REQUIREMENTS FOR PLANT FACILITIES
20 March 1946

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REQUIREMENTS FOR PLANT FACILITIES

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COLONEL BROWN:

I am sure that by this time in the course the subjects in the fields are getting rather narrow in which you have not already peared. But this morning we are going to look into this plant facilities business a little further. I am sure that will be a welcomed relief from all of these financial and statistical figures that you got yesterday and perhaps some you will get today.

We are fortunate enough to have with us today Colonel Perry L. Houser. A speaker who does not have a biographical record in WHO'S WHO a mile long they always thrust off on me to introduce. They never gave me anything about the man's past life. Now I have the right to assume that this speaker was born and that he grew to manhood. Although it is questionable, I have the right to assume also that he is past the age of 21. I tried to detect by his accent from what State he hails from and, in order to draw him out, I accused him of being from Arkansas. Well, he finally admitted he was from Indiana; that he was a Hoosier. I suppose all that is immaterial.

He came down here in February 1941, went on the Army and Navy Munitions Board and stayed there until December 1942. With the changes that were then taking place, I think all of you will have to admit that that was a very good record indeed, and must have been some indication of marked efficiency.

Then from January 1943 to August 1945 he went to the Production Division of A.S.F. and took up his duties as liaison officer with the War Production Division. You will have to watch these Hoosiers. They have a way of insinuating themselves into other departments. They have that contact, that velvet touch, as liaison officers. Then, after all this liaisoning was over he became Chief of the Facilities Section, Office of the Director of Procurement of A.S.F. He is going to speak to you this morning on the requirements for plant facilities.

Gentlemen, Colonel Houser.

COLONEL HOUSER:

Gentlemen, I do not know whether he said efficiency or deficiency; you will find out pretty soon. And, as far as being from Arkansas is concerned-- I don't know whether he claims that as his State or not -- I'd rather be a Hoosier.

My subject for discussion is "Requirements for Plant Facilities". This is interpreted to mean requirements, both past and future, for industrial facilities for production of military materiel. I am sure all of you are familiar as to what part the industrial facilities picture played in World War II that enabled us to bring the material to our own forces and those of our Allies which was able to spell the word "Victory".

You were told in previous lectures how requirements for end items and various products were set up and transmitted to the operating divisions or Technical Services. My discussion will be on how to produce those requirements. Now in order to give you a better understanding of some of the words I will use later on in the discussion, let's have a series of definitions.

Industrial Installation - is defined as a manufacturing plant, whether privately or government owned, with all necessary appurtenances thereto including machinery and equipment, utilities, warehouses, test buildings and similar items.

Command Installations - is a term ordinarily used to designate installations required for purposes other than manufacturing.

Active Installation - is a term used to describe the status of an installation currently in production.

Standby Installation - is a term used to describe the status of an installation not currently in use but which the War Department desires to keep in standby to resume production if necessary.

Surplus - is a term used to describe the status of an installation which had been determined by the War Department to be no longer needed for its immediate or foreseeable requirements.

And now if you have the definitions fairly well in mind, let us find out what happens when a Technical Service receives a statement of requirements. For example, let us say that there is an increased requirement for 25,000 rounds per month of 105 Ml artillery ammunition. There is presently under procurement 25,000 rounds per month. In this case the Ordnance Department, through their District Office, determine whether their present supplier has the capacity to meet the increase. Since the increase represents double their present rate, it is very unlikely that capacity will be available, therefore Ordnance must of necessity find other sources for meeting the requirement. They refer to the general policy in Procurement Regulation No. 10 as a basis or guide in their study. PR 10, Section I, paragraph 1001, outlines the general policy in regard to new facilities. This policy is "The conservation of critical material and the fullest possible utilization of existing facilities, whether structures, machinery or equipment, requires that preference in placing contracts should be given first to contractors who have existing plants or machinery available and second, to contractors who need to acquire the least amount of additional facilities for performance of the contract. Where it has been determined that new facilities are essential, preference should be given to contractors who will themselves finance such facilities. So far as practicable, direct payment or direct reimbursement by the government for the cost of new facilities should be confined to facilities which themselves form a separate unit (on land covered by the facilities contract or controlled by long term lease) or which are readily removeable from the contractors' existing plant without

unreasonable expense or loss of value. Thus, so far as practicable, buildings could not be erected at the government's expense on land owned by the contractor unless the government is given an option to lease on an appropriated basis for a substantial term after the emergency or an option to buy the plant at a reasonable price now or later determined by negotiation." In connection with the new construction projects, the site will be selected with a view to minimizing the requirements for additional utilities, transportation and housing facilities. An effort will also be made to avoid the necessity of multiple-storied structures. Wherever possible structures should be of a temporary nature and should be of the simplest construction consistent with the proposed use of the structure and the applicable building codes. Construction in general will be limited so as not to use critical material.

From those few facts you can see that the Technical Services had to take into consideration quite a few points when they were considering an expansion.

Once it has been determined that the only way the increased requirements can be met is by expansion of an existing installation or by construction of a new one and after the Technical Service has selected an operator or contractor, they then turn to Section II of PR 10 which outlines the method for providing new facilities. I believe Captain Lovenstein covered these points, but in order to refresh your memory, I will repeat them. There are five (5) basic plans available:

Privately owned with no Government interest.

Privately owned with Government interest - emergency plant facilities contract for cases in which the contractor is to be reimbursed by the Government and desire to retain future interest in the facilities. The contractor financing the construction will be repaid by the Government.

Government owned. This plan is used for cases in which the contractor constructs facilities for the Government and at Government expense.

Government owned - DPC Lease. This plan is used for cases in which DPC pays for the facilities. In financing this plan the DPC, upon recommendation by the War Department, (in the case of the Navy by the Navy Department) enters into an Agreement of Lease with the contractor, who as agent for and in the name of DPC, constructs the buildings and purchases the machinery and then leases the facilities from DPC at an agreed rental, with option to buy at the end of the lease.

Government owned - Supply contract. For cases in which the contractor will acquire facilities (other than real estate and buildings) for the account of and to be paid for by the Government; facilities to be used by the contractor to manufacture supplies under War Department supply contract; contractor responsible for return of facilities in good condition except for reasonable wear and tear and loss due through stated perils. This plan is financed with Government funds. The title

to the equipment is vested in the Government with the option in contractor, in certain cases, to buy at cost less depreciation.

After the method of financing has been determined the Technical Service is ready to submit an application for approval of the project. All requests involving the use of expediting production funds and all requests involving more than $100,000 of other type funds had to be submitted to the Production Division, Hq., AAF, for their approval and for clearance by all other interested agencies.

If the project involved more than $25,000 of expediting production funds or other funds in excess of $100,000, the Technical Service was required to include the following information in their project application. I will give you this in considerable detail to bring out the point so that you can better visualize the extent to which the checking had to be done before they could submit an application.

Name and location of project.

Name and address of operator.

Product and production rate to be created by the project.

General statement of processing operations to be performed in the plant. Type of machine tools and other equipment necessary therefore.

General description of proposed construction or rehabilitation. For new construction state number of buildings and approximate floor space.

Labor information, such as the amount of additional labor required, the labor conditions in that area, etc.

Maximum additional power required and the resource.

The additional fuel required, quantity and type.

Statement of adequacy of water, sewage disposal, rail and highway transportation and housing.

All these factors had to be considered. He had to give reasons for the selection of this particular facility or site.

Statement of estimated costs was broken down by land, buildings, production equipment, and so forth.

Statement of requirements for item to be produced and existing capacity for such production.

Method of financing. If use of expediting production funds is required, he had to give an estimate of the amount, and also the estimated dates of initial operation, completion of construction, and of final operation.

After the project was approved by the Director, Production Division, Hq., ASF, that Division submitted it to the Facilities Committee of the War Production Board for approval. The Facilities Committee, which consisted of representatives of the Army, Navy, Air Forces, WPB, War Manpower Commission National Housing Authority and others, checked it over carefully for location, utilities facilities, labor, etc., and reported their decision back to the Production Division.

At the time the Director of the Production Division or the Director of Materiel approved the project, approval memoranda were prepared for the signature of the Under Secretary of War allocating to the project the expediting production funds requested in the project application. If approved by him, the memorandum is forwarded to the Budget Office of the War Department for the Allocation of funds to the Commanding General, ASF, This document is then sent to the Fiscal Division, ASF, where the funds are sub-allocated to the originating Technical Service. The original approval memorandum is returned to the Production Division and becomes a part of the permanent project records. Notification of the approved allocation is sent to the Technical Service by the Production Division. The Production Division, in turn, notified the Technical Services that the funds had been allocated and approved.

After notification by the Production Division that the project had been cleared by all necessary staff divisions and other agencies, the Technical Service instructed the contractor or, as the case may be, the Corps of Engineers to submit to the War Production Board through the Technical Service a WPB 617 (priority) application covering the entire project if construction was involved or a PD 3A (application for priority rating to purchase) if the proposal included only machine tools and equipment. To these applications was attached a copy of the WPB Facility Committee approval. The approved WPB 617 or PD 3A is transmitted to the contractor through the Technical Service. The contractor then proceeds with actual construction of the project and starts the acquisition of equipment.

As previously stated, I have purposely gone into a rather detailed description of the steps taken in preparing and processing a request for construction of new facilities or an expansion of existing facilities in order that you can appreciate the details involved and so you will have some knowledge of the magnitude of the job that was done in providing industrial facilities to produce our war goods. In so far as it was possible to do so, our existing industrial capacity was utilized. You just do not go out and say "Joe Doakes, you expand!" There is a lot of consideration that has to be given. Where there wasn't sufficient

capacity to meet requirements and where private industry did not expand with its own capital, the Technical Service had to provide the capacity through the procedure outlined above.

The records show that, including the old line arsenals, there were a total of 627 complete industrial plants with a value of $7,333,000, $7,333,000,000 constructed (including structural additions to existing installations) by the Government for the War Department during World War II. Of this total 245, with a value of $2,855,000,000 were for the Air Forces. Three hundred eighty-two (382), with a value of $4,478,000,000 were for the Army Service Forces. Those are a lot of plants. I want to emphasize the point that these are complete plants. That does not include the simple addition of machine tools and production equipment.

Of the 627 plants, 253 were War Department owned (including Emergency Plant Facilities and buildings on leased land) with a value of $4,452,000,000. Of this number 212 valued at $3,967,000,000 were for ASF and 41, valued at $485,000,000 were for AAF.

374 with a value of $2,880,000,000 were DPC owned. Of this number 170, with a value of $511,000,000, were sponsored by the ASF. 204 with a value of $2,369,000,000 were sponsored by the AAF. That gives you a breakdown between the War Department-owned and the DPC-owned.

From the figures previously given, you get an idea of the magnitude of the Government financed, complete industrial facilities built during this war. In addition to the complete installations mentioned there were many other Government financed expansions, which consisted only of the addition of machine tools and production equipment to privately owned plants.

Let us deal, for a moment with one phase of the financial arrangements which had to be made to carry out this tremendous program. We will take as an example Expediting Production Funds. Expediting Production Funds, as previously defined, are funds appropriated by Congress to the War Department for use in expediting production. The use of these funds consisted principally of financing construction of new facilities or modification of existing facilities and the acquisition of machinery and/or equipment. From July 1940 to date, over $10,000,000,000 of such funds were spent. Each expenditure of such funds has to be related directly to a project. Our records show that for the period July 1940 to August 1945 there were 1,488 projects. This figure includes most of those already mentioned plus numerous other expansions which consisted simply of the addition of machine tools and production equipment to commercial facilities that were already in operation. The number of projects is not indicative of the number of complete installations since each project includes one or more additions which might be construed as expansions to the original project. To give you an indication of the volume of projects approved and the cost, in

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|---|---|---|---|---|---|---|
| May 1942 | there | were | approved | 162 | projects, value | $770,215,713 |
| March 1943 | " | " | " | 80 | " " | 120,785,480 |
| August 1944 | " | " | " | 147 | " " | 298,964,454 |
| January 1945 | " | " | " | 92 | " " | 377,198,440 |

These figures include complete new projects, expansions of existing plants, additions or augmentations and increased costs, involving Expediting Funds and/or DPC funds.

And now let us see what happened in the field of privately financed new facilities, including real estate, buildings and/or production equipment.

As an incentive for inducing industry to spend private capital, the Tax Amortization scheme was developed and enacted into a law in 1940.

Private industry was naturally reluctant to risk its funds for the creation of war facilities. The Tax Amortization Law (Section 124 of the Internal Revenue Code) was designed by Congress chiefly to encourage industry to use its own capital in building war facilities. The law allows a deduction in the computation of taxable income for the amortization of the cost of emergency facilities over a period of 60 months or less. The allowance of this deduction is subject to certain conditions which include the issuance of a Necessity Certificate under regulations prescribed by the certifying authority with the approval of the President. When covered by a Necessity Certificate, the cost of privately owned emergency facilities may, at the taxpayer's election, be deducted over a period of 60 months or less and is in lieu of normal depreciation for the purpose of determining the net taxable income. Before a Necessity Certificate could be issued, it was necessary that the taxpayer file an application showing the need of the facility and the supply to be produced, or service rendered. He was also required to show that the facility was acquired or constructed after December 31, 1939 and sponsored by one of the Technical Services of the AAF. The regulations set no hard and fast rules except as to purely procedural matters such as timeliness of filing. The guides to be followed in determining necessity were quite simple and can be briefly summarized as follows: The necessity of a facility was to be determined in accordance with whether the supply it produced was required in the interest of National Defense during the emergency period and essential to the Armed Forces. Shortage of capacity in the industry must ordinarily be shown in order to justify an expansion. The basic reason for insisting on a showing for a shortage of capacity rather than to increase the capacity of a particular company to meet its contract requirements, was the desire to spread contracts more evenly among all portions of an industry capable of producing required items.

In the period between the passage of the Tax Amortization Act and the transfer of the certifying authority to the War Production Board, now CPA, the industry filed 31,047 applications for Necessity Certificates, with the War Department. Of that number, the War Department issued 26,775 certificates. The total dollar value of the facilities certified, on the basis of their estimated worth on the date of application, was approximately five billion dollars. So, private industry did a whale of a job in this thing, too. Of course, there are many other factors which enter into it.

During the period in question, the Navy Department had a similar procedure for the processing of applications for Necessity Certificates with respect to those facilities producing supplies under the cognizance of the Navy Department.

After the transfer of the certification of authority to the War Production Board, the War Department's action upon new applications was limited to making recommendations at the request of the War Production Board when it was claimed that the facilities were necessary for military supply.

On September 29, 1945 the President signed a proclamation ending the emergency period as defined in Section 124 (e) (2) of the Internal Revenue Code. In view of this proclamation, no Necessity Certificates under Section 124 of the Code were issued for facilities to be acquired after September 28, 1945.

A general description of the products which were produced with the facilities, which were made the subject of Certificates of Necessity, included manufacturing of aircraft engines, parts and accessories, ship construction, combat and motorized vehicles, guns, ammunition, shells and bombs, explosives and ammunition loading, basic and fabricated iron and steel, aluminum and magnesium, machine tools and various machinery and metal working equipment, chemicals, coal and petroleum products, aviation gasoline, food processing, mining, electric power generation and transmission rails, pipe lines, terminal facilities and communication equipment.

In summarizing what happened as far as industrial installations are concerned during World War II, we have the 627 complete Government -owned industrial plants employed by the War Department, we have the 1,488 projects involving more than $10,000,000,000 of Expediting Production Funds, which includes some of the above, and we have 5 billion dollars worth of facilities financed with private funds with the Tax Amortization privilege as an inducement to expand.

Now let us take a look at the ASF plans and recommendations for the postwar era. This will cover recommendations for plants to carry on research and development work; to produce some military materiel during peacetime and to provide a nucleus of industrial activity in the event of a future emergency.

As a result of basic plans and assumptions laid down by the War Department Special Staff and as a result of many months of planned activity, Technical Services of the Army Service Forces have recommended retention of a group of industrial facilities, including the old line arsenals, as their postwar industrial military establishment.

Previous lectures have touched on the subject of the War Department War Reserve, now known as the Mobilization Reserve. You will recall that

each Technical Service was required to determine the quantity of either their end items or components thereof required to supply, equip, and maintain a 4,500,000 man Army by 18 months after a future M-Day. The Technical Service was also required to indicate how they planned to meet those requirements. There are four basic methods: (1) from reserve plants (2) from commercial sources (3) from converted facilities and (4) from new facilities. Obviously, no new facilities can be constructed at this time and the Technical Services, based on experience gained during this war, know how much equipment may be expected from commercial sources. The remaining two methods of those mentioned above, i.e., (1) reserve plants and (3) converted facilities, will be the subject of my remarks on postwar establishment.

The War Department Special Staff laid down certain criteria and principles that were expected to be followed or used by the Technical Services as a guide in their selection of installations to be retained. A few of the principles and criteria I will read to you:

(a) The production obtainable from operating arsenals and industrial reserve facilities for each item, to meet the War Department War Reserve of that item and production which reasonably may be expected to be obtained from commercial facilities in the time required, shall be sufficient to equip, supply and maintain an Army of 4,500,000 men, both in training and in active operations, for a period of 18 months following a future M-Day. In this manner, there is an assurance that on an outbreak of a total war, production facilities immediately needed will be available many months sooner than would otherwise be the case, and there would be time to build and place in operation new facilities of the most modern production characteristics to meet the future expansion of the forces.

(b) In general, production capacity is preferred to a reserve, although both should be provided in all appropriate cases. On the other hand, production capacity dependent upon strategic materiel which may not be available in the event of a future conflict, can supplant a physical war reserve only to the extent that such materiels are themselves accumulated in reserve.

(c) Careful consideration will be given to the vital need for a continuing, comprehensive, fully supported research and development program, so as to keep abreast of scientific and technological progress and to avoid future dependence upon obsolete equipment and facilities and a pursuit of outmoded practice.

Under the criteria, some of the instructions were:

(a) Wherever possible, private commercial sources of supply will be used to meet requirements, except in unusual cases where security reasons make this inadvisable.

(b) If private commercial sources of supply cannot be used, civilian industry should be converted for use wherever possible, and special machine tools and production equipment retained in reserve for this purpose, rather than retaining the plant as a whole.

(c) There should be retained only special purpose plants or those where the production which may reasonably be expected to be obtained from commercial facilities falls short of military requirements.

(d) In a selection of the facilities to be retained, full consideration should be given to the following:

(1) Adequacy of design, construction and equipment.

(2) Relative maintenance costs.

(3) Relative production costs.

(4) Condition of buildings and equipment.

(5) Location of facilities with respect to availability of subcontracting, fuel and power, transportation, raw materials and depots and storage facilities.

(6) Physical location of facilities with respect to security.

(e) Where it is determined that an installation should be retained, careful consideration should be given as to whether that installation should be sold or leased for commercial use, provided the use proposed would not interfere with the reserve of the plant to the desired military production at the time required.

The above principals and criteria clearly demonstrate that the ASF are relying in the ability of American industry to provide the major portion of industrial capacity required to produce war materiel in the event of a future emergency.

As a result of the application of the above principals and criteria, the ASF recommendations cover a number of installations of such types as arsenals, providing grounds and special projects which will be devoted to a continuing program of research and development, pilot line and job lot production and the maintenance of "know-how" records, and special purpose type plants designed and constructed for the production of selected critical items of materiel for which there is little or no commercial productive capacity.

In the ASF there are a total of sixty-two (62) industrial installations with a value of $2,220,840,000 recommended for retention. These are recommended by four of the seven Technical Services; the Ordnance Department, Chemical Warfare Service, Corps of Engineers and the Quartermaster Corps. The bulk of the installations fall within the responsibility of the Ordnance Department and Chemical Warfare Service since they are the principal Technical Service charged with supply of specialized military type weapons and equipment for which there is little or no commercial production. The recommendations of the Corps of Engineers and Quartermaster Corps are concerned mainly with research and development and related facilities. The other Technical Services, Signal Corps, Surgeon General and Transportation Corps, are not retaining any industrial plants in reserve since practically

all of their production comes from commercial industries who also conduct research and development work for the type of item required.

If you were to see a map of the Army Service Forces postwar industrial installations that are recommended, you would note the high concentration of plants in the Middle West and on the East Coast. There are quite a few reasons for that.

You, in all probability, heard me read a statement about security. Well, one of the criteria for security was 250 miles from the coastline. So, it is quite expensive and not too practical to pick up lock, stock and barrel the old-line arsenal that was concentrated mainly along the coastlines and move it inland. With the atomic bomb, the 250 miles probably doesn't mean anything anyhow; especially with the airplane development.

Most of the old-line arsenals will be continued in operation on a limited scale in research and development, pilot-line production, and the maintenance of know-how personnel.

In addition to the arsenals that are in operation or in the standby category, we have asked to keep, I should say, some 11,800 items of machine tools and metal-forming and shaping equipment, plus other production equipment which will be used to augment the production facilities of commercial establishments. Practically all of this equipment is of a special-purpose type and has little use as far as commercial production is concerned.

From these comments you get an idea of the extent of the planning operations.

I have a book here that we have put together. One of the authors of it happens to be a student in this class, Lt. Colonel Charles M. Merriman, who helped to prepare it before entering this College. It goes into detail for each individual installation, with all the pertinent factors regarding each facility.

These studies are all presently in the Office of the Under Secretary of War for approval. He has indicated tentative approval. The Army Air Forces have a similar study and I am told the Navy has a similar study under consideration, all of which will be sent to the Army and Navy Munitions Board and then taken to Congress for approval.

In this connection I might also say there are quite a few dollars involved for the maintenance cost of these installations. It depends upon Congress and their attitude as to how much money the Services will have to retain these installations and the equipment. It is possible that they won't get enough money to retain all of them; if not, they will have to cut them out.

That about covers my remarks. Don't fire too many questions because I may not be able to answer them.

GENERAL ARMSTRONG:

Have you any information on the length of time involved in constructing and completing these different types of plants?

COLONEL HOUSER:

No, sir, we do not have that information, General. There have been quite a number of guesses, though. I understand that was the subject of study of some of your committee down here. We have worked with them and given them such information as we have in our files on it. I think they have also checked with the Corps of Engineers at the time the Technical Services gave them the go-ahead until the facility was finally completed.

GENERAL ARMSTRONG:

I think the Army and Navy Munitions Board ought to have that information. It seems to me a very strong argument for the retention of at least that number of plants.

A STUDENT:

You mentioned, I think, 11,800 items of special purpose - machine tools and equipment.

COLONEL HOUSER:

Yes, sir.

A STUDENT:

Is that all they are going to keep out of that outfit?

COLONEL HOUSER:

That is the equipment. That is in addition to the equipment that is located in these installations.

A STUDENT:

In addition to the equipment already there.

COLONEL HOUSER:

Yes, sir. You will recall I commented that of the equipment 11,800 items were for use in converting facilities of commercial establishments. In other words, if your plant needed a special milling machine and lathe to augment its production, you may have it.

A STUDENT:

One interesting thing during that heavy artillery ammunition program was that from the time they decided they needed heavy ammunition it took

exactly eight months to convert plants and get them into production. Therefore, that would be a good talking-point in favor of retaining some of the plants in a standby condition.

COLONEL HOUSER:

Most of that was due, I think, to the manufacture of peculiar equipment. Practically the major portion of the equipment needed for the production of shells had to be made new because there had never been production of that quantity of shells. I am thinking particularly of the forging equipment. Therefore, it had to be built. The forging people, I might say, did a marvelous job on that too. They did in five, six, or seven months what it would normally take twelve to fifteen months to do.

A STUDENT:

Have you set aside that heavy forging equipment?

COLONEL HOUSER:

Some of that has been set aside. The Ordnance Department has retained some of it in their industrial reserve and some in the complete installations.

A STUDENT:

I can tell you it will take from 18 months to two years to build machine shops to do any big job like that.

COLONEL HOUSER:

I don't think you would have any argument as to that.

COLONEL BROWN:

I neglected to tell you that the gentleman was an expert on machine tools and a distinguished associate of Captain Henning.

A STUDENT:

Tax Amortization Certificates are something I do not like very well because when the job is done you give a man 10 or 15 cents on a dollar, depending on the tax, and the Government has nothing to show for it.

COLONEL HOUSER:

I am sorry I cannot make any comment. No thought has been given to that, that I know of, at the moment.

A STUDENT:

Colonel, there were about 3,066 soldiers furloughed by the Army to the heavy artillery ammunition industry in order to catch up on that program when it first started. Now were they scattered throughout the country, or were they concentrated in a small number of plants?

COLONEL HOUSER:

Quite a number of those men went to the people who were producing equipment vital to the December ammunition program. Then there were some in the shell-manufacturing plants themselves, but not nearly as many as there were in the production-equipment field.

A STUDENT:

But it was all connected with the production of the end-item of heavy artillery.

COLONEL HOUSER:

It was connected, directly or indirectly.

A STUDENT:

I have experienced considerable delay in constructing plants such as you speak of due to the priority system breaking down. Have you had any similar experience in connection with obtaining materials? I had in mind construction materials, machine tools, and so forth.

COLONEL HOUSER:

The order of precedence, which I believe Captain Henning talked about or was going to talk about in one of his talks on the allocation of machine tools, and the urgency of the job dictated which tool would be shipped first. The question of components for the production of machine tools was very critical all along during the war. The question of material for machine tool manufacture, also, was quite critical all during the war. The urgency of the program dictated, as far as priority was concerned, which job would get the equipment and material first.

A STUDENT:

But there was a long delay in working that out.

COLONEL HOUSER:

There was quite some delay, but there was a multitude of problems to be considered.

A STUDENT:

Are you people studying or doing anything to get those plants further West or underground?

COLONEL HOUSER:

I do not know of any movement in that direction.

A STUDENT:

Either West or down?

COLONEL HOUSER:

I don't know of any move in that direction. There have been, I know, some committees down here that have been talking of moving underground as far as manufacturing facilities are concerned.

COLONEL BROWN:

Let me put my question, if I can state it coherently. Let's make an assumption: Let's assume three months from now there is a declaration of war, or a recognition of a state of war. Let's also assume that the Congress of the United States hands you the whole United States Treasury, as it is prone to do on declaration of war. Now how long will it take you to get those plants all back into operation?

COLONEL HOUSER:

The Technical Services were asked that question when they came forward with a recommendation on the plants to be retained. Now I will just pick a facility at random as an example: Here is the Watertown Arsenal. They could get into full production, or rather into full operation, in another 12 months.

COLONEL BROWN:

I wonder just how long it will take them to get into half production?

COLONEL HOUSER:

Half? It will be only three months, I would say. Certainly they will be back in operation much faster than 12 months. That depends, of course, on the availability of raw materials to do your processing.

COLONEL BROWN:

And as time passes it will become more complex getting these plants back into operation. In all probability, some of them will disappear entirely.

COLONEL HOUSER:

Some of them will, that is right.

A STUDENT:

I might add, sir, that one of the big time-consuming things is your collateral items, such as personnel, housing and grocery stores, and things that draw off our labor.

COLONEL BROWN:

The object of my question was accomplished when he said the Technical Services had been faced with this problem and that they were thinking about it, because I have been thinking about it from reading the daily papers.

Any further questions, gentlemen?

Thank you, Colonel Houser.

( 24 Sept. 1946-200)N.