we look at their capabilities, and their capabilities are such today that they can strike with little or no warning in Central Europe.

Well, little or no warning is very significant. Surprise is the key to their tactics and doctrines to gain that element of surprise.

You see their theory working along the DMZ, separating North and South Korea. Those tunnels they are building there are to gain the element of surprise.

I was deeply concerned about them there, the capability to move thousands of soldiers in a matter of a few hours in behind at that particular time in 1973 and 1976, in behind South Korean frontlines.

So the element of surprise is very important to the Communist doctrine and tactics in warfare.

Warning time, you can look throughout history and, of course, you can go back to 1905, the Japanese in Port Arthur. You can bring that on up to date with the October war of 1973, and you see surprise acting again.

Mr. Kissinger sent one of his people over to see me in Korea and I briefed him on the DMZ. He said, how much warning are you going to have? I said, I'll probably have 18-hour warning. But I said, Mr. X, you and Mr. Kissinger won't have any warning. And he asked why is that? I said, you never pay any attention to the man out here that holds the responsibility. And I said, the precedent has been set for this over many, many years.

So warning time, will of the people, the readiness of our forces, time and space factors, and the preparedness of our country are important

elements, contributing to the duration of war. In my view, a long, drawn out war is an economic disaster. Destroying the best part of our Nation, our youth.

I went through this drawn out process in Vietnam. This has had a serious impact, I think, on the duration of wars in the minds of our people.

We owe it to our people to get the wars over with in a hurry if our national interest is at stake and if we have to participate to get it over quickly.

We should take steps to see that we do get it over quickly.

The Soviets have the same philosophy. Today, in central Europe, in the Warsaw Pact, the Soviet Union is ready to go now. Mobilized strength in the Warsaw Pact is at 100 percent, the very latest equipment, ready to move. And for the United States to mobilize, to take 2 years, sir, to mobilize this country to fight a 3-year war, it just doesn't make any sense to me whatsoever.

Where do we go after mobilization? The Soviet capability of all out mobilization is estimated to be 500 to 600 divisions. The U.S. could mobilize some 12 to 15 million people, because people are important, because some 40 to 50 percent of our people under our standards are physically unfit to participate in warfare, because half of our population are women, who are doing a wonderful job in our services. However sir, as a soldier and in what I've gone through on the battlefield, I don't want my 18-year-old daughter, or yours, out there on that battlefield.

I've got too much respect for those youngsters.

So when you take away 50 percent, and then slice off another 40 percent of people overage, because of our high standards, we get down to 12 to 15 million people, maximum of 20 million people, to mobilize against people that have no standards whatsoever for service in the military.

I'm talking about the Soviet Union.

And then to have a long, drawn out war. In Europe there's no place to go after they overrun. And God help us if they do, and I hope it never occurs.

But if they overrun Europe in 14 or 15 days, and we take 2 years to mobilize, where do we go? Space is no longer available to trade for time to mobilize.

You talk to some people in central Europe today, and some of them will tell you that it's better to be red than dead.

So these are things that bother me tremendously. The mobilization, the trading of space for time to mobilize, that bothers me about the 3-year long drawn out affair.

Economics, the energy problem—the energy expenditures in a long, drawn out war, I believe that we do have an energy problem and we've got to get on with it, what a long drawn out war is going to do to our country?

I think that we must have a strategic stockpile. I think that we have got to take a hard look at technology and see what technology is driving and see what materials it is that we need in the technology area, and keep the stockpile up to date in those particular critical areas.

People—for example, today our guard and reserve strengths are down. There's no manpower pool to support a long, drawn out war.

I think all of these points are important, we must take a hard look at the real world and what warfare is going to be like in the future.

There was no need for a long, drawn out war in Vietnam which poisoned our society. It destroyed our young men. It took my eyes after 24 months of it.

I don't want war. War is a disaster. Nobody wins, sir. It's a loss for everybody. It's a loss in economics, it's a loss of the important part of our society: People.

And that's about where I stand, sir.

The CHAIRMAN. Thank you very much for a most impressive response.

STATEMENT OF JOSEPH A. MITCHELL, DIRECTOR, FEDERAL PREPAREDNESS AGENCY

Mr. Mitchell?

Mr. MITCHELL. Thank you, Mr. Chairman.

Mr. Chairman, I would like to thank you for the opportunity to testify before this committee this morning. This is my first year as the director of FPA. I have talked to previous directors in the last several years about the stockpile.

In the last year, I've given a lot of thought to the general structure and mission of the Federal Preparedness Agency as a way of preparing for the reorganization that will make this agency part of a new consolidated Federal Emergency Management Agency.

That, I know, is also your desire, Mr. Chairman.

I also believe that this is a good time, because of this particular reorganization, to have us look and review the stockpile program and the policies which President Carter has recently approved.

I would like to give you, if I could, first, a very brief summary of our current stockpile policies, several of which have been discussed this morning. Then I would like to turn to the four topics in which you have expressed particular interest.

Those topics are: Prewar industrial mobilization; the duration of a future war; provision for civilian goods and services in wartime; and manipulation of the stockpile for economic and budgetary purposes.

To begin with, I would like to say that the national stockpile is designed for national defense purposes and I believe it should stay that way.

Our need for a strategic stockpile has intensified in recent years because we've become more dependent on foreign supplies of materials. The national stockpiles gives us great flexibility for fighting different types of wars requiring diverse military and industrial technologies. Using it for other purposes could limit this very valuable flexibility.

To learn whether the stockpile meets our current national needs, the Federal Preparedness Agency and seven other agencies reviewed stockpile policy assumptions in 1975 and 1976.

This review resulted in an updating and refinement of policy, which was approved by President Ford and later by President Carter. The Armed Services Committees of both the House and Senate have reviewed and accepted the policy.

A principal finding of this study of the stockpile program was that our inventories need to be dramatically restructured to meet the needs of American industry and technology as it is today.

Senator Hart discussed that this morning in his testimony. Many changes have occurred since the 1950's, when most stockpile materials were purchased, and so our inventories levels are, in many cases, seriously out of date.

We are now trying to restructure the stockpile through the development of annual materials plans. Each plan is an incremental management tool designed to achieve a complete restructuring over time, taking into account national defense priorities, market conditions, budgetary considerations, and technology.

Each annual materials plan is the result of many Federal agencies working together.

The policy approved by President Carter provides a very high assurance that defense requirements will be met in time of war. It provides a lower level of assurance for industrial requirements. It means that: Only materials available from North America are counted against direct and indirect requirements supporting the Department of Defense; we apply stringent discounts against materials coming from expected war zones and uncertain suppliers; we assume that industrial capacity will grow during wartime, and that it will be utilized more fully than in peacetime; we take into account the possibility that substitutes and conservation will exist for strategic and critical materials in some uses; and we assume that civilian consumption requirements can be reduced and restructured in wartime.

Now, Mr. Chairman, turning to the four topics in which you expressed personal interest, I'd first like to discuss the warning period before war, in which industry would begin to adapt to meet wartime needs.

If we had a warning period before a war such as we've had before all our major conventional wars, we would need a larger stockpile than if there were little or no warning period.

This is because the military and industrial base has a headstart and can grow in advance of actual conflict. For example, as a crisis developed, we could invoke the Defense Production Act and expand production of military equipment. To be sure that we would be able to meet our national defense needs in this situation, our stockpile goals reflect the assumption that there would be a warning period before a war broke out.

The recent policy approved by President Carter instructs the Federal Preparedness Agency to stockpile for the first 3 years of a conventional war of indefinite duration. In selecting this period, the President reviewed information on Department of Defense planning as well as the results of our own study.

The stockpile is insurance that will pay off if we must fight a conventional war. In fact, the stockpile may actually contribute to deterring such an event.

In deciding how much insurance we need, the President had to consider our other national security programs, especially those of the Department of Defense. His decision encompassed a wide range of possible contingencies. This insurance is inexpensive compared to other options, such as stockpiling enough military equipment for an extended war.

On the other hand, the cost to life and property of stockpiling for a shorter time could be extremely high. Unable to support a conventional war because of shortages and a depleted economy, we might be forced to choose between defeat and nuclear war.

Another issue that you mentioned, Mr. Chairman, was the extent to which stockpile policy allows for supporting the civilian economy in wartime. We feel that the United States could not fight an extended conventional war without a strong civilian economy. This principle is embodied in the National Security Act, the Strategic and Critical Materials Stockpiling Act, and in the Defense Production Act.

For the first time, stockpile planning has been structured to provide the most insurance for the most important parts of the economy and less insurance for the parts where risk is the most plausible. Planning addresses three parts of the economy separately.

The first part is direct Department of Defense consumption and the industrial production necessary to support that consumption. The most conservative assumptions go into establishing the goals for defense needs.

The second part is called essential civilian consumption. The third is called general civilian. Together, they form the requirements of that part of the civilian economy needed to support wartime needs and/or maintain a viable industrial base.

In setting stockpile goals, we don't consider at all demand for activities that are not needed in wartime. This type of consumption represents about 15 percent of our assumed wartime Gross National Product.

Mr. Chairman, the distinction between essential civilian and general civilian is important. Essential civilian products are more directly tied to the war effort and cannot readily be made with substitute materials.

General civilian products are less directly tied to the war effort and can, to some degree, be made with materials that are not strategic and critical. But I hasten to add that production of these items is necessary if we are to feel confident of our ability to remain strong during a war.

You recall, I'm sure, Mr. Chairman, that prior to the introduction of the approach now in use, all requirements, defense and civilian, were lumped together in one aggregate: a pound of copper for cartridge cases was given the same importance as a pound of copper for kettles.

We believe that by separately treating defense and civilian requirements, we have enhanced national security planning. Furthermore, our subdivisions of the civilian sector create a smaller stockpile than if the subdivisions were combined.

Mr. Chairman, you have also raised the subject of manipulating the strategic stockpile for economic purposes. As I said before, I believe the stockpile should be used only for defense purposes. I can assure the Congress that as long as I am responsible for managing the stockpile, I will actively resist any attempt to use the strategic stockpile for nondefense purposes.

The interagency development and review process that I mentioned earlier is so extensive that I find it hard to imagine manipulation occurring without someone "blowing the whistle."

You may be interested in knowing that GSA investigators have found no evidence of corruption or fraud in stockpiling.

Finally, I'd like to add that, by law, the buying and selling of stockpile materials are done only after congressional approval. Congress must appropriate funds for material acquisitions and authorize specific disposals of excess materials. This means that Congress plays an important oversight role in preventing misuse of the stockpile.

The stockpile policy bill that was introduced this year that Senator Hart mentioned this morning would help reduce the allegations surrounding the use of the stockpiling for nondefense purposes.

The bill, as reported out by the Senate Armed Services Committee:

Would specifically prohibit the use of the stockpile for economic purposes;

Would require authorizations for proposed acquisitions; and

Would establish a fund for the receipt of moneys derived from disposals.

A bill incorporating the latter two features was passed by the House last year. This bill amended the existing stockpiling legislation and the first point is covered implicitly there.

Mr. Chairman, as a final point, I would like to restate our position on proposals to use the stockpiling for economic purposes.

The purpose of the strategic and critical material stockpile program is quite different from that of any economic stockpile, or economic stockpiling.

The strategic stockpile is designed only to insure that the needs of common defense of this country are met.

Mr. Chairman, this concludes my statement. I'd be more than happy to answer any questions you might have.

The CHAIRMAN. Mr. Church, I understand that you have a statement to put in the record. Is that correct?

STATEMENT OF DALE W. CHURCH, DEPUTY UNDERSECRETARY OF DEFENSE FOR RESEARCH AND ENGINEERING

Mr. CHURCH. Yes, Mr. Chairman. I do have a statement that I will provide for the record.

[The statement follows:]

STATEMENT OF DALE W. CHURCH, DEPUTY UNDER SECRETARY OF DEFENSE (ACQUISITION POLICY)

Mr. Chairman and members of the committee, I appreciate this opportunity to address the maintenance of a viable defense industrial base through strategic and critical materials stockpile planning and national preparedness planning.

The Federal Preparedness Agency of the General Services Administration is the Federal agency responsible for the policy and management of the National Stockpile of Strategic and Critical Materials. The Federal Property Resources Service of the GSA handles the purchase, storage and sales of stockpile material.

The Defense Department, along with other Federal agencies, participates in annual reviews of both stockpile goals and proposed acquisitions and disposals of stockpile material. This is accomplished through membership on the Annual Materials Plan Steering Committee, chaired by the Federal Preparedness Agency.

As an active member of the Steering Committee, the DOD provides the FPA with estimates of wartime military requirements, estimates of shipping losses, information on scenario characteristics and other Defense-related factors. The Federal Preparedness Agency combines these direct defense requirements with wartime requirements of the civil sectors of the economy. Where projected wartime supplies are determined to be inadequate, a stockpile inventory goal is established.

As you are aware, this interagency stockpile planning process has been approved by the President and is based on National Security Council policy guid-

ance, adopted following an interagency stockpile policy study completed in 1976. This guidance generally calls for stockpiling those materials for which we are dependent upon foreign sources of supply, in quantities sufficient to meet U.S. national security requirements during a major war assuming large-scale industrial mobilization, and providing at the same time for a broad range of civilian needs to ensure a viable industrial base.

With respect to national preparednes planning, the FPA is again the federal agency responsible for coordination of these government activities. FPA's responsibilities include assuring the nation's industrial production base is capable of meeting both military and civilian requirements during a declared national emergency.

Regarding the provision of civilian goods and services during wartime, it should be recognized the Defense Department is dependent on an industrial base of 20,000 prime contractors involved in the production of military and civilian products. When subcontractors and vendors are included, the total is estimated at well over 100,000. Most of these industries are also actively engaged in providing goods and services to the civilian economy. In an emergency, it is vital these producers continue to receive an uninterrupted flow of strategic and critical materials for the production of items essential to the maintenance of a sound economy as well as the production of increased quantities of defense materiel. Therefore, in order to maintain a viable industrial economy during wartime, provisions must be made to support vital, national defense-related industrial sectors including the communications, transportation, food and health industries.

The Defense Department participates in national preparedness planning through management of its Industrial Preparedness Program. Under this program we negotiate agreements with approximately 9,000 planned emergency producers to retain existing production capacity to produce critical defense materiel during emergency situations.

In accordance with the Consolidated Guidance issued annually by the Secretary of Defense, we plan an industrial capacity to meet combat consumption rates of materiel for a period of time as long as necessary to support world-wide commitments. While this guidance does not address the specific nature, location and duration of potential military conflicts, it does call for establishment of stocks of equipment and munitions here in the United States and prepositioned overseas which would be used by our forces in the initial stages of an emergency. To meet these requirements in a manner consistent with production lead times for major weapons systems, our industrial mobilization preparedness plans cover, as a minimum, a three year planning period.

In the case of nuclear war, the United States today structures its policies and programs on the premise that any nuclear attack on the United Sates will be countered by nuclear retaliation, thereby making this type of war unthinkable in the minds of any possible adversary. It is our objective to make the thought of engaging the United States in an extended conventional war just as unattractive to a potential enemy. Assuring our forces can, if necessary, sustain a conventional, fully-mobilized conflict of extended duration results in three important factors, each vital to our national security:

First, it allows the maximum degree of flexibility for planning and decision-making by the President and the Congress.

Second, it permits defense planners to provide for a wide-range of responses in non-nuclear situations thereby reducing the likelihood of first-use of nuclear weapons and the lowering of the nuclear threshold.

Third, it serves as a deterrent to those who might try to capitalize on the inability of the United States to engage in protracted conflict.

Under our Industrial Preparedness Program, steps are continually being taken to establish required resource planning to cover the full spectrum of potential conflicts as described in the Consolidated Guidance. Reviews of the defense industrial base are conducted regularly. Where evidence of insufficient production capacity becomes apparent, corrective actions are initiated in the form of Industrial Preparedness Measures. Examples of measures being explored to attain the required production capacity for essential defense materiel, include obtaining additional production equipment, prestocking long lead time components and establishing multiple production sources.

Regarding the different elements of our Industrial Preparedness Program, planning is accomplished for pre-war or "surge" situations as well as full industrial mobilization. Surge planning focuses on production of a number of high

priority, critical items to meet military requirements during various emergency contingencies short of full mobilization. This pre-war planning concept is designed to give DOD a fast production response capability at a low cost. During an emergency, initial reliance is placed upon war reserve materiel in our inventory for support of our forces. However, prolonged conflict would require production base sources to replenish drawn-down inventories and provide continued resupply for the duration of the conflict and the reconstitution of our forces. It is in this situation where material in the National Stockpile could be of paramount importance in assuring the responsiveness of the U.S. industrial base in support of national defense.

In conclusion, I would like to emphasize a viable industrial base is a major element of our national strength and deterrent posture. Maintaining the capability of the industrial base to respond to peacetime demands and potential surge and mobilization contingencies, through effective stockpile and national preparedness planning, continues to be a major consideration in our defense programs.

This concludes my statement. I will be pleased to respond to any questions the Committee may have.

Mr. CHURCH. I would like to make just a couple of comments.

The CHAIRMAN. Senator Schmitt has to leave. He has a couple of questions he would like to ask. Will you just take a minute or two?

Mr. CHURCH. Yes, just a minute or two to comment on the two statements by General Hollingsworth and by Mr. Mitchell.

We do live in a very complex world today. People like General Hollingsworth and Ambassador Komer and others have done a wonderful job of sensitizing others to the realities of having to deal with a very extensive buildup by the Soviet Union in Europe today.

Certainly, as Ambassador Komer has often said, we cannot worry about long wars if we can't hold them off in a short war. So we do have to be extremely sensitized to an ability to respond in the short-war scenario to a very devastating type of surprise attack that the Soviet Union could launch.

But there are many, many other opportunities in this world of escalating tensions and hostilities that could build up over a short time. Some of these may, over a period of time, cut off certain elements of our goods and raw materials needed to be able to build up for a war.

They may be, for example, in Africa, as we recently witnessed with the problems of cobalt supply from Zaire suddenly being cut off; or it could be a whole series of events leading up over an extended period of time that could finally lead to the final attack. So I think General Hollingsworth would agree, too, when the final balloon goes up and the battle starts, maybe the war is short, but the buildup could be long and extensive.

Second, I think we need to be very concerned about our ability to respond in kind. The last thing in the world we want to do is jump immediately to an all-out nuclear war. We want to be able to match their hostility with hostility in kind, without having to resort to the big weapons. We do need to show the Soviet Union our resolve is, in fact, a long-term one, and we will meet them on any battlefield in whatever senario they care to choose.

Also, there are changes in requirements in our own economy. For example, I just noted this morning OSHA has just recently published some new very stringent requirements with respect to the environment in which lead can be produced. I'm not here today to argue whether or not the requirements are good or bad. There probably needs to be a grave concern about lead in the health of our people in this country.

However, it could be a significant time before our industry can respond. Some of these environmental requirements may, in fact, shut our industry down for a considerable period of time. We don't know when such impacts are going to occur these days. It seems like we have a new carcinogenic substance occur almost weekly.

As a consequence, we need stockpiled material for those kinds of contingencies in this complex world. The material may not even be needed with respect to a hostility. It might be a result of a changing availability of supply environment that we create for ourselves.

I think that we do have to have war materials, and we do support Senator Hart's bill, H.R. 4895, with respect to the method for maintaining the stockpile. We believe there are elements in the stockpile that are not needed and could be sold off from time to time, and we should be alert and very conscious of the management of those items. I believe that Joe Mitchell's agency is in fact doing that and doing it well. We do support the legislation and we do hope it will pass early in the next session.

But it's a very complex picture. We have emphasized the need to build up war reserve stocks to get more elements on the field of battle. We're not shifting priorities. We do have a priority of being able to respond on the battlefield with POMCUS [Prepositioning of Material Configured to Unit Sets] and war reserve materiel, and we will continue to put emphasis on them.

That's my statement.

The CHAIRMAN. Thank you very much.

Senator SCHMITT. Thank you, Mr. Chairman. I'm sorry I have to run. I'd like to ask Mr. Mitchell one question, however. In your recent analysis of the stockpile situation, did you trade off stockpiling versus investments in increased domestic production capacity?

Mr. MITCHELL. Mr. Schmitt, let me ask Ed Zabrowski, who is assistant director for stockpile policy, to answer that specific question. He worked on the policy area.

Mr. ZABROWSKI. The study specifically did not include alternatives to stockpile.

Senator SCHMITT. Why?

Mr. ZABROWSKI. Because that was not the mandate of the study.

Senator SCHMITT. What was the mandate?

Mr. ZABROWSKI. The mandate was to develop a series of possible scenarios.

Senator SCHMITT. How can you do that and not look at the alternative of domestic production?

Mr. ZABROWSKI. Because looking at the alternative domestic production is an ongoing program that we have through our Defense Production Act, title III. The President asked us to study stockpiling.

Senator SCHMITT. Did he say don't study domestic alternative production?

Mr. ZABROWSKI. No; that was not a line in the——

Senator SCHMITT. Did you look at these other production scenarios and say how they interact with the stockpiling scenario?

Mr. ZABROWSKI. We have no distinct production scenarios, Senator.

Senator SCHMITT. It seems to me you have left a major hole in the whole argument that you presented for a specific strategic material.

Mr. ZABROWSKI. Well, in our tasking documents that we received, we didn't perceive it as a major hole. As I said, throughout the Government there are a series of ongoing programs that do address alternatives to stockpiling. However, what we were really trying to get to in that study is what is the type of stockpile and what is the stockpile planning process.

Senator SCHMITT. I understand that, but I don't see how in the world you can go through that process and not look at what the alternatives option may be. For example, we just heard a major economic presentation, a very excellent one, by Dr. Gramm and Mr. Maurice, having to do with the economic penalty of stockpiling. Well, that economic penalty is less if you invest in productive capacity, even though there may be a penalty.

Mr. ZABROWSKI. We realize that, sir, and our planning incorporates our expectation that the industrial base would expand in wartime.

There are also other ongoing projects, programs throughout the Government, as I said, such as to develop chrome substitutes, and to increase recycling. To the extent that recycling programs are known in the economy, we take them into account in our supply projections.

Mr. CHURCH. Mr. Schmitt, maybe I could respond here. They're looking at it from the standpoint of the stockpiles themselves. I have the perspective of having to look at both, and in fact we do so on a constant basis.

The defense industrial capacity and the stockpiles are not alternates for one another. The stockpiles are in fact raw materials and are not finished goods in any way.

Senator SCHMITT. Excuse me, Mr. Church. I'm talking about raw material productive capacity, not finished product production. I'm talking about the alternative between stockpiling of copper and producing copper domestically and the relative cost of doing same and the relative value of having that productive capacity in the kinds of war or crisis scenarios we've been thinking of.

Mr. CHURCH. Well, we do look at both of those. In fact, we do look at the capacity, but we don't know exactly——

Senator SCHMITT. You look at them, but who's making the trade-off?

Mr. CHURCH. For example, we don't know right off what we would alloy copper with, and to take copper and just make it into pure bar form would probably not be the most cost effective approach, depending on what scenario we went into. We constantly do look at the capacity with respect to taking raw goods and converting them to war goods, or if you will, finished goods, and putting them in the field of battle.

We are constantly looking at capacity and probably our greatest extent——

Senator SCHMITT. I am talking about the difference between taking copper or any other component, putting it in the stockpile versus insuring that our productive capacity continues to produce copper. They're two different things.

Mr. CHURCH. And I'm saying we must look at both. Obviously, if we have a key industry which shuts down because of lack of orders or whatever, and it is an industry we need to convert those raw materials in time of war to the next stage or even all the way to the finished goods.

Yes, we have a very important problem. We are constantly alert and have directives and various means of communication throughout the services to report, if you will, our endangered species.

We also look at war base planning, that is, having an adequate base of all our industries, whether they be basic or finished goods, with respect to what happens if the war breaks out. If we drop below a certain level—and from time to time, as the chairman well knows, we have testified on specific items which dropped below what we considered to be levels we can live with in the Defense Department, we have gone in and sometimes literally had to establish our own plants in order to sustain production and insure that the industry is there at all times.

We also do planning with warm production lines—warm being that which is not up to its capacity—and we do sustain them at those rates albeit they may be inefficient for that particular rate of production. We do this so they will be available to expand rapidly in a surge scenario and so we can bring them up to speed very rapidly. All of this is a very integrated sort of planning.

Senator SCHMITT. But you are doing it—but is the stockpiling planning being done without being taken into account——

Mr. CHURCH. Yes.

Senator SCHMITT. Have you specifically, for example, looked at the copper industry and what its productive capacity is? What investment would be required to maintain an active, productive capacity versus stockpiling?

Mr. CHURCH. That is our job, yes.

Senator SCHMITT. Have you done that?

Mr. CHURCH. Yes.

Senator SCHMITT. Is adequate material available?

Mr. CHURCH. Do you have a readily available material on that?

Mr. ZABROWSKI. Well, we have material on our assumptions about what the ability of the economy to produce copper is, and what copper is available from all different sources, foreign sources of supply.

Mr. CHURCH. But where we join together with them is that we sit on the committee which determines the stockpile levels. They have our inputs available to them as they do their stockpile planning.

Senator SCHMITT. Gentlemen, I am not reassured. I would like the information specifically on copper, but largely as an example to know whether or not you are making these kind of tradeoffs because I mentioned it several times this morning. I have not heard very much comment on it, whether there is realistic examination of the alternative, the economic and strategic alternatives to stockpiling, namely, maintaining the domestic production base in various strategic elements where that is possible.

There are some commodities, at least so far as we know right now, that we cannot produce domestically. We just don't know where it is. It may exist, but we don't know where it is.

[The following information was received for the record:]

By calculating stockpile goals using the National Security Council guidance, FPA identifies the magnitude of national vulnerabilities with respect to strategic and critical raw materials. These can be reduced through a variety of methods, one of which is stockpiling. Alternative methods are authorized in the Defense Production Act (DPA).

Once the magnitude of the vulnerability has been identified, cost-benefit analysis can be applied to stockpiling and other alternatives. One method may be clearly superior to all others, or a mix may be more appropriate. Each year the President's budget reflects these concepts. Recent budgets have requested funds for both stockpiling and DPA projects.

Mr. CHURCH. Mr. Schmitt, if I could, I would like to have Dick Donnelly from my staff, who handles that area specifically, comment and clarify the matter for you.

Mr. DONNELLY. I do recall when the Defense Department was participating in the recent stockpile study, we did make assumptions as to what we could expect U.S. producers to accomplish during wartime. And as part of that, for the mining industry, there were estimates made on how the industry could expand during an emergency.

Senator SCHMITT. But do you continue to update that? Right now you're on the verge of losing a major part of our copper industry because of the depressed world market. Now, are you updating that on a continuous basis and looking at it relative to the copper?

Mr. DONNELLY. I should probably defer this to FPA, but I think the answer is yes. There is an annual materials plan that each year looks at estimated wartime supply and wartime demand, and would include an assessment of our U.S. domestic production capability, yes, sir.

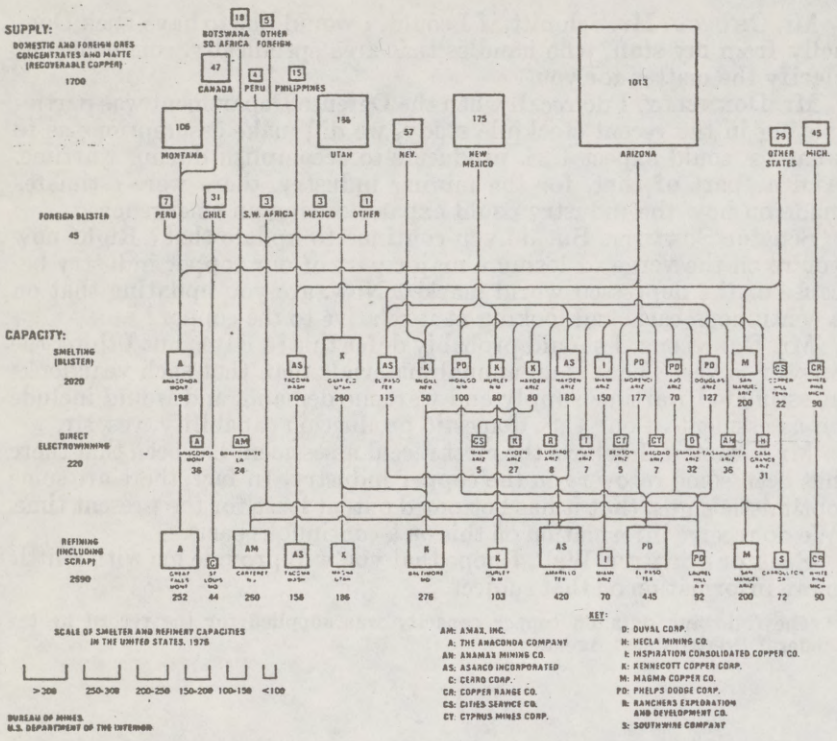
Mr. CHURCH. I believe the most recent assessment has been that there has been some recovery in the copper industry. In fact, there are some optimistic signs, that it has bottomed out, at least for the present time. We do receive information on this on a continuous basis.

Senator SCHMITT. Well, I hope that you will provide me with a little more information on that subject.

The following data on copper capacity was supplied for the record by the Federal Preparedness Agency:

PRIMARY COPPER SMELTER AND REFINERY CAPACITIES AND THEIR FEED SOURCES IN THE UNITED STATES, 1976

(THOUSAND SHORT TONS OF COPPER CONTENT)



Source: Mineral Commodity Profiles, Copper, MCP,-3 June 1977, Bureau of Mines.

In calculating stockpile goals for copper the Federal Preparedness Agency utilizes capacity level data (B level) and normal production (A level) for a three-year stockpile planning period.

The most recent data, shown below, are based on a tabulation of individual mine capacities and include an allowance for old scrap:

COPPER (TH ST)

Country	A level[1]			B level[2]		
	1980	1981	1982	1980	1981	1982
Chile	70	70	70	80	80	80
Ecuador	63	63	63	70	70	70
Canada	140	150	150	155	165	165
Mexico	30	40	41	35	48	48
United States	2,230	2,300	2,390	2,730	2,780	2,790
North America (unspecified)	3	4	4	4	4	4
Southern Europe	20	20	21	23	23	23
Southern Africa	40	40	40	45	45	45
Offshore Asia	10	10	10	12	12	12
Oceania	3	3	3	3	3	3
Total	2,610	2,700	2,790	3,157	3,230	3,240

[1] Levels anticipated under normal economic conditions.
[2] Capacity levels show the maximum sustainable level of production.

These data are adjusted for shipping losses, warzone losses, political reliability discounts, and planning factors regarding the level of capacity that may be assumed for each tier. The planning factors for the level of capacity assumed for foreign sources and domestic sources are shown below:

	1980	1981	1982
Domestic production:			
Defense	(A+B)/2	(A+B)/2	(A+B)/2
Essential civilian	(A+B)/2	B	B
General civilian	B	B	B
Foreign production:			
Defense	A	A	A
Essential civilian	A	(A+B)/2	B
General civilian	B	B	B

Mr. DONNELLY. Senator, there is one other thing, and I'm sure we can provide it later. Under title III of the Defense Production Act, there is a program that addresses expansion of productive capacity and supply to meet wartime or emergency needs. There are projects that both the Defense Department and the Interior Department have submitted to the Federal Preparedness Agency to pursue this program.

Senator SCHMITT. Well, since one of the chairman's concerns here—and I think it should be the concern of the entire Congress—is the cost of stockpiling and whether there are ways to reduce or eliminate that cost.

I hope that you will continue to pursue these kinds of alternatives, because in general it would be cheaper for some extended period of time, at least, to maintain even a noncompetitive mining industry in certain commodities than to be stockpiling it and lose the economic return that I think Gramm and Maurice's analysis has indicated is so important.

Thank you, Mr. Chairman.

Mr. CHURCH. All other things being equal, I might add that our choice would be to have the industry, rather than the stockpiles. You know, we in the Defense Department would rather have the industry productive and producing, if in fact there's a reasonable trade-off there.

There are obvious reasons. It creates jobs and does a lot of other things as well as putting us in a warm sense ready to move rapidly, instead of having to wait until we crank things up.

Senator SCHMITT. That's the most reassuring thing I've heard. I think that's extremely important. They can't always be carried out. There are some which we just can't do that, and we're going to have either alternative materials or alternative ways of doing things or alternative foreign supplies that are in fact secure.

As I think General Hollingsworth would note, that our import security is decreasing, rather than increasing, as a result of the blue ocean Navy that's being developed.

Thank you very much.

The CHAIRMAN. Thank you Senator Schmitt.

Mr. Church, the 3-year war assumption increases the stockpile cost by $8 billion over the cost of a 1-year stockpile. Now, most of this cost falls in the general civilian tier, 55 percent. Couldn't we provide insurance against a 3-year major war at much less cost by eliminating the general civilian tier and accepting the need for more severe civilian austerity measures in the unlikely situation we are drawn into a lengthy conventional war?

Mr. CHURCH. Mr. Chairman, the so-called defense sector of the industrial community is an amount which some 4½ percent of the GNP, which means that we are in an identifiable sense, a rather small part of the total economy.

It is very difficult then to——

The CHAIRMAN. It sure as the dickens wouldn't be true during a war. In World War II, as I recall, about 50 percent of our GNP in 1944 went into defense.

Mr. CHURCH. Our defense as a portion of GNP has been dropping very rapidly.

The CHAIRMAN. Yes, but I'm talking about a situation if we really get into the kind of war where we have to tax our resources and rely on strategic stockpiles.

Mr. CHURCH. Unquestionably it would have to grow in time of war. My point is the tentacles of this thing reach far out, and they are intwined throughout the commercial sector in such a way that it would be impossible to draw clean lines between even essential civilian and military, let alone general civilian and essential civilian.

When you start talking about things like fasteners, for example, you will find there are some 44,000 different fasteners—that's the screws and nuts and bolts—that go into a single aircraft. Now, one can argue that's a part of the general civilian, for example. However, if you're trying to build an aircraft very rapidly, that soon becomes a very important part of the military sector.

To be able to identify the military requirements and segregate out——

The CHAIRMAN. Mr. Church, it certainly ought to be included in that event in the military, not in the general civilian tier. I'm not just talking about the essential civilian tier. I'm talking about the general civilian tier. I think it's just a complete miscalculation or misallocation, misclassification if you include fasteners that could be used in military aircraft in the nonessential civilian tier.

Mr. CHURCH. Well, my point is there are no clean lines in a time of war where we're drawing on the whole civilian sector and there is no really good way to break this out. Foodstuffs and all kinds of things which ordinarily we consider nonwar materials, in time of war become

war materials. I don't know now you break this out in such a way that you can clearly say this is civilian and this is military, because it just all wraps itself together.

The CHAIRMAN. I'm accepting the administration's definition of essential civilian which includes all foodstuffs. Heaven knows food is essential, and shelter is essential. But it does not include a great deal of our economy which is not essential. Now, I would like to hear from you. And perhaps Mr. Mitchell could also help on this or Mr. Zabrowski or Mr. Donnelly could help in telling us what is the nonessential civilian. What do you mean by that?

Mr. DONNELLY. One example that I could easily come up with from a DOD perspective is when we buy a major weapons system like the F–15 aircraft or an XM1 tank, we have pretty good control over where we put that system together at the airframe assembly and plant or tank production facility. But systems like these depend on upwards of 3,000 individual producing industries, subcontractors or vendors. If these people in the lower tier of the industrial base are prudent businessmen, they try to keep the defense work on a fairly low level because of the way we buy. If you can't provide the raw material to keep the brake manufacturer or wheel producer in production during the time that he gradually shifts to a wartime economy, then he isn't going to be there to produce that F–15 aircraft for us.

The base is complex, and it's interrelated. You have to be able to provide flow of materials to keep industry alive as it gradually switches over to a wartime economy. I don't think the Federal Preparedness Agency is planning in a general civilian category the Disneylands and the luxury items.

The CHAIRMAN. That's a very useful distinction, because certainly the impression I received—and I think almost everybody else received—is when you have nonessential civilian you're not talking about something that can be converted into aircraft or into tank production or into any other military production of any kind.

If you are saying that the third tier, the civilian tier, includes the potential military production——

Mr. DONNELLY. Very definitely.

The CHAIRMAN [continuing]. Then it's really confusing. I would hope that you consider refining that.

Mr. DONNELLY. Most people are producing for both sides of the economy, the military and civilian sectors of the economy.

The CHAIRMAN. A recommendation has come from, I think, three agencies of the Government to eliminate the civilian tier. Under the Ford administration, OMB, the Council on International Economic Policy, and the Treasury all recommended that it be eliminated. So it's not just this Senator looking at the title. These people investigated carefully and made their recommendation.

Mr. DONNELLY. Of course, I'm speaking from my narrow Defense Department point of view. As a participant in that same study, I also studied it in detail and recommended support of the civilian tier.

The CHAIRMAN. Now, Mr. Mitchell, does the Department of Defense or the Federal Preparedness Agency have a contingency plan for a large-scale mobilization effort in mind? I ask both you and Mr. Church on that.

Mr. MITCHELL. Contingency plans, Senator, for large scale mobilization effort?

The CHAIRMAN. Yes.

Mr. MITCHELL. Well, Senator, as you know, both the Defense Department and FPA are responsible for planning in terms of mobilizing both industrial goods and manpower. When you say, do we have contingency plans, I would have to say, certainly, a number of contingency plans.

Is that the gist of your question, sir? I'm not sure; maybe I didn't answer it in the way that you wanted.

The CHAIRMAN. Well, you must be geared for some kind of a scenario. What scenario do you envision in the event that you would have to mobilize? How long a period? What do you assume would be the demands on resources, and so forth?

Mr. MITCHELL. Mr. Church may want to comment, since that may be more a defense planning issue than it might be ours.

Would you like to comment?

Mr. CHURCH. I'm not sure I understand the question, either.

The CHAIRMAN. The question is whether or not the Department of Defense, or the Federal Preparedness Agency, has a contingency plan for a large-scale mobilization effort. And if you do have it, of course, the details may be classified and we don't want any classified testimony here. Can you just in general tell us what the assumptions are, how large scale the operation is assumed to be, and so forth?

Mr. CHURCH. We have contingency planning everywhere from a very small incident to all-out warfare in a very global sense. We have been looking at them. We think there are certainly priorities in looking at those contingencies which are the most likely sort of happenings.

That is a tendency to be in a fluid state from time to time as our potential enemies do various kinds of buildups—the degree of their buildup, their ability to fight a long war versus a short war.

Our review does run the gamut and we do have contingency plans for short wars as well as long wars.

The CHAIRMAN. I want to challenge that. I think that General Hollingsworth gave us a very, very powerful and persuasive series of reasons why we won't have time in the event of the kind of military situation that would challenge our resources. We won't have time to mobilize.

He pointed out that it takes 8 months to prepare a soldier, sailor, or marine with the draft that you would have to put into effect if we wanted several million people under arms instead of just the 2 million that we have now.

Also, of course, we would have to enormously increase our weapons system. I remember I was in the military back in the beginning of March 1941, and it was months before we had any rifles or any kind of equipment that would be respectable in any kind of war. It takes a long time to do it. So what time assumptions are you making as to how long it's going to take to prepare for this?

Can you answer the kind of challenge that General Hollingsworth has given us this morning in pointing out how, in his view—I understand he's speaking for himself—in his view it's unrealistic to expect that we have a year or more to prepare for a war before we start.

Mr. CHURCH. I think that's a question of very subjective analysis. I think he would agree that there's no certainty in that we don't know what the warning will be. We should be prepared under any circumstances, whether it be a long or short warning.

And, Mr. Chairman, if I'm here today to say that we're ready for all the scenarios, the answer is absolutely not. We have just gone recently through a very elaborate exercise by the name of "Nifty Nugget", where we certainly did identify key areas in our planning where we need to greatly emphasize getting war stocks to the battlefield, or on the battlefield before that balloon goes up.

We have far too little in war reserve materiel stocks and our supply lines are too long and take too long to get up to speed. We do need to do a lot more. To say we don't have a priority in that area would be a misstatement. We have a very high priority in that area. To say we're not also concerned at the same time about raw material stockpiles and the handling or mishandling and proper management of them, would also be wrong.

We are very interested, because even though some of these build-ups may take a while, we may, in fact, need them. The hostilities may escalate over a long period of time, with sometimes related and sometimes isolated instances throughout the world occurring which finally lead to the final blowup.

Certainly, the Middle East, with the dependence that the Western World has on them for their energy, is a situation which we should all be very concerned about. But I don't believe that the Middle East, for example, would be an overnight occasion, a surprise attack, like we would be more concerned about on the battlefields of Europe.

Maybe General Hollingsworth would like to comment also.

General HOLLINGSWORTH. Mr. Chairman, for whatever it's worth, we talk about preparedness for 3-year conflict, which, as I said before, I don't think we can stand that. I don't believe the American people deserve that sort of treatment.

But to do that would, if experience means anything in the past, would be probably 2 years of mobilization, and then 3 years of war, a total of 5 years. By definition of the fact that it does take time to mobilize, we know that, and then to prepare for a 3-year war, we stack that on top of the mobilization.

The CHAIRMAN. General, it sounds as if all we can do, if we accept your assumption of what the Soviet Union is doing, is begin to prepare right now for the Soviet Union to begin a war any time—because, if we think of that scenario, and that's the only one that I can imagine that's really going to challenge the enormous resources of this country so that we need the stockpiles and so forth, if we're going to do that, we just won't have any significant time at all. Preparation for that great a deterrent would be fantastically costly.

General HOLLINGSWORTH. Mr. Chairman, let's look at the deterrents, for example.

Many people, and I would have to agree with them feel that the Soviets over the course of the last 10 years, have gained nuclear parity—strategic and tactical.

In the theater, nuclear area, if they haven't gained parity at this time, they are working hard at gaining parity. During the period of U.S. nuclear superiority we neglected the conventional capability.

The Soviets in 1969 began driving toward modernization of their conventional capability. They have that modernized capability today in the Warsaw Pact, Mr. Chairman. In addition to that, they have a chemical capability.

We need to, in my view, maintain parity in the strategic and the theater of nuclear power capability, and at the same time, build a conventional capability and deterrent against the quick-strike capability of the Soviets Warsaw Pact, against the no-warning, quick-strike conventional capability of the Soviets Warsaw Pact.

We build that deterrent through readiness and strength, new weapons and new materials on the battlefield, new improvements on reinforcing quickly with soldiers to man stockpiled equipment wherever it needs to be.

But the thrust, as I see it, in the strategy is to build a conventional deterrent in place in that part of the world that our national interest dictates. Build a deterrent against their conventional quick-strike capability, their no-warning capability, and maintain parity in the other two areas.

If we will do that, we will provide this U.S. Senate and our House of Representatives, our administration and President, and our people an opportunity to consider, if need be, one of the other two options. With a lack of mobilization time, and I truly believe this, we can get a lot more readiness and strength out of our present conventional capability than we presently have, if we will just put our noses to the grindstone and get on with it.

The CHAIRMAN. Let me ask you directly, Mr. Church. Current DOD contingency planning assumes little or no warning prior to war. Doesn't this contradict the stockpile assumption of a lengthy prewar period of mobilization?

Mr. CHURCH. Mr. Chairman, that's only one of the contingencies we look at. We must plan for no warning and we must plan for a warning.

The CHAIRMAN. General Hollingsworth has challenged that and I challenge it. It just doesn't make a lot of commonsense that we're going to have a long period of mobilization. You say the situation in the Middle East may look threatening. Well, it's always looked threatening. Even since I was a baby, I can't remember any time that it wasn't threatening. And certainly, for the last 10 years it's been. We've had four wars over there. And of course, they are armed more and more.

We could have a situation in Iran—that's about as unstable as anything I could imagine. We could have one next week with their colossal military power. They may be taken over by the Soviet Union or the Soviet Union's allies. That can happen like that. But I just cannot, for the life of me, imagine a situation where we would have 1, 2, 3, or 4 years to get ready. You keep talking about that option, but that option just seems to be unrealistic and it's very expensive. It has cost us about $8 billion yearly.

Mr. CHURCH. Mr. Chairman, I don't think we are really inconsistent here. I think what we're saying is there is more than one possibility involved. We believe the No. 1 priority is, and our emphasis certainly should be on, as General Hollingsworth has so succinctly stated, being

prepared in a very ready sense for the challenge in the battlefields where we might be involved in the Soviet Union.

We need to have a response which is measured to the degree of the Soviet threat or the Soviet action, without having to go to theater nuclear, without having to go to strategic. In fact, there may be an action and an activity which goes on for some period of time. What we need is enough prepositioned armaments necessary to repel that attack and to hold them until such time as we can get reserves there and get——

The CHAIRMAN. Give me a specific scenario. We talk about Mexico or Angola. Are we going to have another Vietnam, Korea?

What kind of a situation can you tell us about that would require this kind of strategic stockpile policy we have now?

Mr. CHURCH. Mr. Chairman, I think that would get into some specific war policy planning which would be in the classified area. I think we would have to reserve that for a more classified session.

All I can say is there are various scenarios and we are trying to prepare for them all. We have not been as prepared as we should for the kind of scenario General Hollingsworth has been talking about, and we are placing major emphasis on that.

The CHAIRMAN. General, let me ask you: What's the probability we'll be drawn into a European war which lasts 3 years and is preceded by a lengthy industrial mobilization effort? Can you imagine that kind of effort developing?

General HOLLINGSWORTH. I look at capabilities, again, and what we can do and what the Soviets can do.

The Soviets have more than 100-some-odd divisions now. I don't want to get into a classified figure, but I think I read in the newspaper that they had more than 156 divisions. We have a total of 16.

With the way they use people, I have no doubt about their capability to come out with 500 or 600 divisions, while we probably are struggling to come out with 100. And with technology as it is, and equipment in the Soviet Union, and we see it in their forces and we look at our own. We talk about our advantage in technology. They do technology in one way and accomplish the same thing that we do with technology in a different area and in a different way.

So I just turn the question around to you, Mr. Chairman, and say that I would hate to take the best part of all-out mobilization in this country and go look, from some place—I don't know where—and here I've got 10 to 1, 5 to 1, and 6 to 1 number of divisions and equipment to face.

I don't think anybody can win in that sort of situation.

The CHAIRMAN. Let me ask you, Mr. Mitchell: What happens to the strategic stockpile in terms of acquisitions and disposals during the assumed period of mobilization?

Mr. MITCHELL. Mr. Chairman, I think—let's see if I can answer the question in a way that I understand it.

The discussion that we have just had about length of warning time and length of war, I think there may be some confusion about that.

The stockpile planning policy is not talking about 2, 3, 4, or 5 years of warning. It's talking about approximately 1 year of warning and enough materials to support the Nation if it had to use those materials for 3 years.

The CHAIRMAN. My question is: What happens during that year of warning, year of preparation? What happens to the stockpile?

Mr. MITCHELL. We would assume that the materials in the stockpile would be available for industrial production and would be called upon by the claimants at that time.

Ed, would you like to comment?

Mr. ZABROWSKI. Yes; during that prewar year, Senator, the economy, as we envisage it in an interagency study, is in a period of transition from peacetime to wartime. We aren't going to be able to acquire much, if anything, for the stockpile during that period because there's going to be—it's obviously going to be run on boats, manpower, and so forth.

Our feeling is that during the prewar year, we are just positioning ourself for releases to start at the beginning of the war.

The CHAIRMAN. The reason I ask the question is that's where I disagree with you. It seems to me that that would be a period where we would greatly increase our stockpile. We give that a very, very high priority—very, very high economic priority—just as in World War II. We stopped producing automobiles, and produced tanks instead. If we have that kind of warning, I don't think it's realistic if we have it, but if we do have it, it seems to me that the assumption is an unrealistic assumption. I think that during that period, we would greatly enhance our stockpile. We have reason to do it. We have an economy that's full of fat. We waste all kinds of things in the civilian sector that we don't really need, at least compared to defending our country.

Mr. CHURCH. Mr. Chairman, may I respond to that?

We may not have that option available to us at a time of increased hostility. The stockpile consists of goods that come to us to a considerable degree from foreign countries. Those countries may, in fact, decide that continued shipments would put them on the side of a potential adversary of another and they may say they're not going to provide us those materials.

Furthermore, as I pointed out earlier in my statement on the Zairian situation, we had one element of the stockpile which was, in fact, in grave danger. If there was an extended period of combat in Zaire and cobalt supply was cut off for a long time, we would very badly need the stockpile. Certainly, in that kind of environment, it would be impossible, as it was and still is to a considerable degree, to get the skilled technicians necessary to go in and get that output up. The native population just simply isn't capable of doing that.

The CHAIRMAN. I appreciate that. I think that's a reasonable response. At the same time, I do think that under those circumstances, the priority in our economy would go necessarily to military needs and that we have to perhaps close down some of our civilian operations and direct our strategic material to the stockpile.

It's a sacrifice but it's a sacrifice that would be proper.

Mr. CHURCH. We hope that that is included in the stockpile plan.

I just want to make one other statement. You mentioned twice today an $8 billion figure of an annual maintenance of the stockpiles. We are not aware of the origin of that statement. Because of our lack of comment, I would not like to pass as our agreeing that is a correct figure. We don't understand it. We don't know its derivation. We know of no annual figure of $8 billion to maintain stockpiles.

The CHAIRMAN. Well, all we have to do is to take the statistics that we get from the GSA here, signed by Paul Golding. First you have $3.7 billion. Second year, $3.9 billion. Third year, $4 billion. We add the $4 billion and $3.9 billion, and get about $8 billion, $7.9 to be precise. So by going to 1 year instead of 3 years, you've now got $8 billion. Now let me ask you this——

Mr. CHURCH. But that's not annual maintenance. That's only if——

The CHAIRMAN. Well, I am talking about an $8 billion cost. It is not an annual——

Mr. CHURCH. That's not recurrent.

The CHAIRMAN [continuing]. Except in the way that the economists who were here earlier so brilliantly exposed it. You have got this tied up and you have a tremendous opportunity cost lost here by tying up that much——

Mr. CHURCH. I don't know about commodities. But I do know when you go into an environment where you're buying that kind of material in a short period of time and price escalates very rapidly, particularly where those people who supplied the material know you need it, and particularly if they're outside the boundaries of the United States, they can stick you well for it.

I hate to have us go into a commodity brokerage business and treat it as such. We do so from a defense standpoint. I think the very obvious observation would be if we try to acquire those kinds of goods in a short time, the price would escalate very rapidly.

The CHAIRMAN. What Dr. Maurice and Dr. Gramm showed, however—they took our economic history, they took a period of the last 80 years, roughly, since 1900, and they found that the cost is tremendous in tying up resources in a strategic stockpile—not that we shouldn't have a strategic stockpile. We have to have it, of course. The question is how big it has to be, what the assumptions have to be. We have to recognize that we pay a very substantial price immobilizing $8 billion by allocating it for the second and third year.

Let me ask you this, Mr. Mitchell: If the general civilian category is essential for the maintenance of a sound commodity, and that's the third tier we're talking about, then why in the 1976 review did OMB, the Treasury, and the Council on International Economic Policy, all recommend a policy which omitted the general civilian tier? Did it mean that they didn't feel the policy reflected sufficient belt tightening?

Mr. MITCHELL. Well, I think that I can probably answer that, Mr. Chairman, even though I wasn't here at that time that the study was going on.

Quite frankly, I would say because of tendency on the part of some agencies, Mr. Chairman, to be more conservative than others, in terms of finances and money, we would expect that type of response.

The CHAIRMAN. Let me just interrupt. I'm sorry, but let me interrupt to say that these three agencies, it seems to me, are in an excellent position to calculate the effect on the general economy. And that's what this tier is concerned about. That's why it seemed to me that we have to give considerable weight to their judgment, because this wasn't the military part of it, where I think we have to give primary weight to the judgment of the Defense Department.

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Mr. MITCHELL. Well, you're right, Mr. Chairman, and probably the terms "general civilian" and "essential civilian" are misnomers and should be changed in this new policy bill.

Ed, would you like to further reply to the chairman's questions?

Mr. ZABROWSKI. Yes, sir, in terms of the agency outlook, as Mr. Mitchell has said, there were a couple of points of view throughout. These outlooks were reflected in the options that went to the President for determination of what he would select as his stockpile policy.

Furthermore, all agency positions were included in that transmittal document verbatim. The pros and cons of each option were presented, and the task force chairman summary comments also went over to the President.

And having reviewed all of those, it was the President's determination that, indeed, not only should the general civilian economy, as we define it here, be provided for, but that it should be provided for at his 3-year level.

The CHAIRMAN. Was that documentation classified?

Mr. ZABROWSKI. Yes, sir.

The CHAIRMAN. Can we get a sanitized version of it?

Mr. ZABROWSKI. I don't know, that document is under the control of the National Security Council.

The CHAIRMAN. I would like to have that in the committee to discuss it. I'd like to bring it up on the floor. See what you can do. Will you do that?

Mr. ZABROWSKI. I will try. As I said, this document is the property of the National Security Council. I can't really represent them here.

The CHAIRMAN. I understand. Perhaps they can do it here. They can help you do it here. We got the NSC to testify for us on the Russian military posture and the Russian economic posture before the Joint Economic Committee, and when we got a sanitized version, they knock out about a comma and a word or two. It's remarkable how almost everything that's testified to doesn't really have to be classified.

One final question, Mr. Mitchell, Mr. Zabrowski. On page 3 of your statement, you say, "many changes have occurred since the 1950's, when most stockpiled materials were purchased. And so our inventory levels are, in many cases, seriously out of date." In other words, the situation has changed considerably in 20 years. Now we have new stockpile goals which the administration plans to fill over the next 15 or 20 years. Isn't that going to create another seriously out-of-date situation in the 1990's?

Mr. ZABROWSKI. Not really.

The CHAIRMAN. How do you keep it up to date?

Mr. ZABROWSKI. We keep it up to date in several ways.

The stockpile planning process, I suppose, can be viewed as a cap to the policy review, every 4 years or sooner, as needed.

The CHAIRMAN. Look at our present stockpile. It is way out of date now. Senator Hart testified this morning, as chairman of the Armed Services Subcommittee, that it is ridiculously out of date—that we have a great deal of materials that cannot be properly classified as strategically necessary under present circumstances, and others that we don't have that we need.

Mr. ZABROWSKI. He is absolutely correct, sir.

The CHAIRMAN. How is that going to be corrected?

Mr. ZABROWSKI. Well, as I mentioned, through this stockpile planning process we have developed an annual materials plan. We maintain constant surveillance over the state of our stockpile materials. And every year we recalculate goals. The annual materials plan is our management device for attempting to implement in a manageable and orderly way those stockpile goals according to the priorities that the President has approved.

The CHAIRMAN. There does seem to be a contradiction here.

On the one hand, the administration calls for an enormous stockpile to guarantee our national security. On the other it says that we can delay meeting our stockpile goals for 15 or 20 years.

Mr. ZABROWSKI. Well, it appears to be a contradiction. It really isn't.

We are bound in a few materials.

In point of fact, there are three materials, sisal, jewel bearings, and pyrethrum that take more than 20 years to procure. With the exception of jewel bearings, those are agricultural materials. Abaca is a material that we would expect to take between 13 and 20 years. But the vast majority of other materials, even on the 3-year three-tier scenario, will be completed within 12 years. Over half—and when I say over half of them, I mean over half of the materials for which we haven't fulfilled goals, will be filled in 12 years.

Now we do have goals fulfilled in 40 materials in the stockpile. There are another 10 materials for which we are holding lower rated or off-rated forms of material, which when we get into our upgrading program, we will complete that. But the balance of the materials, fully over half, if we could get on with the stockpile program, would be—the acquisition would be completed in less than 12 years.

The CHAIRMAN. Well, gentlemen, I want to thank you very, very much for your testimony. I apologize that you had to continue for as long as you have. You have been extremely responsive and helpful.

As you can tell, I am very much concerned with our stockpiling policy, if it can be improved. And we can save a great deal of money if we do so.

At the same time I think we can have a stronger national security. But your testimony has contributed to that objective which, I am sure, we all share.

We may have additional questions for you for the record. We would appreciate very much if you would respond in writing.

Mr. ZABROWSKI. Senator, before you conclude, could we enclose, for the record, a lucid explanation of the general civilian tier, and just what we are talking about?

The CHAIRMAN. I wish you would. Yes.

[The following material was received for the record:]

General
Services
Administration Washington, DC 20405

DEC 18 1978

Honorable William Proxmire
Chairman, Committee on Banking,
Housing, and Urban Affairs
United States Senate
Washington, D. C. 20510

Dear Mr. Chairman:

Thank you for your letter of November 17, 1978, to Mr. Mitchell, Director of the Federal Preparedness Agency.

Enclosed is the information you requested on strategic stockpile policy. Also enclosed are inserts for the record of hearings before the Senate Committee on Banking, Housing, and Urban Affairs on November 14, 1978.

With the agreement of Mr. Winslow of your staff, the inserts address additional issues raised by other witnesses. Following consultation with your staff, we changed the percentages in question seven to clarify the example. We have also given a combined answer to questions one and seven.

During the hearing, you asked if the documents presented to President Carter by the National Security Council (NSC) for decision on stockpile policy guidance could be declassified and included in the hearing record. The NSC has been consulted and has declined to declassify the material. However, the documents are available at the NSC and can be reviewed by committee staff members possessing appropriate security clearance and a need to know.

Sincerely,

Jay Solomon
Administrator

Enclosures

Question:

(1) How much would the three tiers of the stockpile cost 1) assuming pre-war industrial mobilization and 2) assuming no pre-war industrial mobilization?

(7) Stockpile goals are based on specific austerity and personal consumption expenditures (PCE) shift assumptions. How sensitive are the goals to changes in these assumptions? For instance, if we assumed greater austerity (1st year - 94%, 2nd year - 90%, and 3rd year - 85%) and greater PCE shift (1st year - 50%, 2nd year - 70%, and 3rd year - 70%), how much would the stockpile cost?

Answer:

During the 1975-1976 stockpile study, various sensitivity analyses were done to assess the impact of changing individual policy assumptions. A "standard" stockpile served as the basis for comparison as assumptions were changed one at a time. The value of the resulting stockpile was calculated to determine the percentage change from the "standard." These earlier calculations form the basis for the following table.

Assumption	Percent Change in Stockpile
No Prior Mobilization	-28.5%
Austerity Proposed in Q. 7	-5.6%
PCE Shift Proposed in Q. 7	-9.3%

As the "standard" stockpile had different goals than the present stockpile and 1975 prices were used to calculate the value of the goals, the figures in the table would indicate only the order of magnitude of change if applied to the present stockpile goals. If more than one assumption were altered at the same time, the change in the value of goal would be less than the sum of individual changes.

It should be noted that the austerity suggestion in question is three times as great as that actually achieved during World War II, while the PCE shift (a reduction in consumer durables spending) suggested exceeds World War II experience by 140 percent.

Question:

(2)(a) Please describe, in detail, the pre-war industrial mobilization effort envisioned by stockpile planners. In other words, what measures would be taken above and beyond on-going industrial preparedness programs? How much would such a mobilization cost?

Answer:

The pre-war industrial mobilization effort focuses on increasing the industrial base through additions to plant and equipment by the private sector. This accelerated investment is driven by an increase in defense expenditures (48.9 percent higher than the current DOD budget), a 15 percent investment tax credit, use of depreciation schedules similar to those used during the Korean War, and a 10 percent reduction in equipment depreciation tax lives. Offsetting these costs to Government are revenue increases derived from an increase in the average personal income tax rate from 20.6 percent to 21 percent, an increase in the corporate profits tax rate of 10.4 percent, and increased excise tax revenues of $5 billion (1972 dollars). The federal budget deficit is estimated to be $55 billion (current dollars) compared to an estimated peacetime deficit of $51 billion. Thus the total cost to the Government of both the pre-war military and industrial mobilization is $4 billion. If the increased DOD expenditures are subtracted from this total, the industrial mobilization generates a net return to government of $49 billion through increased tax revenues.

Question:

(2)(b) "Under what circumstances would we mobilize industry well before the outbreak of war? Please describe viable scenarios and the extent of mobilization measures. (Also, what would the U.S. political and economic climate be? And how would the Soviets react in light of our mobilization efforts?)

Answer:

The stockpile planning options presented to President Carter included different mobilization assumptions. The guidance approved by the President and the National Security Council directs FPA to assume a mobilization period prior to the outbreak of war and to implement the stockpile program on that basis. Particular scenarios, including the U.S. political climate and Soviet reactions, which would appropriately fit the assumed mobilization are not within FPA's area of expertise or responsibility. The economic climate we assume for stockpile planning has been described in part above. Additional details on over 400 economic variables could be made available to the committee on request.

Question:

(3) Mr. Church describes the industrial preparedness program on pages 4 and 5 of his statement. The purpose of this program is to maintain a certain degree of industrial readiness at all times -- a

constant state of semi-mobilization. Doesn't the existence of such a program and a relatively-high level of annual defense spending reduce the need for and likelihood of the type of mobilization assumed by stockpile planners?

Answer:

The industrial preparedness program described by Mr. Church refers to plant capacity of prime contractors and principal subcontractors and therefore quickly available for the production of specific essential military items. These are items needed immediately during any emergency in amounts greater than normally produced in peacetime. These plants are not "semi-mobilized" but are able to switch to military production quickly provided that component parts are available. Subcontractors furnish vital parts to the prime contractors, and there are often second, third or fourth layers of contractors required to produce one military item. These subcontractor levels of production are often not reached by the DOD industrial preparedness programs. During the mobilization year visualized by stockpile planning, these subcontractors would increase shifts and expand plant and equipment to meet prime contractor demand.

Question:

(4) Please list components of the "essential civilian" and "general civilian" tiers. What components of a peacetime economy are excluded altogether from stockpile planning?

Answer:

The components of the essential civilian and the general civilian tiers and their use in stockpile planning are listed and described in an insert for the record of the November 14, 1978, hearings before the Senate Committee on Banking, Housing and Urban Affairs.

Question:

(5) In response to a question, Mr. Donnelly describes how industry currently included in the general civilian tier may be used for military production. If that is so, why is it categorized "general civilian" rather than "military"?

Answer:

Industries do not produce just defense or just essential or general civilian tier products. Instead a single worker on a production line may produce industrial fasteners for aircraft (Defense Tier), for farm machinery (Essential Civilian Tier), and for office equipment (General

Civilian Tier). A single factory could also produce a variety of products which fall in different catagories. Prior experience indicates that severe economic dislocations occur when an adequate level of support is not given to the industries providing indirect inputs to critical defense and non-defense production. For example, during World War II when the industrial structure was far less complex and interrelated than it is today, planners found that:

> "It soon became only too evident that it was impossible to separate sharply 'civilian' and 'defense' materials and facilities at a time when defense requirements were everywhere reaching down into industry stockpiles and miliary and commercial items were being produced side-by-side in the same factories." (George W. Auxier, Industrial Mobilization for War: History of the War Production Board and Predecessor Agencies 1940-1945)

> "A civilian economy characterized by health and vigor is basic to effective production for war; and whatever is needed to keep the economy running so that it can further the war effort represents an essential claim on the national resources." (Harry B. Yoshpe, Economics of National Security: Requirements: Matching Needs with Resources)

Question:

(6) Mr. Mitchell, you have expressed your belief that "the stockpile should be used only for defense purposes". Do you support the use of stockpiled materials to guarantee the non-defense production of defense contractors?

Would you support such use during peacetime? (If "yes", isn't this an economic rather than a defense purpose?)

Answer:

The manner in which non-defense production enters stockpile planning is explained in an insert for the record of the November 14, 1978, hearings before the Senate Committee on Banking, Housing and Urban Affairs. The stockpile materials themselves can be released only as specified in the Strategic and Critical Materials Stock Piling Act. Section 5 of the Act limits use of these materials to two situations: "...(a) on order of the President at any time when in his judgment such release is required for purposes of the common defense, or (b) in time of war or during a national emergency with respect to common defense proclaimed by the President, on order of such agency as may be designated by the President." If at any time the President judged that the common defense of our nation required the

release of stockpile materials , the release would not be an economic stockpile use.

In a decision memorandum of November 15, 1965, Attorney-General Katzenbach gave his opinion regarding stockpile releases:

> "While there is nothing in the statute and the legislative history dealing explicitly with this point, it is clear that Congress did not wish to limit the President's disposal authority simply to direct military requirements. Had Congress so intended, it would have been easy to specify in the law itself. It is equally clear that Congress did not wish, as Attorney General Brownell indicated in his opinion, to permit release of strategic stockpiles for economic reasons unrelated to defense. Between these two extemes Congress vested discretion in the President and to that end used broad and general language."

Question:

(7) See question (1) above.

Question:

(8) Wouldn't it be better to have smaller, more attainable goals geared to the most probable and most dangerous defense contingencies? (We could meet such goals in a few years and then reassess our position. We would run less risk of large stockpile excesses and less risk of stockpile manipulation for economic purposes.)

Answer:

One of the advantages of the new stockpile planning process implemented by Annual Materials Plans is that each plan is a small, attainable "goal". Each plan is attainable in a fiscal year from a market point of view as well as from a taxpayer view. Each annual plan is geared to cover the most dangerous defense contingencies existing at the time it is proposed. Reassessment of defense needs occurs, therefore, each year.

In addition, the overall policy assumptions will be reviewed a minimum of every four years. At the same time, an effort is made to look further into the future at raw materials supply and demand trends. It is the longer range view which produces what FPA calls "goals." The combination of a long term goal which will change as conditions warrant and yearly proposals means that urgent defense needs are covered in a short time. Defense needs will be met under

this program within five years of initiation even though much restructuring of our out-of-date stockpile is now required.

The option suggested in the question would instantly create large excesses because the three year goals are already met for many materials. According to law, excesses must be sold if Congress grants selling authority. Furthermore, if the suggested later reassessment resulted in larger goals, the government, having sold the excesses, would have to enter commercial markets to purchase material it had recently sold. Therefore, the answer to the question is no. We believe that the magnitude of a goal at any point in time is of less importance than the proportion of it we plan to acquire in a given one-year period. We also believe that the best approach to implementing the goals is the method now in use—the interagency process that results in an Annual Materials Plan.

STOCKPILING FOR THE CIVILIAN SECTOR OF THE ECONOMY

There has been no change in the nature of civilian demand to be met through stockpiling. However, procedures used to calculate the requirements have changed in recent years. This has caused some confusion because the civilian sector used by stockpile planners has now been divided into two pieces for planning purposes. What these two pieces represent is sometimes unclear. The following discussion is intended to clarify that point.

The words "civilian sector" refer to all non-defense economic activity. Stockpile planners define this sector quite narrowly, identifying specific items required for specific war years. In general, the civilian sector refers to private citizens and industry, as well as the non-defense part of government. It also includes all types of fixed investment and foreign trade.

Stockpile goals fill the gap between the nation's wartime requirements and supplies. The goals do not emerge magically from a computer model into which raw numbers are fed: the data that go into the model result from hundreds of individuals decisions made by industrial specialists, materials experts, and econometricians. They are based on broad policy guidance, which includes the following concepts.

—The stockpile will be designed to support the direct and indirect requirements of the Department of Defense in wartime.

—The stockpile will be designed to support only those civilian requirements needed to support the war effort and maintain a viable economy and a healthy population.

—The stockpile will be designed to support three years of a major conventional war preceded by a warning period in which industry will expand.

The methodology now used by stockpile planners — the use of computers and detailed data and assumptions — has not eliminated the need for analysis and review by experts. It has, however, provided an orderly, logical system for doing these tasks. And it has enabled planners to analyze and update decisions systematically as data and methodology improve.

Before proceeding with a discussion of civilian sector needs envisioned by stockpile planners, we should provide a historical setting.

History

Soon after World War II, Congress passed several laws pertaining to

national planning for wartime emergencies. Each of these provided quite specifically for the civilian sector of the economy.

In 1946, the Strategic and Critical Materials Stock Piling Act was designed to ensure that the "industrial...needs of the country for common defense" as well as the "military and naval" needs would be met through a stockpile program preventing dangerous and costly dependence on foreign sources of supply.

Soon after came the National Security Act of 1947, setting into place the outlines of the defense and intelligence structures remaining with us to the present day. This act charged FPA's predecessors with the job of advising the President on several matters. These included programs to support wartime needs of the military and civilian sectors and for the "maintenance and stabilization of the civilian economy in time of war." In using these words, Congress gave special attention to the importance of a viable civilian economy in sustaining a war effort.

The message was given still more clearly in the Defense Production Act of 1950. In response to the Korean War, the Act was intended to expand "productive capacity and supply beyond the levels needed to meet the civilian demand, in order to reduce the time required for full mobilization in the event of war." This basic policy — that the civilian sector of the economy will be supported in wartime — has been reiterated every two years since 1950 as each successive Congress renewed the Defense Production Act.

President Carter and President Ford both placed themselves firmly within this general policy when they issued the guidelines now used by stockpile planners. The present guidelines embody the principle that the nation's ability to fight an extended conventional war depends on the overall strength of its civilian economy.

Definitions

Planners define the components of the civilian sector in detail to help them sort out activities requiring more stockpile support from those requiring less support or those that are not suitable for such support.

Terms used by stockpile planners have specific operational definitions. Words such as "essential" and "general" which are vague and imprecise in their ordinary usage are defined for stockpile purposes in extraordinary detail by using lists of items and amounts of each item assigned to the categories. These definitions appear as tables included in this discussion.

Some of the most important terms used by stockpile planners are:

--Essential Civilian Tier

--General Civilian Tier

--Phantom Tier

A discussion of their significance follows.

The Essential Civilian Tier is a category of demands of the civilian sector. It includes a wide variety of items: clothing, machinery, electrical equipment, and many others. However, quantities of these items also appear in another tier, called the General Civilian Tier.

Reading a list of items and quantities falling into each tier will give the clearest understanding of the differences between them. But there are some general distinctions to be made.

Demand that is "Essential Civilian" is more directly tied to the war effort than the "General Civilian" demand. The "Essential" demand usually cannot be met by using substitute materials to make the desired items. To meet this demand, some strategic and critical materials would be needed.

Demand that is "General Civilian" arises from the need to support the overall viability of the economy and to maintain the health, morale and productivity of the civilian population. To keep factories working as they retool for war, their needs for raw materials must be met. Overall, the General Civilian Tier stockpile goals are much smaller for the third war year than for the previous two years because it is expected that the transition to a wartime economy would by then have reduced the need to support such demand.

Dividing the civilian sector into two parts results in lower stockpile goals than would be the case under the former planning procedures. In the "old days," only one set of planning assumptions was applied to civilian stockpiling. For the two civilian sectors now in use, there are two separate sets of planning factors. The planning factors used for the General Civilian Tier result in smaller stockpiles per unit of demand than do those used for the Essential Civilian Tier.

The Phantom Tier is so called because there are no stockpile goals to meet civilian demand in this tier. This includes demand for luxuries. In fact, the Phantom Tier is comprised entirely of personal consumption expendiiture items that otherwise would appear in the General Civilian Tier.

Overall, the Phantom Tier contains about 15 percent of the projected wartime Gross National Product. This tier is expected to grow dramatically as the war years pass and the economy adapts to wartime demands.

The Phantom Tier contains demand that is not to be met through stockpiling because of assumed wartime austerity measures. Austerity refers to the reduction in the civilian standard of living that will be imposed in wartime. Planners assume that there will be a 10 percent reduction in per capita personal consumption expenditures by the third war year. This reduction is measured in constant dollars. It is a sharper reduction than occurred in World War II. The austerity assumed by stockpile planners reflects policy decisions that the nation will not stockpile for a "guns and butter" economy. It also reflects the fact that stockpile planning is not based on World War II assumptions.

The way the three civilian tiers are constructed by stockpile planners embodies the assumption that normally unavailable strategic and critical materials will be released for the urgent requirements of war by a number of measures to be implemented as the war progresses. Stockpile planners assume that consumers would spend substantially less on durable goods (such as automobiles, washing machines) and relatively more on nondurable goods and services (such as newspapers, and automobile repairs). In addition, businesses would need to invest in industrial machinery and equipment to meet the growing demand for military equipment. This would replace much of the investment in private housing.

It is further assumed that, as the war progresses, Americans will be able to find substitutes for strategic and critical materials in many uses. For example, builders will find adequate, if less satisfactory materials for insulation, wiring, or heating systems.

As a result of these activities, more stockpile materials will be available for the greatly-expanded war-related industrial activity than is normally available for such production.

The following table shows the severity of the civilian austerity expected by stockpile planners under current guidelines. An index is used with 100 being the base year. The table shows that during World War II, civilian consumption dropped very little. During the Korean War, it increased little more than 5 percent. During the Vietnam War, a true "guns and butter" situation, civilian consumption grew by more than 10 percent by 1967. During the war envisioned by stockpile planners, this type of consumption would drop by 10 percent by the third war year.

Index of Actual and Planned Wartime Consumption by Individuals

War	War Year				Actual Years Used			
	1st	2nd	3d	4th				
WWII	100	96.5	97.8	99.8	1941	1942	1943	1944
Korea	100	103.8	102.1	105.1	FY50	FY51	FY52	FY53
Vietnam	100	104.6	109.1	111:0	1964	1965	1966	1967
Stockpile	100	98	95	90	M*	1	2	3

*M=The year before the war

Transportation — An Example

It may be helpful to give an example of how a given category of demand is divided among the different tiers during the course of the projected war period.

A useful example would be transportation, which is associated in some way with almost every aspect of the nation's economy.

During a war, we assume that the supply of new automobiles for consumers would be halved by Government austerity measures (that is, by setting limits on overall spending levels and limits on durable goods expenditures). The remaining half would be considered "General Civilian" because it can be considered support for the overall viability of the economy and population. It is expected that these automobiles would be used for carpooling and other necessary travel activities.

By the third war year, the supply of new automobiles to consumers would be further reduced to only one-quarter of the prewar supply by including a portion of the demand in the Phantom Tier, where it would receive no stockpile support. American industry would continue to manufacture automobiles to meet direct and indirect defense needs (such as jeeps) and the needs of business in the growing industrial base.

Because the availability of new autos is restricted, stockpile planners assume that there would be full support for automobile repair services and public transportation, both of which would be considered Essential Civilian. With respect to auto parts, half would be considered Essential Civilian and half General Civilian, reflecting the fact that some private transportation needs would be more closely tied to the war effort than others.

STOCKPILE POLICY AND OBJECTIVES DIVISION

PERSONAL CONSUMPTION EXPENDITURES

		1979			1980			1981			1982		
		EC TIER	GC TIER	PHANTOM TIER	EC TIER	GC TIER	PHANTOM TIER	EC TIER	GC TIER	PHANTOM TIER	EC TIER	GC TIER	PHANTOM TIER
1	NEW CARS + NET USED CAR	0.	44900.	0.	0.	41200.	0.	0.	29490.	3510.	0.	15600.	15600.
4	KITCHEN + OTHER APPLIAN	5882.	5882.	0.	4762.	4762.	0.	3330.	3330.	0.	2808.	1480.	1328.
5	CHINA, TABLEWARE + UTEN	2153.	2153.	0.	1744.	1744.	0.	1227.	1227.	0.	1044.	522.	522.
6	OTHER DURABLE HOUSEFURN	7979.	7979.	0.	6572.	6572.	0.	4614.	4614.	0.	3939.	3491.	448.
8	JEWELRY + WATCHES (II-7	0.	4786.	0.	0.	0.	3877.	0.	0.	2728.	0.	0.	2321.
11	WHEEL GOODS, TOYS, BOAT	0.	7368.	0.	0.	4705.	1263.	0.	0.	4200.	0.	0.	3573.
17	WOMEN'S & CHILDREN'S CL	16626.	16626.	0.	17581.	17581.	0.	18536.	18536.	0.	19519.	0.	19519.
18	MEN'S CLOTHING, EXC. MI	8537.	8537.	0.	9027.	9027.	0.	9517.	9517.	0.	10022.	0.	10022.
29	TOYS + SPORT SUPPLIES (	0.	7537.	0.	0.	0.	8212.	0.	0.	8864.	0.	0.	9433.
50	THEATRE + RACES (IX-8A,	0.	2001.	0.	0.	0.	2112.	0.	0.	2230.	0.	0.	2355.
51	SPECTATOR SPORTS (IX-8C	0.	1107.	0.	0.	0.	1169.	0.	0.	1234.	0.	0.	1303.
52	CLUBS + FRATERNITIES (I	0.	1107.	0.	0.	0.	1169.	0.	0.	1234.	0.	0.	1303.
53	PARTICIPANT AMUSEMENTS	0.	2668.	0.	0.	0.	2816.	0.	0.	2974.	0.	0.	3140.
54	OTHER RECREATIONAL EXPE	0.	6323.	0.	0.	0.	6674.	0.	0.	7048.	0.	0.	7442.
62	RELIGIOUS + WELFARE ACT	0.	8097.	0.	0.	8547.	0.	0.	0.	9026.	0.	0.	9530.
63	FOREIGN TRAVEL BY U. S.	0.	5549.	0.	0.	5857.	0.	0.	0.	6186.	0.	0.	6531.
TOTAL-PERSONAL CONSUMPTION E		41177.	132621.	0.	39686.	99994.	27292.	37224.	66715.	49234.	37333.	21094.	94370.

STOCKPILE POLICY AND OBJECTIVES DIVISION

ESTIMATES BASED ON 3RD YEAR OF WAR FOR
1978 STOCKPILE STUDY
PERSONAL CONSUMPTION EXPENDITURES

		PERCENT DOD	PERCENT : ESSENTIAL : CIVILIAN	PERCENT : GENERAL : CIVILIAN	PERCENT : PHANTOM : TIER
1	NEW CARS + NET USED CARS (VIII-1A)	.0	.0	50.0	50.0
2	TIRES, TUBES, AND PARTS (VIII-1B)	.0	50.0	50.0	.0
3	FURNITURE, INCL. MATTRESSES (V-1)	.0	50.0	50.0	.0
4	KITCHEN + OTHER APPLIANCES (V-2)	.0	50.0	26.4	23.6
5	CHINA, TABLEWARE + UTENSILS (V-3)	.0	50.0	25.0	25.0
6	OTHER DURABLE HOUSEFURNISHINGS (V-4	.0	50.0	44.3	5.7
7	RADIO, TV, RECORD PLAYERS ETC (IX-5	.0	.0	100.0	.0
8	JEWELRY + WATCHES (II-7)	.0	.0	.0	100.0
9	OPHTHALMIC + ORTHOPEDIC (VI-2)	.0	100.0	.0	.0
10	BOOKS + MAPS (IX-1)	.0	.0	100.0	.0
11	WHEEL GOODS, TOYS, BOATS, ETC. (IX-	.0	.0	.0	100.0
12	FOOD PURCH. FOR OFF-PREMISES (I-1)	.0	100.0	.0	.0
13	FOOD FURNISHED GOVERNMENT (I-3)	.0	100.0	.0	.0
14	FOOD PRODUCED ON FARMS (I-4)	.0	100.0	.0	.0
15	PURCHASED MEALS + BEVERAGES (I-2)	.0	100.0	.0	.0
16	SHOES + OTHER FOOTWEAR (II-1)	.0	50.0	50.0	.0
17	WOMEN'S & CHILDREN'S CLOTHING (II-3	.0	50.0	.0	50.0
18	MEN'S CLOTHING, EXC. MILITARY (II-3	.0	50.0	.0	50.0
19	MILITARY CLOTHING (II-4)	100.0	.0	.0	.0
20	GASOLINE + OIL (VIII-10)	.0	50.0	50.0	.0
21	SEMI-DURABLE HOUSE FURNISHINGS (V-5	.0	.0	100.0	.0
22	TOBACCO PRODUCTS (I-5)	.0	.0	100.0	.0
23	TOILET ARTICLES + PREPARATIONS (III	.0	50.0	50.0	.0
24	CLEANING + POLISHING PREP. (V-6)	.0	50.0	50.0	.0
25	STATIONERY + WRITING SUPPLIES (V-7)	.0	.0	100.0	.0
26	OTHER FUEL + ICE (V-8D)	.0	100.0	.0	.0
27	DRUG PREPARATIONS + SUNDRIES (VI-1)	.0	100.0	.0	.0
28	MAGAZINES, NEWSPAPERS, ETC. (IX-2)	.0	.0	100.0	.0
29	TOYS + SPORT SUPPLIES (IX-3)	.0	.0	.0	100.0
30	FLOWERS, SEEDS, + POTTED PLANTS (IX	.0	50.0	50.0	.0
31	U. S. GOVERNMENT EXPEND. ABROAD (XI	.0	.0	100.0	.0
32	REMITTANCE TO FOREIGNERS (XII-4)	.0	.0	100.0	.0
33	OWNER DWELLING (NON-FARM) (IV-1)	.0	.0	100.0	.0

STOCKPILE POLICY AND OBJECTIVES DIVISION

ESTIMATES BASED ON 3RD YEAR OF WAR FOR
1978 STOCKPILE STUDY
PERSONAL CONSUMPTION EXPENDITURES

		PERCENT DOC	PERCENT ESSENTIAL CIVILIAN	PERCENT GENERAL CIVILIAN	PERCENT PHANTOM TIER
34	RENTAL OF FARM HOUSES (IV-3)	.0	100.0	.0	.0
35	NON-FARM TENANTS (IV-2)	.0	100.0	.0	.0
36	OTHER HOUSING (IV-4)	.0	100.0	.0	.0
37	ELECTRICITY (V-8A)	.0	100.0	.0	.0
38	GAS (V-8B)	.0	100.0	.0	.0
39	WATER + SANITARY SERVICES (V-8C)	.0	100.0	.0	.0
40	TELEPHONE + TELEGRAPH (V-9)	.0	100.0	.0	.0
41	DOMESTIC SERVICES (V-10)	.0	.0	100.0	.0
42	OTHER HOUSEHOLD SERVICES (V-11)	.0	50.0	50.0	.0
43	USED AUTOMOBILE REPAIR (VIII-1C)	.0	100.0	.0	.0
44	ROAD, TUNNEL, FERRY, TOLLS (VIII-1E	.0	100.0	.0	.0
45	NET AUTOMOBILE INSURANCE (VIII-1F)	.0	.0	100.0	.0
46	OTHER TRANSPORTATION (VIII-2A-C 3A-	.0	100.0	.0	.0
47	SHOE REPAIR + BARBER SHOPS (II-2, 8	.0	100.0	.0	.0
48	CLEANING + LAUNDERING (II-5, 6)	.0	100.0	.0	.0
49	RADIO + TELEVISION REPAIR (IX-6)	.0	100.0	.0	.0
50	THEATRE + RACES (IX-8A, B, 11)	.0	.0	.0	100.0
51	SPECIATOR SPORTS (IX-8C)	.0	.0	.0	100.0
52	CLUBS + FRATERNITIES (IX-9)	.0	.0	.0	100.0
53	PARTICIPANT AMUSEMENTS (IX-10)	.0	.0	.0	100.0
54	OTHER RECREATIONAL EXPEND. (IX-12)	.0	.0	.0	100.0
55	PHYSICIANS, DENTISTS, HOSP. (VI-3,	.0	100.0	.0	.0
56	HEALTH INSURANCE (VI-7)	.0	.0	100.0	.0
57	LIFE INSURANCE (VII-4)	.0	.0	100.0	.0
58	LEGAL SERVICES (VII-5)	.0	.0	100.0	.0
59	FUNERAL + BURIAL EXPENSES (VII-6)	.0	.0	100.0	.0
60	OTHER PERSONAL BUSINESS (VII-7)	.0	.0	100.0	.0
61	EDUCATION + RESEARCH (X-1, 2, 3)	.0	.0	100.0	.0
62	RELIGIOUS + WELFARE ACTIVITIES (XI)	.0	.0	.0	100.0
63	FOREIGN TRAVEL BY U. S. RES. (XII-1	.0	.0	.0	100.0
64	EXPENDITURES BY FOREIGNERS (XII-3)	.0	.0	100.0	.0
65	FINANCIAL SERVICES (VII-1, 2, 3)	.0	.0	100.0	.0

STOCKPILE POLICY AND OBJECTIVES DIVISION

ESTIMATES BASED ON 3RD YEAR OF WAR FOR
1978 STOCKPILE STUDY
PRIVATE FIXED INVESTMENT EXPENDITURES

		PERCENT DOD	PERCENT ESSENTIAL CIVILIAN	PERCENT GENERAL CIVILIAN	PERCENT PHANTOM TIER
1	ENGINES & TURBINES (SIC 351)	.0	100.0	.0	.0
2	TRACTORS (PART SIC 3522 & 3531)	.0	100.0	.0	.0
3	AGRI. MACHINERY EXCL. TRACTORS (PAR	.0	100.0	.0	.0
4	CONSTRUCTION MACHINERY (PART SIC 35	.0	100.0	.0	.0
5	MINING & OILFIELD MACHINERY (SIC 35	.0	100.0	.0	.0
6	METAL WORKING MACHINERY (SIC 354)	.0	100.0	.0	.0
7	SPECIAL INDUSTRY MACHINERY (SIC 355	.0	100.0	.0	.0
8	GEN. INDUST. MACHINERY (SIC 3534-5-	.0	100.0	.0	.0
9	OFFICE MACHINERY (SIC 357)	.0	100.0	.0	.0
10	SERVICE INDUSTRY MACHINES (SIC 358)	.0	100.0	.0	.0
11	ELECTRICAL APPARATUS (SIC 361, 362)	.0	100.0	.0	.0
12	COMMUNICATIONS EQUIPMENT (SIC 365,	.0	100.0	.0	.0
13	OTHER ELECTRICAL EQUIPMENT (SIC 363	.0	100.0	.0	.0
14	TRUCK,BUS,&TRUCK TRAILERS(PART 3711	.0	100.0	.0	.0
15	PASSENGER CARS (PART SIC 3711,3712,	.0	.0	100.0	.0
16	AIRCRAFT (SIC 3721)	.0	100.0	.0	.0
17	SHIPS & BOATS (SIC 373)	.0	50.0	50.0	.0
18	RAILROAD EQUIPMENT (SIC 374)	.0	100.0	.0	.0
19	FURNITURE & FIXTURES (SIC 25)	.0	50.0	50.0	.0
20	FABRICATED METAL PRODUCTS (SIC 34)	.0	100.0	.0	.0
21	INSTRUMENTS (SIC 38)	.0	100.0	.0	.0
22	MISCELLANEOUS EQUIPMENT (PT 352, 39	.0	100.0	.0	.0
23	USED& UNACCOUNTED MACHINERY & EQUIP	.0	.0	100.0	.0
24	RESIDENTIAL PROC. CUR. EQUIPMENT	.0	.0	100.0	.0
25	FARM RESIDENTIAL CONSTRUCTION	.0	50.0	50.0	.0
26	NON-FARM RESID. CONSTRUCTION EXCL.M	.0	50.0	50.0	.0
27	MOBILE HOMES (PCE) (PT. SIC 3791)	.0	50.0	50.0	.0
28	ALTERATIONS & ADDITIONS	.0	50.0	50.0	.0
29	NON-HOUSEKEEPING UNITS - CONSTRUCTI	.0	.0	100.0	.0
30	RESIDENTIAL REAL ESTATE COMMISSION	.0	.0	100.0	.0
31	RESIDENTIAL NET-USED	.0	.0	100.0	.0
32	INDUSTRIAL CONSTRUCTION	.0	100.0	.0	.0
33	COMMERCIAL CONSTRUCTION	.0	50.0	50.0	.0
34	RELIGIOUS CONSTRUCTION	.0	.0	100.0	.0

STOCKPILE POLICY AND OBJECTIVES DIVISION

ESTIMATES BASED ON 3RD YEAR OF WAR FOR
1978 STOCKPILE STUDY
PRIVATE FIXED INVESTMENT EXPENDITURES

		PERCENT : DOC	PERCENT : ESSENTIAL: CIVILIAN :	PERCENT : GENERAL : CIVILIAN :	PERCENT : PHANTOM : TIER :
35	EDUCATIONAL CONSTRUCTION	.0	.0	100.0	.0
36	HOSPITAL + INSTITUTIONAL CONSTRUCTI	.0	100.0	.0	.0
37	MISCELLANEOUS, EXCL. FARM CONSTRUCI	.0	.0	100.0	.0
38	TELEPHONE + TELEGRAPH CONSTRUCTION	.0	100.0	.0	.0
39	ELECTRIC LIGHT + POWER CONSTRUCTION	.0	100.0	.0	.0
40	GAS UTILITY CONSTRUCTION	.0	100.0	.0	.0
41	OTHER UTILITY CONSTRUCTION	.0	100.0	.0	.0
42	FARM NON-RESIDENTIAL CONSTRUCTION	.0	100.0	.0	.0
43	OIL + GAS DRILLING CONSTRUCTION	.0	100.0	.0	.0
44	MOBILE HOMES (PROD.CUR.) (PT. SIC 3	.0	50.0	50.0	.0
45	OTHER NON-BUILDING CONSTRUCTION	.0	50.0	50.0	.0
46	NON-RES. REAL ESTATE COMMISSION	.0	.0	100.0	.0
47	NON-RESIDENTIAL NFT-USED	.0	.0	100.0	.0

STOCKPILE POLICY AND OBJECTIVES DIVISION

ESTIMATES BASED ON 3RD YEAR OF WAR FOR
1978 STOCKPILE STUDY
NET INVENTORY CHANGE EXPENDITURES

		PERCENT DOD	PERCENT ESSENTIAL CIVILIAN	PERCENT GENERAL CIVILIAN	PERCENT PHANTOM TTER
1	TOTAL FARM	.0	.0	100.0	.0
2	STONE,CLAY & GLASS (SIC MG32)	.0	.0	100.0	.0
3	STEEL MILL PRODUCTS (SIC PART MG33)	.0	.0	100.0	.0
4	NONFERROUS MILL PRODUCTS (SIC PART	.0	.0	100.0	.0
5	FABRICATED METAL PRODUCTS (SIC MG34	.0	.0	100.0	.0
6	MACHINERY EXC. ELECTRICAL (SIC MG35	.0	.0	100.0	.0
7	HOUSEHOLD APPL.RADIO + TV (SIC 363,	.0	.0	100.0	.0
8	ALL OTHER ELECTRICAL (SIC MG 36,EXC	.0	.0	100.0	.0
9	MOTOR VEHICLES & EQUIPMENT (SIC PAR	.0	.0	100.0	.0
10	AIRCRAFT & PARTS (SIC PART MG37)	.0	.0	100.0	.0
11	OTHER TRANSPORTATION EQUIP. (SIC PA	.0	.0	100.0	.0
12	INSTRUMENTS & RELATED PRODUCTS (SIC	.0	.0	100.0	.0
13	ALL OTHER MFGED. DURABLES (SIC MG19	.0	.0	100.0	.0
14	FOOD & KINDRED PRODUCTS (SIC MG20)	.0	.0	100.0	.0
15	TOBACCO (SIC MG21)	.0	.0	100.0	.0
16	TEXTILE MILL PRODUCTS (SIC PART MG2	.0	.0	100.0	.0
17	PAPER & ALLIED PRODUCTS (SIC MG26)	.0	.0	100.0	.0
18	CHEMICALS & PRODUCTS (SIC MG28)	.0	.0	100.0	.0
19	PETROLEUM & PRODUCTS (SIC MG29)	.0	.0	100.0	.0
20	RUBBER & PLASTIC PRODUCTS (SIC MG30	.0	.0	100.0	.0
21	ALL OTH MFGED. NONDUR(SIC MG22(PT),	.0	.0	100.0	.0
22	MOTOR VEHICLES & EQUIPMENT (SIC 501	.0	.0	100.0	.0
23	ELECTRICAL GOODS (SIC 506)	.0	.0	100.0	.0
24	HARDWARE, PLUMBING, ETC. (SIC 507)	.0	.0	100.0	.0
25	MACHINERY,EQUIP. & SUPPLIES (SIC 50	.0	.0	100.0	.0
26	METALS, EXC. SCRAP (SIC 5091)	.0	.0	100.0	.0
27	ALL OTH WHSLE.DUR(SIC 5093,5097,509	.0	.0	100.0	.0
28	NONMERCHANT WHOLESALERS	.0	.0	100.0	.0
29	GROCERIES & RELATED PRODUCTS (SIC 5	.0	.0	100.0	.0
30	LIQUORS, BEER, ETC. (SIC 5095)	.0	.0	100.0	.0
31	DRUGS,CHEMICALS, CLEANING,ETC. (SIC	.0	.0	100.0	.0
32	PAPER PRODUCTS (SIC 5096)	.0	.0	100.0	.0
33	FARM PRODUCTS (SIC 505)	.0	.0	100.0	.0
34	ALL OTH WHSLE.NONDUR(SIC 503,509P1,	.0	.0	100.0	.0
35	FURNITURE & APPLIANCES (SIC 57)	.0	.0	100.0	.0

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STOCKPILE POLICY AND OBJECTIVES DIVISION

ESTIMATES BASED ON 3RD YEAR OF WAR FOR
1978 STOCKPILE STUDY
NET INVENTORY CHANGE EXPENDITURES

		PERCENT : DOD	PERCENT : ESSENTIAL: CIVILIAN	PERCENT : GENERAL : CIVILIAN	PERCENT : PHANTOM : TIER
36	LUMBER, HARDWARE, FARM EQUIP, (SIC	.0	.0	100.0	.0
37	AUTO GROUP,EXC. TIRES (SIC 551,552,	.0	.0	100.0	.0
38	TIRES & ACCESSORIES (SIC 553)	.0	.0	100.0	.0
39	ALL OTHER RETAIL DURABLE(SIC 593,59	.0	.0	100.0	.0
40	FOOD STORES(SIC 54)	.0	.0	100.0	.0
41	EATING & DRINKING PLACES (SIC 58)	.0	.0	100.0	.0
42	DEPARTMENT STORES (SIC 531)	.0	.0	100.0	.0
43	GEN.L. MDSE. & DRY GOODS (SIC 539)	.0	.0	100.0	.0
44	VARIETY & MAIL ORDER (SIC 532,533)	.0	.0	100.0	.0
45	APPAREL (SIC 56)	.0	.0	100.0	.0
46	GASOLINE STATIONS (SIC 554)	.0	.0	100.0	.0
47	ALL OTH RETAIL NONDUR(SIC 535,591,2	.0	.0	100.0	.0
48	ALL OTHER DURABLE	.0	.0	100.0	.0
49	ALL OTHER NONDURABLE	.0	.0	100.0	.0

STOCKPILE POLICY AND OBJECTIVES DIVISION

ESTIMATES BASED ON 3RD YEAR OF WAR FOR
1978 STOCKPILE STUDY
GROSS EXPORTS EXPENDITURES

		PERCENT : COC	PERCENT : ESSENTIAL: CIVILIAN	PERCENT : GENERAL : CIVILIAN	PERCENT : PHANTOM : TIER
1	LIVE ANIMALS (00, 025)	.0	100.0	.0	.0
2	UNMILLED CEREALS,ETC(041,043,044,04	.0	100.0	.0	.0
3	ANIMAL FEED (08)	.0	100.0	.0	.0
4	ALL OTHER FOOD (ALL OTHER 0)	.0	100.0	.0	.0
5	BEVERAGES (11)	.0	.0	100.0	.0
6	TOBACCO + TOBACCO MFRS. (12)	.0	.0	100.0	.0
7	HIDES, SKINS, FURS-UNDRESSED (21)	.0	50.0	50.0	.0
8	OIL SEEDS, NUTS, + FLOUR THEREOF (2	.0	100.0	.0	.0
9	RUBBER, CRUDE INCL. SYNTHETIC (23)	.0	100.0	.0	.0
10	WOOD, LUMBER, AND CORK (24)	.0	100.0	.0	.0
11	PULPS, AND WASTE PAPER (25)	.0	50.0	50.0	.0
12	TEXTILE FIBERS, EXC. RAW COTTON (26	.0	100.0	.0	.0
13	RAW COTTON, EXC. LINTERS (263,1)	.0	100.0	.0	.0
14	CRUDE FERTILIZER, SULFUR, ETC. (271	.0	100.0	.0	.0
15	OTHER CRUDE MINERALS,EXC. COAL (273	.0	100.0	.0	.0
16	IRON ORES + CONCENTRATES (281)	.0	100.0	.0	.0
17	METAL SCRAP (282, 284)	.0	100.0	.0	.0
18	METALLIFEROUS ORES, EXC. IRON (283,	.0	100.0	.0	.0
19	CRUDE MAT'LS.,NES,EXC. FUELS (29)	.0	100.0	.0	.0
20	COKE, COAL + BRIQUETS (32)	.0	100.0	.0	.0
21	PETROLEUM + GAS (33, 34)	.0	100.0	.0	.0
22	OIL + FATS, ANIMAL + VEGETABLE (4)	.0	100.0	.0	.0
23	CHEMICAL ELEMENTS,FERT,ETC. (51,52,	.0	100.0	.0	.0
24	MEDICINALS + TOILET PREP. (54, 55,	.0	50.0	50.0	.0
25	PLASTIC MAT'LS., RESINS, ETC. (58)	.0	50.0	50.0	.0
26	PAINTS, DYES, EXPLOSIVES, ETC. (53,	.0	50.0	50.0	.0
27	LEATHER + MFRS. + FURSKINS (61)	.0	50.0	50.0	.0
28	RUBBER MFRS., NEC (62)	.0	100.0	.0	.0
29	WOOD + CORK MFRS., NEC (63)	.0	100.0	.0	.0
30	PAPER + MFRS. (64)	.0	100.0	.0	.0
31	TEXTILE YARN FABRICS + PRODUCT (65)	.0	100.0	.0	.0
32	NONMETALLIC MINERAL MFRS, NEC (66)	.0	100.0	.0	.0
33	IRON + STEEL (67)	.0	100.0	.0	.0

STOCKPILE POLICY AND OBJECTIVES DIVISION

ESTIMATES BASED ON 3RD YEAR OF WAR FOR
1978 STOCKPILE STUDY
GROSS EXPORTS EXPENDITURES

		PERCENT DOD	PERCENT ESSENTIAL CIVILIAN	PERCENT GENERAL CIVILIAN	PERCENT PHANTOM TIER
34	COPPER METAL (682)	.0	100.0	.0	.0
35	ALUMINUM METAL (684)	.0	100.0	.0	.0
36	OTHER NONFERROUS METALS (68 EXC. 68	.0	100.0	.0	.0
37	METAL MFRS., NEC (69)	.0	100.0	.0	.0
38	ENGINES & JETS(AIRCRAFT) (711.4)	.0	100.0	.0	.0
39	POWER GEN.,EXC. ELEC. & AIR.(711 EX	.0	100.0	.0	.0
40	AGRICULTURAL MACH'Y, & PARTS (712)	.0	100.0	.0	.0
41	OFFICE MACHINES + PARTS (714)	.0	100.0	.0	.0
42	METALWORKING MACHINERY (715)	.0	100.0	.0	.0
43	TEXTILE + LEATHER MACHINERY, (717)	.0	100.0	.0	.0
44	SPECIAL INDUSTRY MACHINERY (718)	.0	100.0	.0	.0
45	MACHINERY + PARTS, NEC (719)	.0	100.0	.0	.0
46	ELECT. POWER MACH'Y, & SWITCH (722)	.0	100.0	.0	.0
47	ELECT. DISTRIBUTION EQUIPMENT (723)	.0	100.0	.0	.0
48	TELECOMMUNICATIONS APPARATUS (724)	.0	100.0	.0	.0
49	ELECTRIC HOUSEHOLD APPLIANCES (725)	.0	100.0	.0	.0
50	ELECTRIC MEDICAL APPARATUS (726)	.0	100.0	.0	.0
51	ELECT. MACH'Y, & APPARATUS NEC (729	.0	100.0	.0	.0
52	TRANSP. EQUIP., EXC. AUTO + AIR (73	.0	100.0	.0	.0
53	MOTOR VEHICLES + PARTS (732)	.0	.0	100.0	.0
54	AIRCRAFT + PARTS (734)	.0	100.0	.0	.0
55	HEATING, FURNITURE, CLOTHING (81-85	.0	.0	100.0	.0
56	PHOTO EQUIP. & SUPPL.(861.4,5,6,862	.0	50.0	50.0	.0
57	INSTRUMENTS,WATCHES(86 EXC. 861.4,5	.0	100.0	.0	.0
58	MISC. MFGD. NEC, EXC. PRINT (89 EX	.0	50.0	50.0	.0
59	PRINTED MATTER (892)	.0	.0	100.0	.0
60	NOT CLASSIFIED BY KIND (93, 94, 96)	.0	100.0	.0	.0
61	MILITARY ARMS + APPAREL (95)	.0	.0	.0	.0
62	REEXPORTS	.0	100.0	.0	.0
63	MILITARY GRANTS (IN CENSUS)	.0	100.0	.0	.0
64	ROP ADD TO CENSUS EXC. METALS	.0	100.0	.0	.0
65	ROP DEDUCTIONS, EXC. MILITARY	.0	100.0	.0	.0
66	MIL. SALES TRFS. LESS ROP ADJ.	.0	100.0	.0	.0
67	TRANSPORTATION	.0	100.0	.0	.0
68	TRAVEL	.0	100.0	.0	.0

STOCKPILE POLICY AND OBJECTIVES DIVISION

ESTIMATES BASED ON 3RD YEAR OF WAR FOR
1978 STOCKPILE STUDY
GROSS EXPORTS EXPENDITURES

		PERCENT DOD	PERCENT ESSENTIAL CIVILIAN	PERCENT GENERAL CIVILIAN	PERCENT PHANTOM TIER
69	FEES + OTHER PVT. SERVICES	.0	100.0	.0	.0
70	OTHER US GOV'T. SERVICES	.0	100.0	.0	.0
71	INCOME ON US INVEST. ABROAD	.0	100.0	.0	.0

STOCKPILE POLICY AND OBJECTIVES DIVISION

ESTIMATES BASED ON 3RD YEAR OF WAR FOR
1978 STOCKPILE STUDY
GROSS IMPORTS EXPENDITURES

		PERCENT DOD	PERCENT ESSENTIAL CIVILIAN	PERCENT GENERAL CIVILIAN	PERCENT PHANTOM TIER
1	FOOD-LIVE ANIMALS (0)	.0	100.0	.0	.0
2	BEVERAGES (11)	.0	.0	100.0	.0
3	TOBACCO + TOBACCO MANUFACTURES (12)	.0	.0	100.0	.0
4	HIDES, FURSKINS, OIL SEEDS (21, 22)	.0	50.0	50.0	.0
5	RUBBER, CRUDE INCL. SYNTHETIC (23)	.0	100.0	.0	.0
6	WOOD, LUMBER, CORK (24)	.0	100.0	.0	.0
7	PULP & WASTE PAPER (25)	.0	50.0	50.0	.0
8	TEXTILE FIBERS (26)	.0	100.0	.0	.0
9	CRUDE FERTILIZERS + MINERALS (27)	.0	100.0	.0	.0
10	IRON ORES & SCRAP (281,2)	.0	100.0	.0	.0
11	NONFERROUS ORES & CONC. (283,4,5,6)	.0	100.0	.0	.0
12	CRUDE MATERIALS NEC, EXC. FUELS (29	.0	100.0	.0	.0
13	COAL, COKE, + BRIQUETS (32)	.0	100.0	.0	.0
14	CRUDE PETROLEUM (331)	.0	100.0	.0	.0
15	PETROLEUM PRODUCTS (332)	.0	100.0	.0	.0
16	GAS, NATURAL + MANUFACTURED (34)	.0	100.0	.0	.0
17	OIL + FATS, ANIMAL + VEGETABLE (4)	.0	100.0	.0	.0
18	CHEMICALS,EXC.MEDIC.+PLASTIC(51-59,	.0	100.0	.0	.0
19	MEDICINAL + PHARM. PRODUCTS (54)	.0	100.0	.0	.0
20	PLASTIC MATERIALS (58)	.0	50.0	50.0	.0
21	LEATHER + MFRS. NEC. FURSKINS (61)	.0	50.0	50.0	.0
22	RUBBER TIRES, BELTS, ETC. (62)	.0	100.0	.0	.0
23	WOOD + CORK MANUFACTURES NEC. (63)	.0	100.0	.0	.0
24	PAPER + MFRS. THEREOF (64)	.0	100.0	.0	.0
25	TEXTILE YARN, FABRICS + PROD. (65)	.0	100.0	.0	.0
26	GLASS & GLASSWARE (664,5)	.0	100.0	.0	.0
27	NONMETALLIC MFRS.,EXC. GLASS (66 E	.0	100.0	.0	.0
28	IRON + STEEL (67)	.0	100.0	.0	.0
29	COPPER METAL (682)	.0	100.0	.0	.0
30	ALUMINUM METAL (684)	.0	100.0	.0	.0
31	LEAD METAL (685)	.0	100.0	.0	.0
32	ZINC METAL (686)	.0	100.0	.0	.0

STOCKPILE POLICY AND OBJECTIVES DIVISION

ESTIMATES BASED ON 3RD YEAR OF WAR FOR
1978 STOCKPILE STUDY
GROSS IMPORTS EXPENDITURES

		PERCENT DOC	PERCENT : ESSENTIAL: CIVILIAN	PERCENT : GENERAL : CIVILIAN	PERCENT : PHANTOM : TIER
33	OTHER NONFERROUS METAL (68 EXC, 682	.0	100.0	.0	.0
34	METAL MANUFACTURES NEC, (69)	.0	100.0	.0	.0
35	POWER, HEATING-MACHINERY NEC (711,	.0	100.0	.0	.0
36	AGRICULTURAL MACH, + PARTS (712)	.0	100.0	.0	.0
37	OFFICE MACHINES + PARTS (714)	.0	100.0	.0	.0
38	METALWORKING MACHINERY (715)	.0	100.0	.0	.0
39	TEXTILE + SPECIAL INDUS, MACH, (717	.0	100.0	.0	.0
40	ELEC, + DISTRIBUTING EQUIPMENT (722	.0	100.0	.0	.0
41	TELECOMMUNICATIONS APP, + PARTS (72	.0	100.0	.0	.0
42	ELEC, HOUSEHOLD APPLIANCES (725)	.0	100.0	.0	.0
43	ELEC, MEDICAL APP, + PARTS NEC (726	.0	100.0	.0	.0
44	RAIL, SHIPS, ROADS + PARTS NEC (731	.0	100.0	.0	.0
45	ROAD MOTOR VEHICLES + PARTS (732)	.0	.0	100.0	.0
46	AIRCRAFT, SPACECRAFT + PARTS (734)	.0	100.0	.0	.0
47	LIGHTING, PLUMBING + NEC (81)	.0	.0	100.0	.0
48	FURNITURE (82)	.0	.0	100.0	.0
49	TRAVEL + OTHER PERSONAL GOODS (83)	.0	.0	100.0	.0
50	CLOTHING EXCL, FOOTWEAR (84)	.0	.0	100.0	.0
51	FOOTWEAR, EXC, ORTHOPEDIC (85)	.0	.0	100.0	.0
52	INSTRUMENTS, PHOTO, WATCHES (86)	.0	50.0	50.0	.0
53	PHONOS, - MUSICAL INSTRUMENTS (891)	.0	.0	100.0	.0
54	PRINTED MATTER (892)	.0	.0	100.0	.0
55	RUBBER + PLASTIC MFRES, NEC, (893)	.0	.0	100.0	.0
56	CARRIAGES, TOYS, GAMES, ETC, (894)	.0	.0	100.0	.0
57	OFFICE SUPPLIES, NEC, (895)	.0	.0	100.0	.0
58	JEWELRY, CANDLES, ETC., NEC, (896,	.0	.0	100.0	.0
59	SPECIAL TRANSACTIONS NEC, (931)	.0	.0	100.0	.0
60	ARMS, ANIMALS, LOW VALUES, ETC (9 E	.0	.0	100.0	.0
61	ADP ADJ.TO CENSUS - VIRGIN ISLANDS	.0	.0	100.0	.0
62	ADP ADJ.TO CENSUS - GOLD	.0	.0	100.0	.0
63	ADP ADJ.TO CENSUS - ELECTRICAL ENER	.0	.0	100.0	.0
64	ADP ADJ.TO CENSUS - OTHER - NET	.0	.0	100.0	.0
65	EST. ADJ. FOR FOOD & PETROLEUM	.0	.0	100.0	.0
66	EST. TRANSPORTATION SERVICES	.0	.0	100.0	.0
67	EST. AIR FOREIGN TRAVEL	.0	.0	100.0	.0
68	EST. INSURANCE SERVICES	.0	.0	100.0	.0

STOCKPILE POLICY AND OBJECTIVES DIVISION

ESTIMATES BASED ON 3RD YEAR OF WAR FOR
1978 STOCKPILE STUDY
GROSS IMPORTS EXPENDITURES

	PERCENT : DOD	PERCENT : ESSENTIAL : CIVILIAN	PERCENT : GENERAL : CIVILIAN	PERCENT : PHANTOM : TIER
69 PRIVATE FOREIGN INVEST. INCOME	.0	.0	100.0	.0

STOCKPILE POLICY AND OBJECTIVES DIVISION

ESTIMATES BASED ON 3RD YEAR OF WAR FOR
1978 STOCKPILE STUDY
FEDERAL GOVERNMENT EXPENDITURES

		PERCENT DOC	PERCENT ESSENTIAL CIVILIAN	PERCENT GENERAL CIVILIAN	PERCENT PHANTOM TIER
1	NON-DEFENSE COMPENSATION	.0	.0	100.0	.0
2	NON-DEFENSE STRUCTURES	.0	100.0	.0	.0
3	NASA RESEARCH & DEVELOPMENT	.0	100.0	.0	.0
4	NASA, OTHER EXC. COMP. & CONSTRUCTI	.0	100.0	.0	.0
5	ERDA NONDEFENSE EXC. COMP. & CONSTR	.0	100.0	.0	.0
6	OTHER NONDEFENSE EXC.CCC	.0	100.0	.0	.0
7	CCC DONATIONS	.0	.0	100.0	.0
11	OPERATIONS & MAINTENANCE-NORMAL	100.0	.0	.0	.0
16	MILITARY PERSONNEL	100.0	.0	.0	.0
17	NONMILITARY PERSONNEL	100.0	.0	.0	.0
18	RESEARCH & DEVELOPMENT	100.0	.0	.0	.0
19	MILITARY CONSTRUCTION	100.0	.0	.0	.0
20	FAMILY PUBLIC HOUSING	100.0	.0	.0	.0
21	FAMILY HOUSING, EXC. CONSTRUCTION	100.0	.0	.0	.0
22	CIVIL DEFENSE	100.0	.0	.0	.0
23	AIRCRAFT - PROCUREMENT	100.0	.0	.0	.0
24	MISSILES - PROCUREMENT	100.0	.0	.0	.0
25	SHIPS - PROCUREMENT	100.0	.0	.0	.0
26	ELECTRONICS & COMMUNICATIONS	100.0	.0	.0	.0
27	AMMUNITION - PROCUREMENT	100.0	.0	.0	.0
28	VEHICLES & RELATED EQUIPMENT	100.0	.0	.0	.0
29	OTHER SUPPORT EQUIPMENT	100.0	.0	.0	.0

STOCKPILE POLICY AND OBJECTIVES DIVISION

ESTIMATES BASED ON 3RD YEAR OF WAR FOR
1978 STOCKPILE STUDY
STATE AND LOCAL GOVERNMENT EXPENDITURES

		PERCENT DOD	PERCENT ESSENTIAL CIVILIAN	PERCENT GENERAL CIVILIAN	PERCENT PHANTOM TTER
1	EDUCATIONAL COMPENSATION	.0	.0	100.0	.0
2	EDUCATIONAL STRUCTURES	.0	50.0	50.0	.0
3	EDUCATIONAL OTHER	.0	50.0	50.0	.0
4	HEALTH & HOSPITAL COMPENSATION	.0	.0	100.0	.0
5	HEALTH & HOSPITAL STRUCTURES	.0	100.0	.0	.0
6	HEALTH & HOSPITAL OTHER	.0	100.0	.0	.0
7	PUBLIC ASSIST. & RELIEF COMP.	.0	.0	100.0	.0
8	PUBLIC ASSIST. & RELIEF STRUCT.	.0	100.0	.0	.0
9	PUBLIC ASSIST. & RELIEF OTHER	.0	100.0	.0	.0
10	SANITATION COMPENSATION	.0	.0	100.0	.0
11	SANITATION STRUCTURES	.0	100.0	.0	.0
12	SANITATION OTHER	.0	100.0	.0	.0
13	CIVILIAN SAFETY COMPENSATION	.0	.0	100.0	.0
14	CIVILIAN SAFETY STRUCTURES	.0	100.0	.0	.0
15	CIVILIAN SAFETY OTHER	.0	100.0	.0	.0
16	HIGHWAY COMPENSATION	.0	.0	100.0	.0
17	HIGHWAY STRUCTURES	.0	100.0	.0	.0
18	HIGHWAY OTHER	.0	100.0	.0	.0
19	OTHER S&L COMPENSATION	.0	.0	100.0	.0
20	OTHER S&L STRUCTURES	.0	50.0	50.0	.0
21	OTHER S&L OTHER	.0	50.0	50.0	.0

@BRKPT PRINTS

Messrs. Maurice and Gramm, in their testimony of November 14, 1978, and in their monograph submitted for the record, show that stockpiling raw materials is an investment which generates a lower rate of return than other forms of investment. During the hearings, it was also suggested that similar reasoning be applied to U.S. strategic stockpiles and that an annual "opportunity cost" be charged to the stockpile account.

FPA rejects this reasoning on several grounds. The holding of every government asset involves an opportunity cost. These assets would include not only the stockpile but also government-owned buildings, computers, aircraft carriers, etc. Offsetting the opportunity costs for all of these assets is the use value of holding them. In the case of buildings the use value is approximated by what it would cost to rent equivalent space, and for computers the cost of leasing equivalent equipment. For military assets, including the stockpile, the use value can be approximated by calculating the value of the "insurance premium" that would be charged if security insurance could be purchased commercially.

Unlike investment stockpile programs, the military stockpile generates an annual flow of "war insurance benefits." Such benefits include the additional output the economy can produce due to the availability of a raw material in a wartime contingency. The "insurance premium" the public and industry would pay for such wartime insurance, measures part of the annual stockpile benefits. More than the additional output valued at current prices is involved. The public would value such extra output more highly than wartime prices suggest. The extra output could be the difference between military victory and defeat. Obviously, we must discount such benefits by using both time and uncertainty discount rates. Another annual benefit flowing from the stockpile is its war or embargo "deterrence effect." Having a materials stockpile, visible to opponents, makes our war materials preparedness obvious. They are thus less likely to engage in materials intensive war or embargo materials imports to the U.S.

The CHAIRMAN. And finally, let me conclude by saying that I seriously doubt we need such an extremely cautious and expensive stockpile policy.

We have heard here today that current military thinking is geared to a short-war scenario—not just the thinking of the U.S. military, but that of the NATO allies and the Soviets, as well.

This situation greatly reduces the likelihood of a protracted conventional conflict, especially one lasting as long as 3 years.

We have a tendency in this country to fight the last big war and to have weapons to do that, whether they be battleships or something else.

We have heard that defense planners assume little or no warning period prior to the outbreak of war. This, as well as the prohibitive political and economic considerations, virtually eliminates the possibility of our entering war with an already-mobilized economy.

We have heard that the stockpile contains a considerable allotment for nonessential civilian consumption. To assume an all-out conventional war, on the one hand, and relatively high levels of nonessential civilian consumption, on the other, is not conscionable when the added cost to the American taxpayer is considered.

We should be buying catastrophic insurance with the strategic stockpile and not insurance that every American consumer can go on a wartime spending spree for nonessential goods and services.

Finally, we have heard that the stockpile is extremely costly in terms of lost opportunity. From a purely economic standpoint, the American tax dollar could be put to much better use.

In my judgment we could greatly reduce the size and cost of the strategic stockpile and still maintain a high level of national security. We could eliminate the so-called general civilian tier and save $6.3 billion.

We could substitute a 1-year focus for the current 3-year policy and save $8 billion.

We could eliminate the ridiculous assumption about prewar industrial mobilization and save $3 billion.

Or, we could do some combination of the three and still have a viable strategic stockpile.

It is time we traded in our high-high-high-option insurance policy for one which is more consistent with our national security needs and the American taxpayer's pocketbook—especially at a time when everybody tells us that the No. 1 domestic problem facing our country is inflation and we should follow a policy of economy. The voters spoke loud and clear on that issue just a few days ago and we should take them seriously.

The committee will stand adjourned.

[Whereupon, at 1:05 p.m., the hearing was adjourned.]

[The following correspondence was received from the Department of Defense:]

OFFICE OF THE UNDER SECRETARY OF DEFENSE
WASHINGTON, D.C. 20301

RESEARCH AND
ENGINEERING

4 JAN 1979

Honorable William Proxmire
Chairman, Committee on Banking,
Housing and Urban Affairs
United States Senate
Washington, D. C. 20510

Dear Mr. Chairman:

This is in reply to your recent letter which requested additional information to supplement Committee hearings on strategic stockpile policy on 14 November 1978.

The attachment provides our responses to the five questions posed by the Committee. A portion of our answer to question number two includes classified information. This has been forwarded under separate cover to Mr. Winslow of the Committee staff.

Thank you for your interest in our industrial planning efforts.

DALE W. CHURCH
Deputy Under Secretary
(Acquisition Policy)

Attachment
a/s

DoD QUESTIONS AND ANSWERS
14 November 1978 Hearings on
Strategic Stockpile Policy

(1) Question. Mr. Church, on the first page of your testimony you state "as an active member of the Steering Committee the DoD provides the FPA with estimates of wartime military requirements". Is it not true that the initial estimates by the military services of their wartime requirements (done for the Ford policy review) were rejected as too low because they were consistent with DoD planning rather than the much more cautious stockpile policy assumptions? Weren't the services requested to replace their original estimates with what amounted to Christmas wish lists? And doesn't this demonstrate a significant inconsistency between defense planning and stockpile assumptions?

(1) Answer. The effort was to develop a wartime budget consistent with a stockpile planning scenario approved by the Interagency Steering Committee. During a review of a draft set of data it was found among other things that the Service representatives did not satisfactorily consider the various powers which would be available to the Nation during a delcared national emergency. Some of the budget categories were subsequently recomputed to reflect implementation of the expansion of productive capacity and supply and priorities and allocations authorities of the Defense Production Act. The revised data did not amount to a "Christmas Wish List". Budget patterns actually reflected a balanced force concept (e.g., ammunition and logistics support was provided only for support of the concommitant increase in force structure).

This does not demonstrate significant inconsistency between Defense Planning and Stockpile assumptions. DoD guidance calls for inventories of war reserve stocks both in the United States and overseas to support our forces for a specified period of time. The DoD also does a limited amount of industrial planning designed to increase production after mobilization with the objective of being able to supply the forces with needed materiel before these stocks are depleted. It is in this situation where material in the national stockpile would be of paramount importance.

(2) Question. Please describe, in detail, the pre-war industrial mobilization effort envisioned by stockpile planners. In other words, what measures would be taken above and beyond ongoing industrial preparedness programs? How much would such a mobilization effort cost? Under what circumstances would we mobilize industry well before the outbreak of war? Please describe viable scenarios and the extent of mobilization measures. (Also, what would the U.S. political and economic climate be? And how would the Soviets react in light of our mobilization efforts?)

(2) Answer. Since the Federal Preparedness Agency is responsible for materials stockpiling policy, we will defer to FPA with respect to the details of pre-war industrial mobilization assumptions used in stockpile calculations. Discussion of the type of scenarios which may involve pre-conflict mobilization are, as we pointed out in our recent testimony, classified material. This information will be forwarded under separate cover to the Committee staff.

(3) Question. Mr. Church describes the industrial preparedness program on pages 4 and 5 of his statement. The purpose of this program is to maintain a certain degree of industrial readiness at all times -- a constant state of semi-mobilization. We didn't have anything like this prior to World War II. Doesn't the existence of such a program and a relatively-high level of annual defense spending reduce the need for and likelihood of the type of mobilization assumed by stockpile planners?

(3) Answer. Although our Industrial Preparedness Program is designed to maintain a degree of readiness, we would not characterize it as a "constant state of semi-mobilization". Indeed, the present level of defense spending for weapons systems and equipment will, in many cases only support minimum peacetime requirements. Under a production surge or mobilization condition, defense production requirements will increase several times above peacetime production rates. Timely availability of critical raw materials is a vital link in the ability of the U.S. to respond to potential conflicts.

(4) In response to a question, Mr. Donnelly describes how industry currently included in the general civilian tier may be used for military production. If that is so, why is it categorized "general civilian" rather than "military"? Mr. Donnelly goes on to say that most defense industries produce for both the military and civilian sectors. The implication is that the U.S. Government, through the strategic stockpile, should be guaranteeing the output for civilian consumption as well as the output for military purposes. To what extent is this necessary to guarantee defense production and to what extent does this simple guarantee industrial profits?

(4) Answer. With the exception of a comparatively few government-owned facilities, the industrial base which produces products for defense applications is privately-owned and is engaged in a mixture of both DoD and commercial business. During peacetime, particularly at subcontractor and vendor levels, the amount of defense business is a small fraction of total sales. It would be erroneous therefore to classify these industries as "Military". However, during an emergency or mobilization the output of the subcontractor/vendor base for military applications would become critical and would grow substantially. In our testimony we did not mean to leave an impression that the U.S. Government should be "guaranteeing" the output for civilian consumption. We did want to make the point it is vital to U.S. preparedness that these industries receive an uninterrupted supply of raw materials during an emergency as they gradually shift to a wartime footing.

(5) Question. Wouldn't it be better to have smaller, more attainable goals geared to the most probable and most dangerous defense contingencies? (We could meet such goals in a few years and then reassess our position. We would run less risk of large stockpile excesses and less risk of stockpile manipulation for economic purposes.)

(5) Answer. We think the Annual Materials Plan satisfies your concerns about "smaller more obtainable goals". The AMP process does address each year our ability to support the most dangerous contingencies and places priority on acquisition of materials most needed. The AMP sets forth annually those quantities of materials which an interagency group feels can be acquired or sold during this period without unduly impacting the marketplace. Thus, they are "attainable" incremental goals.

○