JOINT BOARD ESTIMATE OF
UNITED STATES OVER-ALL PRODUCTION
REQUIREMENTS.

SEPTEMBER 11, 1941.
THE JOINT BOARD.
WASHINGTON.

September 11, 1941.

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I. DIRECTIVE.

1. The directive requesting the Secretaries of War and of the Navy to undertake an exploration of over-all production requirements of the United States is contained in a letter from the President. This letter, which was referred to the Joint Board for recommendation, is quoted as follows:

"July 9, 1941.

My dear Mr. Secretary:

I wish that you or appropriate representatives designated by you would join with the Secretary of War and his representatives in exploring at once the over-all production requirements required to defeat our potential enemies.

I realize that this report involves the making of appropriate assumptions as to our probable friends and enemies and to the conceivable theatres of operation which will be required.

I wish you would explore the munitions and mechanical equipment of all types which in your opinion would be required to exceed by an appropriate amount that available to our potential enemies. From your report we should be able to establish a munitions objective indicating the industrial capacity which this nation will require.

I am not suggesting a detailed report but one that, while general in scope, would cover the most critical items in our defense and which could then be related by the OPM into practical realities of production facilities. It seems to me we need to know our program in its entirety, even though at a later date it may be amended.

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I. DIRECTIVE (Cont'd)

I believe that the confidential report which I am asking you to make to me would be of great assistance, not only in the efficient utilization of our productive facilities but would afford an adequate opportunity for planning for the greatly increased speed of delivery which our defense program requires.

I am asking Mr. Hopkins to join with you in these conferences. I would appreciate it if the Secretary of War could take the initiative in these conferences.

Very sincerely yours,

/s/ Franklin D. Roosevelt."

2. In solving this problem, it is first necessary to conceive how our potential enemies may be defeated. Having arrived at this conception, it is possible to estimate the military forces required to carry out the operations planned. Once a statement of the major forces is completed, the critical items of equipment may readily be computed.

3. The production requirements mentioned in The President's letter refer to the materials which the United States will be called upon to provide for supporting successful military action against our potential enemies. Any military action by the United States ought to be undertaken only in accordance with sound military policy, necessarily based upon sound strategy. This paper, therefore, will present views as to how the national policy of the United States can best be supported by a military policy which shall guide all military operations, undertaken either by the armed forces of the United States, or by the armed forces of other Powers which may be associated with the United States. Categories of forces and approximate strengths which the United States should raise, or which it should support in whole or in part, will then be listed. In the interest of brevity, lines of reasoning and supporting arguments are omitted.
II. MAJOR MILITARY POLICY.

4. Germany, and all German-occupied countries whose military forces cooperate with Germany; Japan and Manchukuo; Italy; Vichy France; and possibly Spain and Portugal, are assumed potential enemies. Countries considered as friends or potential associates in war are the British Commonwealth, the Netherlands East Indies, China, Russia, Free France, peoples in German-occupied territory who may oppose Germany, and the countries of the Western Hemisphere.

5. Those major national objectives of the United States which are related to military policy may broadly be stated as: preservation of the territorial, economic and ideological integrity of the United States and of the remainder of the Western Hemisphere; prevention of the disruption of the British Empire; prevention of the further extension of Japanese territorial dominion; eventual establishment in Europe and Asia of balances of power which will most nearly ensure political stability in those regions and the future security of the United States; and, so far as practicable, the establishment of regimes favorable to economic freedom and individual liberty.

6. Since the paramount territorial interests of the United States are in the Western Hemisphere, it is fundamental that the United States must provide armed forces appropriately disposed, which in all eventualities, and operating in cooperation with the forces of other American Powers, can successfully prevent the extension in the Western Hemisphere of European or Asiatic political or military power, even though the British Commonwealth had collapsed.

7. Attainment of this objective alone will not lead to the success of all of the national policies mentioned in paragraph 6. These national policies can be effectuated in their entirety only through military victories outside this hemisphere, either by the armed forces of the United States, by the armed forces of friendly Powers, or by both.
II. MAJOR MILITARY POLICY. (Cont'd)

8. Should Germany be successful in conquering all of Europe, she might then wish to establish peace with the United States for several years, for the purpose of organizing her gains, restoring her economic situation, and increasing her military establishment, with a view to the eventual conquest of South America and the military defeat of the United States. During such a period of "peace", it seems likely that Germany would seek to undermine the economic and political stability of the countries of South America, and to set up puppet regimes favorable to the establishment on that continent of German military power. In such circumstances, Germany would have better chances to defeat the United States. This concept cannot be accepted as certain, because it is conceivable that Germany might at once seek to gain footholds in the Western Hemisphere.

9. Were Japan to defeat China and Russia, and obtain control of Siam, Malaya and the Netherlands East Indies, it is probable that she likewise would endeavor to establish peace for the purpose of organizing the "East Asia Co-Prosperity Sphere". Almost inevitably the Philippine Islands would ultimately pass under Japanese hegemony.

10. It is believed that the overthrow of the Nazi regime by action of the people of Germany is unlikely in the near future, and will not occur until Germany is upon the point of military defeat. Even were a new regime to be established, it is not at all certain that such a regime would agree to peace terms acceptable to the United States.

11. Assuming the truth of the views expressed in the preceding paragraph, it is the opinion of the Joint Board that Germany and her European satellites can not be defeated by the European Powers now fighting against her. Therefore, if our European enemies are to be defeated, it will be necessary for the United States to enter the war, and to employ a part of its armed forces offensively in the Eastern Atlantic and in Europe or Africa.
II. MAJOR MILITARY POLICY (Cont'd)

12. The Joint Board also holds the view that, if, under present circumstances, Japan should advance against the British in Malaya and against the Dutch in the Netherlands East Indies, British and Dutch forces probably could not successfully withstand such an advance in the absence of active military assistance by the United States. The result of an attack by Japan on the Eastern Siberian Soviet Republic cannot now be predicted.

13. In view of the preceding considerations, the Joint Board recommends that the over-all production and material objective of the United States be designed to meet United States needs while engaged simultaneously in war against Germany and Japan, under either of the following sets of circumstances:

a. While associated as a belligerent with the British Commonwealth, the Netherlands East Indies, Russia, and China.

b. While associated as a belligerent with Canada and some of the Latin American countries, other belligerent Powers having been defeated by Germany and Japan.

14. Due to inadequate industrial capacity and material resources, friendly Powers must look to the United States for a large part of the munitions and other materials which they will require for success. The munitions and other materials which may be produced or controlled by the United States should be divided between itself and friendly Powers in such a manner as to effectuate the success of the military strategy adopted by the United States as best calculated to defeat our common enemies.
III. PROBABLE CHARACTER OF THE ENEMY'S MAJOR STRATEGY:

(A) GERMAN STRATEGY:

15. For Germany, the objective of the current phase of the war is the complete military and political domination of Europe, and probably of North and West Africa. If Germany is successful she may then seek a period of peaceful refreshment, during which she can reorganize Europe and prepare for further adventures. However, the possibility cannot be dismissed that Germany might seek at once to continue into India, South Africa, or South America.

16. Germany's present major strategic objectives, and the means by which she seeks to attain them, seem to be some or all of the following:

a. The conquest of European Russia, the destruction of the Russian Armies, and the overthrow of the Soviet regime. This is a task for the German army and air forces, and will doubtless absorb most of the energy available to those contingents for some months to come. Final success in this aim is still in the balance.

b. The destruction of the power of resistance of the United Kingdom, through accelerated attrition of shipping, and continued bombing of British facilities. The forces employed will be surface raiders, submarines, and aircraft in the northwestern approaches and down through the Middle Atlantic, operating from bases in Norway, France, Portugal, and French West Africa; and merchant-type raiders distributed throughout all oceans. Invasion of England may possibly not be attempted unless these other measures fail.

c. The conquest of Egypt, Syria, Iraq, and Iran. This may be the region in which the next major German offensive will be undertaken. Large land and air forces must be employed, both German and Italian, aided by Italian naval forces in the Eastern Mediterranean and
III. PROBABLE CHARACTER OF THE ENEMY'S MAJOR STRATEGY:
(A) GERMAN STRATEGY: 15. c. (Cont'd)

the Black Sea. Success may depend upon whether or not a large concentration of British and Russian defensive forces are available, and upon the continued military capacity of Italy, now an uncertain quantity.

d. The occupation of Spain, Portugal, Morocco, French West Africa, Senegal, and the Atlantic Islands, for the purpose of strengthening the German offensive against British shipping, and for denying those positions to Germany's enemies. Considerable land, air, and naval forces will be required for this offensive, though not so great as would be required for conquest of the lands to the eastward of the Mediterranean.

17. In and near her own home territory, Germany can exert her full effort. As her forces move away from the home base, the effort that can be exerted at the point of military contact becomes reduced in proportion to the length and security of the lines of communication, and to the difficulties of transportation. Germany is experiencing these difficulties in Russia; she would experience them in an even greater degree in an offensive in the regions to the east of the Mediterranean; while the problem of the support of strong forces in Morocco, French West Africa, Senegal, and the Azores would be very great indeed. In the eastern part of European Russia, in Egypt, Irak, Iran, and North and West Africa, the effort that German military forces can exert is only a fraction of what they have been able to put forth in France, the Balkans, and Poland. Severe German defeats in these regions might readily affect the stability of the Nazi regime. This significant possibility should be taken into account in the development of the strategy of the Associated Powers.
III. PROBABLE CHARACTER OF THE ENEMY'S MAJOR STRATEGY: (Cont'd)

(B) JAPANESE STRATEGY:

18. The Japanese objective is the establishment of the "East Asia Co-Prosperity Sphere". It is Japan's ambition ultimately to include within this sphere Eastern Siberia, Eastern China, Indo-China, Thail, Malaya, the Netherlands East Indies, the Philippines, and possibly Burma. The accomplishment of this objective is a heavy task for Japan's strength, a fact well realized by the Japanese.

19. Depending upon results in Europe, Japan's strategic moves might be as follows:

a. Building up and maintaining an effective screen in the Japanese Kandato Islands by the employment of minor naval forces and considerable air forces, supported by the COMBINED FLEET. This activity would include submarine and raider action against United States naval forces and United States and British lines of communication in the Central and Eastern Pacific Ocean.

b. The conquest of Eastern Siberia by means of land and air operations covered by the COMBINED FLEET operating to the eastern of Japan.

c. The conquest of Thail, Malaya, the Netherlands East Indies, and the Philippines. Success will require strong air forces, considerable strength of light naval forces, and rather large land forces. It is unlikely that Japan will simultaneously attempt a major effort to the Northward and to the Southward, because of her lack of equipment and raw materials.
III. PROBABLE CHARACTER OF THE ENEMY'S MAJOR STRATEGY:  
(B) JAPANESE STRATEGY: (19 - Cont'd)

d. An offensive from Northern Indo-China against Yunnan for the purpose of cutting the Burma Road and eliminating further resistance of the Chinese Nationalist army. This move might be supplemented by an attack on Burma. Considerable land and air forces would be required, as well as a large amount of shipping to provide the necessary support.

20. All of these prospective Japanese moves would be made at great distances from Japan. If Japan encounters stubborn and protracted resistance, her ability to continue offensives at these distances is problematical, owing to a lack of adequate resources and industrial facilities. Marked weakness or lack of cohesion on the part of her opponents might permit Japan to accomplish any one of these objectives within the next few months.

IV. MAJOR STRATEGY OF THE UNITED STATES AND ITS ASSOCIATES.

21. The Joint Board is convinced that the first major objective of the United States and its Associates ought to be the complete military defeat of Germany. If Germany were defeated, her entire European system would collapse, and it is probable that Japan could be forced to give up much of her territorial gains, unless she had already firmly established herself in such strength that the United States and its Associates could not afford the energy to continue the war against her.

22. An inconclusive peace between Germany and her present active military enemies would be likely to give Germany an opportunity to reorganize continental Europe and to replenish her strength. Even though the British Commonwealth and Russia were completely defeated, there would be important reasons for the United States to continue the war against Germany, in spite of the greatly increased difficulty of attaining final victory. From this it follows that
secret

joint board estimate of united states over-all production requirements.

IV. major strategy of the United States and its associates.

22. (Cont'd)

The principal strategic method employed by the United States in the immediate future should be the material support of present military operations against Germany, and their reinforcement by active participation in the war by the United States, while holding Japan in check pending future developments. Necessarily, only small Army contingents are now sufficiently equipped and trained for immediate participation in offensive operations.

23. Except in the case of Russia, the principal strength of the Associated Powers is in naval and air categories. Naval and air power may prevent wars from being lost, and by weakening enemy strength may greatly contribute to victory. By themselves, however, naval and air forces seldom, if ever, win important wars. It should be recognized as an almost invariable rule that only land armies can finally win wars.

24. It is out of the question to expect the United States and its Associates to undertake in the near future a sustained and successful land offensive against the center of the German power. It being obvious that the Associated Powers can not defeat Germany by defensive operations, effective strategic offensive methods other than an early land offensive in Europe must be employed. These methods may be found in a continuation of the economic blockade; the prosecution of land offensives in distant regions where German troops can exert only a fraction of their total strength; air and sea offensives against German military, economic and industrial resources; and the support of subversive activities in the conquered territories. Strategic methods to be employed against Japan (assuming her in the war) should be a strong defense of Siberia and Malaysia; an economic offensive through blockade; a reduction of Japanese military power by raids; and Chinese offensives against the Japanese forces of occupation.
IV. MAJOR STRATEGY OF THE UNITED STATES AND ITS ASSOCIATES.
(Cont'd).

25. The major strategic objectives which it is believed the United States and the Associated Powers should adopt are indicated below, as well as the means for attaining them. The material assistance to be supplied friendly Powers (where mentioned in the succeeding subparagraphs), should be consistent with the needs of the United States.

a. The security of the Western Hemisphere against the extension into it of European or Asiatic political or military power is an essential of United States strategy. To provide this security under all eventualities, the United States must have naval, land, and air forces in such positions that they can be made promptly available in both the Atlantic and the Pacific Oceans in strengths adequate for preventing invasion should the British Isles and Russia collapse. In this connection, an important question is whether or not Northwestern Africa and the Atlantic Islands are in German or friendly hands. Similarly, Alaska, Hawaii, and the Islands of the South Pacific Ocean have an important relation to the security of the Eastern Pacific. United States naval strength, built up in accordance with the approved program, should be adequate for defensive needs until 1944. However, if Germany is successful in Europe, and Japan is successful in the Far East, naval strength for defensive purposes must be increased, even in excess of the present approved naval program. United States land and air forces may be required for the defense of the Western Hemisphere within the next few years, and it is necessary for Latin American countries to be provided with munitions and manufactured articles.
b. The security of the United Kingdom is essential to the prosecution in the Eastern Hemisphere of military operations against Germany and Japan. Its safety is also highly important to the defense of the Western Hemisphere. The security of the United Kingdom depends on an effective defense by sea, land, and air forces. In turn, this defense depends upon the safety of sea communications. The sea communications can continue to support the United Kingdom only if the damage now being inflicted upon them is greatly reduced through increases in the strength of the protective sea and air forces based in the British Islands, Iceland, and positions in the central and eastern Atlantic. Unless the losses of British merchant ships are greatly reduced, or unless there is an internal collapse of Germany, it is the opinion of the Joint Board that the resistance of the United Kingdom cannot continue indefinitely, no matter what industrial effort is put forth by the United States. Therefore, the immediate and strong reinforcement of British forces in the Atlantic by United States naval and air contingents, supplemented by a large additional shipping tonnage, will be required if the United Kingdom is to remain in the war. These contingents must be manned by Americans, since the reserves of British manpower for employment in Europe are practically exhausted. To maintain present British strength, the United States must also continue to supplement the British blockade, and the naval building and repair potential; and to provide considerable numbers of aircraft.

c. Safety of the sea communications of the Associated Powers throughout the world is essential to the continuance of their war effort. Naval and air
IV. MAJOR STRATEGY OF THE UNITED STATES AND ITS ASSOCIATES. 25. c. (Cont'd)

forces employed in and near Europe should, so far as practicable, be strong enough to prevent the escape of surface raiders to the open sea, and to defeat submarine and air raiders. In addition, a widespread distribution of naval and air forces for direct protection of shipping foci and shipping routes will be required.

d. The enforcement of economic blockade is, for the time being, likely to be the most effective offensive method for use against Germany and Japan. Naval and air forces must be maintained to close all avenues of sea approach to Germany. The continued existence of hostile land fronts in Russia and in the Middle East is necessary if this blockade is to be maintained. In addition, diplomatic, economic, and financial measures should be employed for increasing the effectiveness of the military blockade.

c. The retention by the British of the control of the Red Sea, Iraq, and Iran is necessary for preserving opportunities for decisive land action against Germany. Of great importance are effective land and air forces of all categories; large numbers of merchant vessels for their support; and adequate naval forces for the protection of communications leading to the Persian Gulf and the Red Sea. These forces can not be fully supported by the material means available to Britain. The United States should undertake to provide a part of the munitions and raw materials required by these troops, and should supply much of the merchant shipping for their transport.
f. The maintenance of an active front in Russia offers by far the best opportunity for a successful land offensive against Germany, because only Russia possesses adequate manpower, situated in favorable proximity to the center of German military power. For Russia, ground and aviation forces are most important. Predictions as to the result of the present conflict in Russia are premature. However, were the Soviet forces to be driven even beyond the Ural Mountains, and were they there to continue an organized resistance, there would always remain the hope of a final and complete defeat of Germany by land operations. The effective arming of Russian forces, both by the supply of munitions from the outside and by providing industrial capacity in the Volga Basin, or to the east of the Ural Mountains, would be one of the most important moves that could be made by the Associated Powers.

3. Prevention of Axis penetration into Northwest Africa and the Atlantic Islands is very important, not only as a contribution to the defense of the Western Hemisphere, but also as security to British sea communications and as a potential base for a future land offensive. In French North and West Africa, French troops exist which are potential enemies of Germany, provided they are re-equipped and satisfactory political conditions are established by the United States. Because the British Commonwealth has but few troops available and because of the unfriendly relations between the British and the Veygand regime, it seems clear that a large proportion of the troops of the Associated Powers employed in this region necessarily must be United States troops.
IV. MAJOR STRATEGY OF THE UNITED STATES AND ITS ASSOCIATES.

h. Retention by the United States and its associates of the Philippines, Malaya, the Netherlands East Indies, Australasia, Burma, and China would have far-reaching effects. The armed forces of the United States can not be greatly increased in the Far East if they are to discharge their heavy tasks in other regions, but the operations of the Pacific Fleet will have an important influence on events. The United States should undertake to provide a part of the munitions and aircraft to China and the Netherlands East Indies. A large part of this material must be transported in United States bottoms.

i. Retention of Eastern Siberia by Russia is necessary if Japan is to be checked. Only material assistance can be provided by the United States to Siberia. No materials can be sent to Siberia by water when Japan is at war with Russia, but deliveries of aircraft could continue by air.

26. The following principles have been taken into consideration in arriving at recommendations concerning the strengths of the armed forces which the United States should undertake to raise or support, in whole or in part:

c. The Navy considers that, since the principal strength of the Associated Powers is at present in naval and air categories, the strategy which they should adopt should be based on the effective employment of these forces, and the employment of land forces in regions where Germany may not exert the full power of her land armies. The Army believes that the foregoing strategy may not accomplish the defeat of Germany and that it may be necessary to cope with the German armies on the continent of Europe. Consequently, the Army feels that the equipment for the land armies necessary to meet this contingency should be provided as a part of the over-all production requirements.
IV. MAJOR STRATEGY OF THE UNITED STATES AND ITS ASSOCIATES. 26. (Cont'd)

b. Past experience of the United States and other Powers should condition estimates of the capability of the United States to support a war effort, with due regard to differences in over-all industrial capacity; differences in availability of materials; and an appropriate balance between the man-power to be employed in the armed forces, and the man-power to be employed in industry and essential civilian services. Because of the present high degree of mechanization, a greater proportion of man-power must be allocated to industry for the manufacture of equipment and munitions than was the case in former wars.

c. The sound use of diplomatic, economic, financial, and propaganda weapons, will serve to reduce the magnitude of the direct military effort.

d. The burdens of the war effort, even though continued by the United States over a long period of time, should be so adjusted as to maintain the morale and the will to fight of the civilian population.

27. In Appendix I the Chief of Naval Operations presents his estimates of the over-all production required from the United States, by the dates indicated. These estimates pertain to the United States and foreign navies, and to the United States and foreign merchant marine fleets. The proposed size of the U.S. Navy is the so-called "Two-Ocean" Navy as approved by the President and Congress, plus a total tonnage increase of 21 per cent, plus the aircraft required for the indicated increase in aircraft-carrying naval vessels. The additional naval vessels recommended for the United States can be constructed without any increase in existing or approved ship-building and manufacturing facilities.
IV. MAJOR STRATEGY OF THE UNITED STATES AND ITS ASSOCIATES. (Cont'd)

28. In Appendix II the Chief of Staff presents estimated requirements for the United States and foreign armies, including aviation for forces other than United States naval aviation. The Chief of Staff believes that the equipment set up in the Army program should be assembled, if practicable from the viewpoint of industry, against the possible necessity of an all-out effort against Germany and her allies. The position of the Chief of Staff is that the maximum requirements of the Navy and Army, as related to tonnage and the probable conflicts in material, priority and production facilities, should be surveyed by OPII and then if necessary readjusted by the Joint Board within the limits determined by OPII.

George C. Marshall,
General, U.S. Army,
Chief of Staff.

M. R. Stark,
Admiral, U.S. Navy,
Chief of Naval Operations.
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JOINT BOARD ESTIMATE OF
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REQUIREMENTS

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