

## DOCUMENT RESUME

03395 - [A2593724]

[Strategic and Critical Materials Stockpile Policy Review].  
EMD-77-68; E-125067. September 9, 1977. 12 pp.

Report to Zbigniew Brzezinski, Assistant to the President for National Security Affairs, Executive Office of the President; by J. Dexter Peach (for Monte Canfield, Jr., Director, Energy and Minerals Div.).

Issue Area: Materials: Access to Materials (1809); Military Preparedness Plans: Mobilization-Oriented Industrial Maintenance Base (802); Facilities and Material Management (700).

Contact: Energy and Minerals Div.

Budget Function: National Defense: Department of Defense - Military (except procurement & contracts) (051); National Defense (050).

Organization Concerned: Council on International Economic Policy; Department of Defense; Federal Preparedness Agency; General Services Administration; National Security Council; Office of Science and Technology Policy.

Congressional Relevance: House Committee on Armed Services; Senate Committee on Armed Services.

Authority: Strategic and Critical Materials Stockpiling Act of 1946.

The policy for strategic and critical materials stockpile, announced by the Ford administration in October 1976, called for the capability of supporting U.S. defense requirements during a major war over a 3-year period and provided for supporting a broad range of basic economic needs for the civilian population. Findings/Conclusions: The current stockpile goals may not be met within a reasonable period of time if the Federal Preparedness Agency (FPA), which is responsible for managing the stockpile, continues with its present cautious material acquisition policy and certain questionable management practices. These practices involve: (1) disposing of commodities under long-term sales contracts even though they are needed to satisfy stockpile goals; (2) offsetting shortages of various higher form materials with excesses of ores and other lower form (less refined) materials even though the industrial processing capacity may not be available to produce the higher forms; and (3) loaning stockpile materials to other Government agencies or contractors. Transportation capabilities and other factors may need to be considered in planning storage of material to be acquired. Alternative and complementary actions to stockpiling should be evaluated. The purposes and uses of the new stockpile may need to be made more explicit in governing legislation. (Author/HTW)

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UNITED STATES GENERAL ACCOUNTING OFFICE  
WASHINGTON, D.C. 20548

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ENERGY AND MINERALS  
DIVISION

SEP 9 1977

B-125067

The Honorable Zbigniew Brzezinski  
Assistant to the President for  
National Security Affairs  
The White House

Dear Dr. Brzezinski:

We agreed in July 1977 to provide a written summary of matters discussed with the Director, National Security Council Security Analysis staff. This report contains the observations to date on our review of the strategic and critical materials stockpile.

In October 1976 the Ford administration announced a major policy change concerning the Nation's strategic and critical materials stockpile. The change culminated a year-long interagency study of stockpile policy, made at Presidential request, under the direction of the Federal Preparedness Agency (FPA)--the organization responsible for managing the stockpile. The new policy called for a stockpile capable of supporting U.S. defense requirements during a major war over a 3-year period, assuming large-scale industrial mobilization. It also provided for supporting a broad range of basic economic needs to insure the health, welfare, morale, and productivity of the civilian population during wartime.

The new stockpile goals based on these planning assumptions represented the difference between estimated material requirements and estimated available supply for the first 3 years of a war. This difference is valued at \$10.3 billion. The current inventory is estimated to contain material valued at \$6.8 billion--with \$3.5 billion applicable to the goals and \$3.3 billion excess to the goals (based on December 1975 market prices)--and is stored at 117 locations in the United States. Goals increased for 72 of the 93 stockpile materials. Goals for defense and essential and general civilian needs were calculated separately for each of the 3 years with relative priorities assigned to each.

The announcement of this change sparked much congressional interest in the size and cost of the contemplated stockpile, inclusion of civilian needs, whether it would be used for economic purposes, length of the war emergency period being provided for, and the effects acquisitions and disposals would have on the marketplace.

We testified on the stockpile policy change in November 1976 at the request of the Joint Committee on Defense Production. Our testimony focused essentially on our work on the 1973 stockpile policy change, which revised the war emergency planning period from 3 years to 1 year, and how the new policy fitted into the evolving national materials policy.

As a result of congressional interest in general stockpile matters, earlier this year we began a survey aimed at the Federal Preparedness Agency's procedures and practices for insuring the quality and quantity of stockpiled materials. We did not contemplate examining whether the right materials were being stored or whether stockpile goals were adequate.

We are aware that the President has directed a reevaluation of stockpile policy and that your staff plans to begin that task shortly. Although we have not completed our review, our work thus far has revealed the following matters that we believe should be considered during any subsequent evaluation of stockpile policies.

- Current stockpile goals may not be met within a reasonable period of time.
- Continued disposal of needed commodities could hinder attainment of current goals.
- Offsetting shortages of some forms of materials with excesses of others may preclude availability in an emergency.
- Stockpile materials have been transferred to other Federal agencies and Government contractors and may not be readily available in an emergency.
- Transportation capabilities and other factors may need to be considered in planning storage of material to be acquired.
- Alternative and complementary actions to stockpiling should be evaluated.

--The purposes and uses of the new stockpile may need to be made more explicit in the governing legislation.

Details of these matters follow.

### ATTAINING STOCKPILE GOALS

The purpose of our strategic and critical materials stockpile is to prevent a dangerous and costly dependence on foreign nations for these materials during a national emergency. Therefore, acquiring the needed commodities soon after their need is identified would seem prudent.

The total shortage of materials needed to meet current goals is valued at about \$6.8 billion. We realize that these goals will be changed somewhat in the future; however, unless they are reduced drastically, we believe they may not be attained within a reasonable period if FPA continues its cautious material acquisition policy and certain questionable management practices.

FPA's caution in acquiring materials stems from anticipated budgetary constraints and concern with international political effects and possible market disruptions that might be caused by its stockpile acquisitions. The questionable management practices that can hinder attaining goals involve (1) continuing to dispose of commodities under long-term sales contracts even though they are needed to satisfy revised stockpile goals, (2) offsetting shortages of various higher form materials with excesses of ores and other lower form (less refined) materials even though the industrial processing capacity may not be available to produce the higher forms of materials, and (3) loaning stockpile materials to other Government agencies or contractors.

### Acquisition is a long-term prospect

The new goals, which became effective on October 1, 1976, increased for 72 of the 93 stockpile materials. Shortages currently exist for 46 materials, including 24 for which insufficient inventory is on hand to meet the highest defense and essential civilian needs. FPA, using December 1975 market prices, has identified 13 materials each of which has a shortage exceeding \$100 million.

Planned acquisitions of needed materials and disposals of unneeded materials will be presented to the Congress each year in the Annual Materials Plan (AMP). However, the AMP does not reflect long-range plans for meeting overall goals. FPA has indicated that acquisitions and disposals will be spread over a 10- to 15-year period and that the

value of disposals will exceed the costs of acquisition for each of the first 5 years.

FPA's initial proposal for acquisitions and disposals for the first year was withdrawn when President Carter called for the current reevaluation of stockpile policy. Only materials that have shortages in the highest priority defense and essential civilian needs were planned to be acquired in the first year. FPA anticipated budgetary limitations on acquisitions even though other materials to satisfy lower priority needs could have been acquired without market disruption.

The proposed first-year acquisitions would have provided materials valued at only about 3 percent of the total current \$6.8 billion shortage. FPA projections indicate that after 5 years less than one-half of the total \$10.3 billion goal will have been attained. Currently, there are 24 commodities for which inventories are insufficient to meet highest priority defense and civilian needs. First-year planned acquisitions will eliminate these shortages for only 1 of the 24 commodities and will provide less than one-half of the material needed for 13 of these commodities. The inventory for three commodities, even after completion of the first-year planned acquisitions, would amount to less than 15 percent of the estimated first-year defense needs.

FPA plans no first-year procurement of five commodities although insufficient material is on hand to meet their highest priority defense and essential civilian needs. The decision not to procure these commodities in the first year, even though they meet FPA's general criteria for first-year acquisition, was attributed by FPA officials to anticipated budgetary constraints, international political considerations, or the possibility of market disruptions.

The reluctance to buy materials because of possible disruptions of the market, if continued, will have a significant impact on the time it will take to attain goals. FPA's "rule of thumb" is that market disruption could result from procurement of a stockpile commodity equal to 10 percent or more of the annual U.S. consumption. On this basis, the highest priority defense and essential civilian shortages for 16 commodities could not be satisfied in 1 year even if funds were available.

Iridium is an example of a stockpile material that will take many years to acquire in view of FPA's desire not to disrupt the market. Iridium is one of the platinum group metals used in a variety of applications, including industrial

instrumentation and space vehicles. The current goal for iridium is 97,761 troy ounces; however, only about 17,000 ounces are in the inventory. Based on the 10-percent rule of thumb, about 900 ounces could be bought for the stockpile in any 1 year without disrupting the market. Therefore, if FPA continued to adhere strictly to its policy of avoiding market disruptions, attaining the stockpile goal for iridium would require about 90 years.

It is important to have a clear policy, with congressional agreement on attaining stockpile goals. In formulating such a policy, we believe that the National Security Council (NSC) needs to carefully consider the advantages and disadvantages of FPA's cautious acquisition policy, including its reluctance to cause market disruptions. In addition, to provide the Congress with better oversight and a total perspective on stockpile management, our work to date indicates that FPA should (1) formulate a longer range plan for meeting goals and (2) give the Congress annual revisions to this plan, along with the Annual Materials Plan.

#### Disposals of needed commodities hinder attainment of goals

Stockpile goals for individual commodities change from time to time. When goals are raised, material formerly considered excess and committed or planned for sale can become needed to satisfy the new goals. In many instances, disposal of these needed commodities is being continued even though replacement commodities must be bought and attainment of stockpile goals will be hindered until replacements are received.

New stockpile goals became effective October 1, 1976, and many of these goals caused commodities formerly committed for sale as excess to be needed to satisfy shortages. FPA continued delivery of these commodities after it recognized that the new goals exceeded the material on hand. We were told that deliveries were continued to avoid economic hardships and disruptions to the buyers. Between October 1, 1976, and March 31, 1977, quantities of 17 stockpile commodities with goals that exceeded inventories were delivered to buyers under prior sales contracts. Some of these materials, which are now needed, remain in Government storage facilities but are still committed for sale.

The Annual Materials Plan indicates that FPA will buy 5 of the commodities during the first acquisition year because they are required to satisfy the highest priority defense and civilian needs. Eventually, all 17 of the commodities will have to be bought if their goals are to be satisfied.

Before July 1976 FPA had been selling cobalt from stockpile inventories because it was excess to the existing goals. For example, from January through June 1976 FPA sold more than 4.6 million pounds of cobalt, valued at \$18.2 million. It became known in July 1976 that the goal for cobalt would soon be raised and that the new goal would exceed the quantity in inventory. Nevertheless, from July 16 to August 19, 1976, FPA sold an additional 522,521 pounds of cobalt, valued at \$2.7 million. We were told that these sales were made to avoid abruptly cutting off a source of supply that buyers depended on.

On October 1, 1976, a new goal was established for cobalt and at June 30, 1977, a shortage of more than 44 million pounds existed for this commodity, including a substantial quantity needed to meet the highest defense and essential civilian needs.

As just discussed, the combination of changing stockpile goals, long-term disposal contracts, and FPA's desire not to cause supply disruptions or economic problems for buyers of stockpile materials has put the Government in the position of disposing of materials it needs. We believe the NSC will want to consider the advisability of FPA's continuing its use of long-term disposal contracts and provide policy guidance with respect to future disposal of needed materials. Also, the NSC might assist in finding a means, equitable to the Government and the buyers, of avoiding disposal of those onhand commodities that are needed but committed for sale.

Offsetting shortages of some forms of materials with excesses of others may preclude availability in an emergency

Stockpile goals are often developed for different forms of materials within families of related materials on the basis of estimated production capacity and industrial requirements. The goals for manganese, for example, require stockpiling it in varying forms ranging from ore to metal. Inventories of some forms of materials are less than goals; however, other forms of the same materials may be excess to goals. In these instances, FPA offsets the shortages with excesses of other forms of the same materials. For example, alumina, which is used to produce aluminum (a higher form material), is obtained from bauxite (a lower form material). There is no alumina in the stockpile inventory. Consequently, FPA has used excess bauxite to offset about 66 percent of the alumina shortage.

Obviously, refining or other processing capacity would be needed to upgrade the excess lower form materials to higher

forms. However, according to an FPA official, the needed capacity would not be available during wartime since the goal-setting process assumes full use of all such domestic capacity. In addition, FPA has no alternative plans to upgrade the lower form materials used as offsets. Therefore, the shortages for these materials are, in effect, understated because the required form of the material will not be available when needed unless a means can be found to perform the required processing. Currently, this situation pertains to six stockpile materials--alumina, beryllium, copper master alloy, manganese synthetic dioxide, ferromanganese, opium salts, and tungsten.

We believe the NSC will want to consider the reasonableness of FPA's practices relating to offsetting excess inventories of some materials against goals for others and provide policy guidance so that these practices, if continued, will not cause stockpile materials to be unavailable in the required form if needed in an emergency.

Stockpile materials loaned to  
Government agencies and contractors  
may not be available in an emergency

FPA has made loans, officially termed "custodial transfers," of several stockpile materials to Government agencies and contractors. Because of the way these loaned materials are being used, it is doubtful that they could be returned promptly in an emergency.

As of June 30, 1977, quantities of palladium, platinum, iridium, lead, quartz, and zinc valued at about \$5.3 million were on loan to various agencies and contractors. Although inventories of most of these commodities exceeded their goals at the time they were loaned, there are currently stockpile shortages for all but lead and quartz. About 41 percent of the iridium inventory is on loan even though the total inventory of this material, including the loaned amount, is not sufficient to meet the highest defense and essential civilian needs.

The loaned materials are generally used without being altered; however, in some instances, they are partially consumed or alloyed with other materials. In these cases, the borrowing activity is responsible for replacing the material. The agreements under which FPA allows commodities to be loaned indicate specific loan termination dates and also require that the material be returned on demand. However, some of these agreements have been extended several times, and some materials have been on loan for lengthy periods.



The practice of loaning stockpile materials to other organizations may not be consistent with having the commodities available in the event of a national emergency. The prompt return of replacements for those materials that have been altered may not be possible. Also, uses being made of the loaned materials may be considered so critical that they would have to be continued during a national emergency. If the return of these materials were delayed or if they could not be returned, unanticipated stockpile shortages would exist.

We believe the NSC will want to consider the possible impact of FPA's loaning practices and provide policy guidance to eliminate or minimize their adverse effects, if continued.

TRANSPORTATION CAPABILITIES AND  
OTHER FACTORS MAY NEED TO BE  
CONSIDERED IN PLANNING STORAGE  
OF MATERIALS TO BE ACQUIRED

FPA's policy is to stockpile materials at locations having the lowest storage costs. This policy does not fully consider other factors which could affect the prompt availability of material in a national emergency.

When disposing of excess stockpile materials, FPA tries to retain the best quality materials. If materials stored at different locations are of equal quality, the material at the least costly location will be retained. Industrial consumption patterns and vulnerability of storage facilities are considered only if the material quality and storage costs are equal for the different locations. FPA officials stated that the same criteria will be used to select storage locations for future acquisitions.

In past years, stockpile storage criteria have been based on such things as proximity to wartime facilities where the materials would be consumed, avoidance of seaports and transportation bottlenecks, and vulnerability to loss from enemy attack.

About 95 percent of the stockpile acquisitions occurred before fiscal year 1960, and many industrial consumption patterns have shifted since these materials were first stored. Further, almost 50 percent of the stockpile disposals took place during fiscal years 1972-76. These materials were shipped from various locations without regard to consumption patterns, transportation capabilities, or vulnerability of storage facilities. Thus, many stockpile materials are probably not being stored at the best locations to facilitate their use in an emergency.

During wartime, many demands would be made on the Nation's transportation industry to move personnel, equipment, and military and civilian supplies, as well as stockpile materials. However, FPA has not assessed the transportation industry's capability to move stockpile materials from storage to consumption points during this period of increased demand for transportation.

As additional materials are acquired to satisfy stockpile shortages, storage location criteria will become increasingly important. Cost will be an important consideration. We believe, however, that the NSC will want to consider whether cost should continue to be the controlling factor in the selection of storage sites. Alternatively, a more flexible policy could be adopted that would recognize other important factors, including the capability to transport materials to places where they will be used in an emergency.

ALTERNATIVE AND COMPLEMENTARY  
ACTIONS TO STOCKPILING SHOULD  
BE EVALUATED

We were told that the study preceding the 1976 stockpile policy change did not consider alternatives to physically stockpiling needed materials as a means of supporting requirements. Nor, as we understand it, were institutional options to the Government's holding stockpiled materials seriously considered. The Comptroller General's November 1976 testimony discussed these points.

"It is difficult to see how the policy change of increasing the stockpile fits into a national materials scheme. We know, for example, of no executive branch effort to seriously evaluate the options available to accomplish the stockpile goal of supporting requirements during periods of extended conflict. Institutionally, numerous options could be explored to alleviate unstable foreign dependency in whole or in part, including:

"Agreements on a commodity-by-commodity basis with producer and consumer countries, either bilateral or multi-lateral.

"A government corporation to hold military and economic stocks.

"A government-owned, but privately managed, stockpile arrangement.

"An independent government agency like the Federal Preparedness Agency holding military and economic stocks.

"Membership in a commonly held stockpile of an international organization.

"Over the longer term, given the high U.S. dependency on imports for stockpile items, other available options could be explored to reduce that dependency and minimize stockpile costs. These options, at least for some items being stockpiled include:

"Increasing the level of research and development of materials to make them last longer and perform better.

"Creating appropriate incentives (for) or requiring mandatory recycling and resource recovery practices.

"Encouraging substitution, in the design stage, of relatively abundant materials for relatively scarce materials.

"We have not examined the options mentioned above nor do we suggest they all are feasible. The point is that the options do exist and these should be explored as possibly more viable ways of fulfilling our national needs."

Amplifying on this testimony, we would point out that a range of possible complementary actions to stockpiling should be assessed. If, for example, the administration determines that rubber should be stockpiled, it could consider a program of cultivating guayule plants (a source of rubber) as was tried some years ago, so that eventually the United States might move away from complete dependence on foreign sources for its rubber needs. As another example, the administration might also consider developing domestic alumina clays and alunite resources as long-term alternatives to foreign bauxite.

To repeat, we have not examined all the options available to fulfill our national needs, but a study of future stockpile policy should consider them.

THE PURPOSES AND USES OF THE NEW  
STOCKPILE MAY NEED TO BE MADE MORE  
EXPLICIT IN THE GOVERNING LEGISLATION

The Strategic and Critical Materials Stockpiling Act of 1946 provides for the acquisition and retention of materials to supply the industrial and military needs of the country for national emergency with respect to common defense.

Section 5(a) provides that a release of material from such a stockpile may be made by a Presidential order at any time when, in his judgment, such release is required for purposes of common defense.

Section 5(b) permits such release on order of the President in time of war or during a national emergency with respect to common defense proclaimed by the President.

In 1965, the Attorney General was requested to rule on the release of copper from the stockpile at a time when the copper industry was threatened by both disruption of supply and price escalation.

The Attorney General interpreted Section 5(a) and (b) as follows:

"The language of Section 5, taken together with its legislative history, indicates that materials from the strategic stockpile should be released only when there exists a clear relationship between their release and the common defense purposes for which they are acquired."

The Attorney General also indicated that although the President's authority was broad, legislative history suggests that the President must relate the materials disposal to common defense.

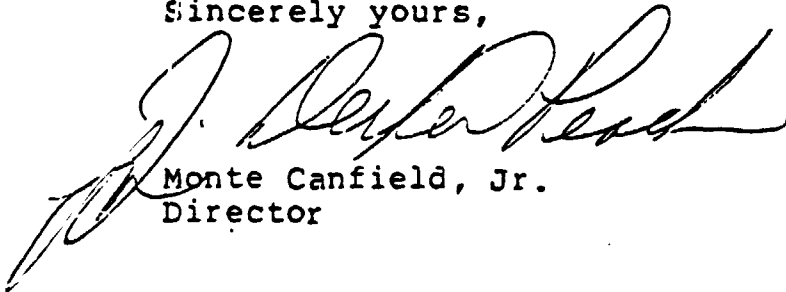
The act's language seems fairly clear regarding the release of stockpile materials for defense purposes. Past Government acquisition and disposal actions, however, have caused many people to conclude that for some time the United States has operated a de facto economic stockpile that bows to industry pressures to release stocks in times of tight supply and, at other times, threatens releases to bring down raw materials prices. Inclusion of civilian needs in the revised stockpile goals tends to reinforce that view. Moreover, public hearings in 1976 by the National Commission on Supplies and Shortages indicated that at that time many people believed the Government was, in fact, creating an economic stockpile that could be released for other than defense purposes.

Industry perceptions of Government intentions are critically important. Erroneous perceptions are likely to cause private sector responses entirely different than they otherwise would be. Industry, for example might choose to hold less in inventories if it perceives the Government intention to release stockpiled materials in the event of a shortage.

We believe that the purposes of the stockpile need to be made more explicit. If the administration intends to use a more liberal interpretation than the act's "common defense" criteria for release of stockpiled materials, then specific legislation should be introduced explicitly stating the purposes of the stockpile and conditions under which disposal actions can be made.

We plan to complete our review within the next few months. In the meantime, we would appreciate being advised of any actions taken or planned concerning these matters. Copies of this report are being sent to Senators Proxmire, McClure, and Hart; Congressmen Giaimo, Bennett, and Dicks because of their expressed interest in stockpile matters; and to the Director, Office of Management and Budget; and the Administrator of General Services. In view of their responsibilities in the Congress for stockpile matters, copies are also being sent to the Chairmen of the Senate Committees on Armed Services; Governmental Affairs; and Subcommittee on Treasury, Postal Service, General Government; the Chairmen, House Committees on Armed Services; Government Operations; and Appropriations.

Sincerely yours,



Monte Canfield, Jr.  
Director