

— PROBLEMS —

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(COURSE SEPTEMBER 1ST 1925 TO JANUARY 31ST 1926)

DATE							
SEPT 1-5		PROBLEM No 1		ORIENTATION ORGANIZATION, PLANNING AND CONTROL OF INDUSTRY INDIVIDUAL STUDIES - ALL OFFICERS			
2-12							
14-19		PROBLEM No 2		ORIENTATION AND GENERAL READING LAWS AND REGULATIONS PERTAINING TO PROCUREMENT IN WAR COMMITTEE - 4 OFFICERS INDIVIDUAL STUDIES - 19 OFFICERS			
21-26							
SEPT 28 OCT 3		PROBLEM No 3		MOBILIZATION & PROCUREMENT PLANS INDIVIDUAL STUDIES ALL OFFICERS			
5-10	PROBLEM No 4			PROBLEM No. 5		REQUIREMENTS	
12-17	ORIENTATION CORRELATED WORK OF GOVT DEPTS AS TO EFFECTS MASS PROCUREMENT					INDIVIDUAL STUDIES - 19 OFFICERS	
19-24	PROBLEM No 6	PROBLEM No 7	PROBLEM No 8	PROBLEM No 9	PROBLEM No 10	PROBLEM No 11	
26-31	INDUSTRIAL MOBILIZATION IN GREAT BRITAIN DURING THE WORLD WAR	COMMODITY COMMITTEES	INDUSTRIAL MOBILIZATION IN FRANCE DURING THE WORLD WAR	RESOURCES OF THE CLEVELAND DISTRICT (W D P D #8)	INTER-BUREAU PROCUREMENT	INDUSTRIAL MOBILIZATION IN GERMANY DURING THE WORLD WAR	
NOV 2-7			PROBLEM No 12			PROBLEM No 13	
9-14		PROBLEM No 14	BUDGETARY CONTROL AND ACCOUNTING		PROBLEM No 15	POWER	
16-21	PROBLEM No 16	RESOURCES OF THE BOSTON DISTRICT (W B P D #1)		PROBLEM No 17	TRANSPORTATION	PROBLEM No 12	
23-28	RESOURCES OF THE BIRMINGHAM DISTRICT (W B P D #10)		PROBLEM No 19	PRIORITY	PROBLEM No 20	INTERGRATED TRUSTS	
NOV 30 DEC 5			ALLOCATIONS		PRICE CONTROL		
7-12		PROBLEM No 22	PROBLEM No 23	LABOR	PROBLEM No 24	PROBLEM No 24	
14-19	PROBLEM No 26	PERSONNEL AND TRAINING	WAR RESERVES	PROBLEM No 27	FUNDS FOR PROCUREMENT	REVISION OF THE PROCUREMENT MANUAL	
DEC 21-24 JAN 2	STUDY OF AN INDUSTRY	PROBLEM No 28	PROBLEM No 29	PROGRESS DATA AND RECORDS	PROBLEM No 30		
4-9		CONSERVATION	COMPILATION OF REPORTS OF COM- PARATIVE LOADS IN WAR DEPT PRO- CUREMENT DISTRICTS STUDIED TO DATE		STANDARDIZATION AND CHANGE IN DESIGN		
11-16	PROBLEM No 31		STUDIES OF ASSIGNED COMMODITIES				
18-23			INDIVIDUAL STUDIES - ALL OFFICERS				
25-30	PROCUREMENT WAR GAME, ALL OFFICERS						

A

Office of the
Assistant Secretary of War
Procurement Division

1925-1926

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ARMY INDUSTRIAL COLLEGE.
Washington, D.C.

(Course at the Army Industrial College, Sept. 1, 1925 -- Jan. 30, 1926.)

PROBLEM NO. 1.

SUBJECT: Orientation Organization, Planning and Control in Industry.

OBJECT: A brief study of the principles of organization, planning and control, both in general terms and as applied in certain corporations. The purpose of this problem is to permit the student officer to get a perspective which will be of value in the work of the course.

REFERENCES. The Principles of Industrial Organization, Kimball.
Chapters I to VII, inclusive.
Scientific Management - Thompson, Articles on "Unsystematized, Systematized and Scientific Management - Kendall, p. 103.
Business Statistics - Copeland, Articles on "The Importance of Leadership" - Gantt, p. 555. "The Hardest Question in Business" - Murphy, p. 562.
Modern Organization - Hine.
Managements Handbook - Alford.
Reports of Committee on Problems No. 1 and No. IV, First Course.
Reports on file in office on:
The Studebaker Corporation,
General Motors Corporation,
Oncida Community, Limited,
United States Rubber Company,
United States Steel Company,
Western Electric Company,
General Electric Company,
DuPont Company,
Westinghouse Electric & Mfg. Company.
Building Tractors under Scientific Management -
Babcock, "Management & Administration",
June to November, 1924.

REQUIRED: (a) Student officers will submit notes covering the application of the principles of planning and control to the work of the Office of the Assistant Secretary of War and the supply branches. These will be general in character and will not go into details of organization. Particular thought should be given to difference between the slowly changing peace time conditions as compared with rapidly varying war time situation, and the effect of this difference upon the organization and control of procurement in war. Since the previous training and experience of the members of the class in management and administration has been varied, it is expected that there will be corresponding differences in their treatment of the problem.

(b) A list of additional references on this subject to be added to those enumerated above for future use.

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ARMY INDUSTRIAL COLLEGE.
Washington, D.C.

(Course at the Army Industrial College, Sept. 1, 1925 - Jan. 30, 1926.)

PROBLEM NO. 2

SUBJECT . Orientation.

OBJECT To study the duties and functions of the Office of the Assistant Secretary of War, exactly where it fits in the general War Department scheme, and something of its historical background.

REFERENCES The following constitute the legal bases upon which the procurement activities of the office of the Assistant Secretary of War rest. It is important that they be carefully studied by the class.

The National Defense Act .

- Sec. 5. Duties of the War Department General Staff.
 - Sec. 5a. Duties of the Assistant Secretary of War.
 - Sec. 5b. The War Council.
 - Sec. 9. Procurement of supplies of standard manufacture and supplies common to two or more branches.
 - Sec. 9a. Disbursement of funds.
 - Sec. 120. Procurement in time of war.
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- A.R. 5-5 Duties of the Assistant Secretary of War.
 - A.R. 10-15 (With changes) Organization and duties of the General Staff.
 - G.O.N_o. 51 Sec. III, W.D., 1922. The Army and Navy Munitions Board.
 - G.O.H_o. 94 W.D., 1919 (As amended) Army and Navy Board, Joint Army & Navy Planning Committee.

The following should be read carefully in order that something of the historical background and gradual evolution of the War Department procurement organization be learned.

American Industry in the War - (Part I). - Baruch.

The Work of the War Department. (Official Publication).

The Armies of Industry - (Chapter I), Crowell & Wilson.

Legislative History of the National Defense Act.

(Office monograph).

Industrial America in the World War - (Chapters I to V, incl.), Clarkson.

Ordnance and the World War - (Chapter on "Embarrassments")

- Crozier.

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The following list of references should be reviewed in order that a knowledge of their existence and something of their contents be known

Report of the Chief of Staff, (Part V) - 1919.
Report of the Kernan Board.
Annual Reports of the Council of National Defense, 1st to 4th, inclusive,
Chapters pertaining to student's branch in "America's Munitions".
The Armies of Industry, Chapter 1 - Crowell & Wilson.
Hearings before the Graham Committee.
Hearings on the Reorganization of the Army before the Senate and the House Committees.

It is not to be assumed that these publications are not of great importance. Lack of time necessitates that they shall be reviewed rather than read at the present time. They will frequently be of use in the solution of future problems and will always be valuable references in connection with the work of this office. Student officers should spend a little time familiarizing themselves with the office files of the Planning Branch and the files of the Council of National Defense and the War Industries Board.

REQUIRED

Student officers except those designated on the committee below, will make a report of points of special interest encountered in their reading and difficulties which appear to need cleaning up and be prepared to take part in the conference to be held on this problem.

A committee consisting of
Lieut. Colonel Burton, Chairman.
Major Smith.
Captain Legg.
Captain Bogman.

will prepare a chart showing the present general organization of the War Department with memorandum description of the same, giving sources of authority. This chart will not show the details of organization of the office of the Assistant Secretary of War or the supply branches.

ARMY INDUSTRIAL COLLEGE.
Washington, D.C.

(Course at the Army Industrial College, Sept. 1, 1925 - Jan. 30, 1926.)

PROBLEM NO. 3.

SUBJECT Orientation, Mobilization and Procurement Plans.

OBJECT It is desired that each student officer secure a working familiarity with the Basic Mobilization Plan of the General Staff, the appendix to this plan pertaining to his branch of the service, the War Plan of the Assistant Secretary of War, the appendix thereto pertaining to his own branch and with that part of the war plan of his own branch pertaining to procurement. Attention should be paid chiefly to the underlying theories and broad principles and decisions involved to the end that these plans may become useful references wherever applicable during the remainder of the course.

REFERENCES As named above. Inasmuch as all references given are highly confidential and but a limited number of copies exist, it is desired that officers return copies promptly to Miss Williams when they have finished with them so that other members of the class may have the use of them. All copies must be returned each evening so that they may be locked in the office safe. Officers are requested to make as full use as practicable of copies of the Basic Mobilization Plan and Appendixes thereto, issued to branch chiefs. The senior officer of each branch is requested to arrange for borrowing the branch copy, for its use by himself and other officers from the same branch and for its safe keeping, either by Miss Williams or in the branch.

REQUIRED A report on the general theory underlying our present procurement war planning with any suggestions for improvement and constructive criticism which the officer may care to offer. As far as practicable without violation of Naval policy, Naval student officers are requested to compare the Navy Procurement planning with the Army planning, bringing out the basic differences in mission and offering suggestions as to the ways in which the Army plans might be modified in light of the mutual Army-Navy situation to make them more valuable to the national defense.

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ARMY INDUSTRIAL COLLEGE
Washington, D.C.

(Course at the Army Industrial College, Sept., '25 - Jan., '26)

PROBLEM NO. 5:

SUBJECT Requirements.

- OBJECT (a) A study of the basis on which requirements for material for issue to troops are computed; and
- (b) The computation of the requirements for certain specific items.

REFERENCES The Basic Mobilization Plan.
 Tables of Organization.
 Tables of Basic Allowances - Circular 58, W.D., 1923, and circulars supplementary thereto.
 Tables of Equipment.
 Industrial America in the World War - Chaps. VI and VII, Clarkson.
 Report on Problem No. 8, Second Course.
 Report on Problem No. 4, Third Course.

(A)
REQUIRED A brief analytical outline of the methods of computing requirements applicable to the student officer's branch of the service. Mention special factors affecting the computations which involve the exercise of judgment and make it impossible to compute requirements entirely mechanically. If practicable, classify the methods by types; for instance, the method of approach is probably different in the case of articles which are consumed, such as ammunition, and those which are worn out more gradually, such as guns. Report what ought to be rather than what is.

(B)
 Computation of the item assigned.

ASSIGNMENT for Specific Article for computation (attached).

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<u>Student Officer.</u>	<u>Article.</u>	<u>Branch - Advisor.</u>
<u>Lt. Colonel</u>		
Carr, Irving J. (SC).....	Wire, Field, outpost & outside distributing (Special Study).....	Maj. L. Watt, (SC).
<u>Lt. Colonel.</u>		
Wickline, Wm. A. (MC).....	First Aid Dressings.....	Maj. McDiarmid, (MC).
Burton, Frank H. (QMC)....	*Tires, Solid & pneu- matic (for all chassis)....	Maj. McClure, (QMC).
Regan, Jas. (QMC).....	Leggins, spiral, woolen, O.D.....	Maj. Corbin, (QMC).
<u>Major:</u>		
Park, Richard (CE).....	Pumps.....	Lt. Pence, & Lt. Andrews, (CE).
Davis, Arthur J (QMC)....	Shirts, woolen, O.D.....	Maj. Corbin, (QMC).
Smith, Thos. J. (OD).....	75 H.M. Ammunition.....	Maj. Shurtleff, (OD).
Harter, Wm. N. (CWS).....	Soda Lime.....	Maj. Seydel, (CWS).
Clay, Wallace L. (OD)....	Cal. 50 Machine Guns.....	Maj. Shurt- leff, (OD).
Garcia, F. R. (CWS).....	Cotton Linters	Maj. Seydel, (CWS).
Taylor, Roger (OD).....	Panoramic Sights.....	Maj. Shurtleff, (OD).
Weir, Benj. G. (AS).....	Aviation lubricants & Fuel oils.....	Maj. Rader, (AS).
<u>Captain:</u>		
Legg, Montgomery T. (FD).	*Tires, solid & pneumatic (for all chassis).....	Maj. McClure, (QMC).
Grom, Wm. H. (AS).....	Aircraft Armament.....	Maj. Rader, (AS).
Terry, Carl C. (OD)....	10-Ton Tractors.....	Maj. Shurtleff, (OD)
Snell, Ivan B. (AS)	Aircraft Combat Mat'l.....	Maj. Rader, (AS).
Kraus, Chas. A. (QMC)....	Leggins, canvas, mounted....	Maj. Corbin, (QMC).
Riley, H.D.W. (CE).....	Pipe for water supply.....	Lt. Pence & Lt. Andrews (CE).
George, E.M. (QMC).....	Lumber for building purposes.....	Maj. Corbin (QMC).

(NOTE. * - Indicates
Joint Study).

ARMY INDUSTRIAL COLLEGE.

Washington, D.C.

(Course at the Army Industrial College, Sept., '25 - Jan., '26)

PROBLEM NO. 6.

SUBJECT. Industrial Mobilization in Great Britain during the World War.

OBJECT A study of the problems and difficulties which confronted Great Britain in connection with her preparation for and participation in the World War, and the ways and means utilized in their solution - this from the point of view of industrial plants for production, obtaining raw materials, and supply of labor.

REFERENCES G-2, War Department General Staff.
Before the War; Viscount Haldane, Chap. IV.
British Labor Conditions and Legislation during the War - M.B. Hammond, Carnegie Studies No. 14.
"1914" - Field Marshal Viscount French.
Prices and Price Control in Great Britain and the United States during the World War - Simon Pitman, Carnegie Studies No. 19.
The Grand Fleet, 1914-1916, Admiral Viscount Jellicoe.
The Genesis of the War - Asquith.
The Great Munitions Feat - Geo. A.B. DeWar.
Memories and Records - Ford Fisher.
The Dardenelles Campaign - Nevinson.
Gallipoli Diary - Ian Hamilton.
Douglas Haig's Despatches - Boraston.
Forty Days in 1914 - Maj. Gen. Sir F. Maurice.
The Struggle in Flanders - Gibbs.
Manual of Emergency Legislation.
British War Administration - Fairlie, Carnegie Studies No. 8.
Statistics of the Military effort of the British Empire, 1914-20.
Military Attaches reports.
List of Books concerning the Great War - Prothero.

REQUIRED. A brief report covering primarily the following.
(a) What had Great Britain done prior to the World War in preparation of plans for the utilization of her industrial and natural resources to meet a war load?

- (b) What problems presented themselves to the British in connection with meeting the requirements of her Army and Navy upon her entry into and during the World War - in connection with supply of raw materials, facilities for manufacturing war materials, supply of labor, and means of transportation?
- (c) What ways and means were utilized by the British in solving the problems presented?
- (d) The report should include a bibliography of references on the subject.

It is not intended that the committee shall feel limited to the items mentioned. A broad view should be taken of the subject and any matter considered of interest and which would be of value in the development and solution of our own industrial mobilization problems should be included in the report.

ASSIGNMENT

Committee Lt. Col. Wickline, M.C., Chairman.
 Lt. Col. Frank Burton, Q.M.C.
 Maj. Clay, Ord.
 Capt Snell, A.S.

ARMY INDUSTRIAL COLLEGE.
Washington, D.C.

(Course at the Army Industrial College, Sept., '25 - Jan., '26)

PROBLEM NO. 7:

SUBJECT Commodity Committees.

OBJECT• A study of the function of the Commodity Committees in the plan for war time procurement.

REFERENCES American Industry in the World War - Baruch.
Industrial America in the World War, Chap. XVIII,
 Clarkson.
Report of Chief of Staff, U.S.A., 1919, pp 119
 to 147, incl., special attention being in-
 vited to pp 133 and 134.
Solutions to Problem No. 17, Second course.
Solutions to Problem No. 10, Third Course.

REQUIRED: A report showing the functions which the Commodity Committees formed in the office of the Assistant Secretary of War would exercise in a major emergency, the stages through which they would pass in going from a peace to a war basis, their relations with the supply branches and with a super-agency, if and when created, and how they should maintain contact with industry in peace and in war.

ASSIGNMENT.

Committee Maj. Wm. N. Porter, C.W.S.,
 Chairman.
 Major Robt. P. Harbold, Q.M.C.
 Lt.Col. Harry B. Jordan, Ord.
 Lieut. Reuben D. Biggs, A.S.

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ARMY INDUSTRIAL COLLEGE.

Washington, D.C.

(Course at the Army Industrial College, Sept., '25 - Jan., '26)

PROBLEM NO. 8

SUBJECT Industrial Mobilization in France during World War.

OBJECT: A study of the problem with which the French were confronted, in preparation for and during the World War, and the ways and means adopted for their solution.

REFERENCES: G-2, War Department General Staff.
Consequences Economiques de la Guerre, pour la France - Edmond The'ry.
Quelques Considerations sur les Fabrications de Guerre, De Lerallee - Revue Militaire, Jan. 1, '22.
Conferences sur les Fabrications de Guerre - De Lerallee.
Notes sur le Service de L'Intendance - Ecole Superieure de Guerre - 1922.
Legislation de la Guerre - 1914-1918.
Rolle du haut Commandment au Point de Vue economique de 1914 a 1918 - Bruneau.
Quelques Considerations - Sur la Mobilisation Industrielle par le Lieutenant Colonel Delavallee.
List of Books concerning the Great War - Prothero.
Military Attaches reports.

REQUIRED A list of such books, magazine articles or papers as bear on this subject, with an indication of the chapters or pages, together with a brief resume of the subject matter covered. It is proposed to present this problem to other classes of the Army Industrial College with a view of eventually having a very complete report on the subject and the research done by this committee will be used as the ground work for future studies; keeping this in view, the committee can gauge the scope of their work. Where matter on this subject is in French, it is desired to ascertain if English translations are available. What is desired is a complete bibliography on this subject for future reference and use.

ASSIGNMENT

Committee Maj. A. Davis, Q.M.C., Chairman.
Maj. B. G. Weir, A.S.
Maj. T.J. Smith, Ord.
Capt. M.T. Legg, Fin.

ARMY INDUSTRIAL COLLEGE
Washington, D.C.

(Course at the Army Industrial College, Sept'25-Jan. '26)

PROBLEM NO. 9.

SUBJECT Resources of the Cleveland District.

OBJECT A study of the resources of the Cleveland industrial District (W.D.P.D. #8) available to meet the War Department needs.

REFERENCE. Solution to Problem No. 7, Second Course.
Solution to Problem No. 7, Third Course.

REQUIRED An analysis of the subject from the following viewpoints:

- (a) Are the demands of the War Department upon this district logical in the sense that the kinds of goods it is proposed to obtain from the districts are such which can be produced to better advantage in the district than elsewhere in the United States? Consideration should be given to the fact that goods of the same character will be obtained in other districts so that the orders placed in the Cleveland district will represent only a portion of the total requirements for the items.
- (b) Do the War Department demands on this District bear a reasonable relation to its industrial capacity, is the War Department load such as would require the importation into the district of certain articles essential to the civil population and which would normally be furnished in the industries of the district; does the War Dept. load on the district leave sufficient margin of safety to permit additional load being added in case of necessity?

ASSIGNMENT.

Committee Major Roger Taylor, Ord.
Chairman.
Major F.R. Garcin, C.W.S.
Capt. J.H.B. Bolgan, A.S.
Capt. E.M. George, Q.M.C.

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ARMY INDUSTRIAL COLLEGE
Washington, D.C.

(Course at the Army Industrial College, Sept., '25 - Jan., '26)

PROBLEM NO. 10:

SUBJECT. Interbureau Procurement.

OBJECT A study of the problem of Interbureau Procurement-
(a) In time of peace; and
(b) In time of war.

REFERENCES. Section 9, National Defense Act.
Report of the "Starboard-DeWitt" Board on
Interbureau Procurement.
War Department, "Supply Lists".
Dawes' A.E.F. Report - Power to fix
Categories and transfer stocks.
Navy Department's Supply practices.
Solution to Problem No. 18, Second Course.
Solution to Problem No. 9, Third Course.
American Industry in War - Appendix V, Baruch.

REQUIRED. Practicable answers to the questions

- (1) To what extent should interbureau procurement be practiced
 - (a) with respect to items of issue to troops?
 - (b) with respect to non-issue items?

- (2) How should control over interbureau procurement be exercised-
 - (a) with respect to policies and allocation of responsibility for procurement of specific items?
 - (b) with respect to actual procurement?

ASSIGNMENT

Committee: Col. Irving Carr, S.C.
Chairman.
Lt. Col. Jas. Regan, Q.M.C.
Maj. Richard Park, C.E.
Capt. Wm. H. Crom, A.S.

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ARMY INDUSTRIAL COLLEGE.
Washington, D.C.
(Course at the Army Industrial College, Sept., '25 - Jan., '26)

PROBLEM NO. 11.

SUBJECT Industrial Mobilization in Germany during World War.

OBJECT A study of the problems with which Germany was confronted, in preparation for and during the World War, and the ways and means utilized in their solution.

REFERENCES. G-2, War Department General Staff.
L'Industrie en France Occupee - Translated from the German Karteabeilagen Zu die Industrie in Besessten Frankreich.
Ludendorff's Own Story.
The German General Staff - Von Falkenhayn.
Out of my Life - Hindenberg.
The March on Paris in 1917 - Von Kluck.
My Memoirs - Von Tirpitz.
List of Books Concerning the Great War - Prothero.
Military Attaches reports.

REQUIRED. A list of such books, magazine articles or papers as bear on this subject, with an indication of the chapters or pages together with a brief resume of the subject matter covered. It is proposed to present this problem to other classes of the Army Industrial College with a view of eventually having a very complete report on the subject, and the research done by this committee will be used as the ground work for future studies; keeping this in mind, the committee can gauge the scope of their work. Where matter on this subject is in German, it is desired to ascertain if English translations are available. What is desired is a complete bibliography on this subject for future reference and use.

ASSIGNMENT.

Committee: Capt. C.C. Terry, Ord., Chairman.
Capt. Chas. Kraus, Q.M.C.
Capt. Riley, C.E.

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ARMY INDUSTRIAL COLLEGE.

Washington, D.C.

(Course at the Army Industrial College, Sept., '25 - Jan., '26)

PROBLEM NO. 12.

SUBJECT. Budgetary Control and Accounting.

OBJECT. A study of Budgetary Control and Accounting in its application to the control of War Department procurement activities.

REFERENCES. Solution to Problem No. 26, 2nd Course.
(See statement of "Object", Problem No. 6, 1st Course).
Solution to Problem No. 11, 3rd Course.

REQUIRED: (a) Monograph of the present War Department practice suitable for issue to Reserve officers and others for instruction purposes.

(b) Constructive criticisms of present practice and suggestions for its improvement.

ASSIGNMENT Committee.

Capt. Montgomery T. Legg, Fin.,
Chairman.

Major A. J. Davis, Q.M.C.

Capt. C.C. Terry, Ord.

ARMY INDUSTRIAL COLLEGE.

Washington, D.C.

(Course, Army Industrial College, September 1925, January 1926)

PROBLEM NO. 13.

SUBJECT. Power.

OBJECT. A general study of the power situation in the United States as it affects industrial war planning and war time procurement.

REFERENCES The Power Situation in the War - Col. C. Keller, Ret'd.
Public Utilities in National Emergencies -
Guernsey (office file).
The Master of Movement - Aishton.
Talk before Second Class, A.I.C. - Col. Keller.
Solution to Problem No. 10, 2nd Course.
Solution to Problem No. 12, 3rd Course.

REQUIRED: (a) What is the most practicable scheme for handling the power situation in an industrial district?

Discuss problems which will arise, coordination of demands between using services, and suggested organization and methods which should be adopted.

(b) How should the offices of the chiefs of branches function with respect to power? How the office of the Assistant secretary of War?

(c) What, if any, super-organization would be required for the control of power?

(d) List additional references.

ASSIGNMENT. Committee.

Capt. H.D.W. Riley, C.E., Chairman.
Major T.J. Smith, Ord.
Major Beng. G. Weir, A.S.
Capt. Chas. Kraus, Q.M.C.

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ARMY INDUSTRIAL COLLEGE.

Washington, D.C.

(Course at the Army Industrial College, Sept., '25 - Jan., '26)

PROBLEM NO. 14

SUBJECT Resources of the Boston District.

OBJECT. A study of the resources of the Boston industrial District (W.D.P.D. #1) available to meet the War Department needs.

REFERENCES Solution to Problem No. 7, Second Course.
Solution to Problem No. 7, Third Course.
Solution to Problem No. 9, Fourth Course.

REQUIRED An analysis of the subject from the following viewpoints:

- (a) Are the demands of the War Department upon this district logical in the sense that the kinds of goods it is proposed to obtain from the districts are such which can be produced to better advantage in the district than elsewhere in the United States? Consideration should be given to the fact that goods of the same character will be obtained in other districts so that the orders placed in the Boston district will represent only a portion of the total requirements for the item.
- (b) Do the War Department demands on this district bear a reasonable relation to its industrial capacity; is the War Department load such as would require the importation into the district of certain articles essential to the civil population and which would normally be furnished in the industries of the district, does the War Department load on the district leave sufficient margin of safety to permit additional load being added in case of necessity?

ASSIGNMENT. Committee.

Major R.P. Harbold, Q.M.C.,
Chairman.

Col. I.J. Carr, S.C.

Major W.N. Porter, C.M.S.

Capt. W.H. Crum, A.S.

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ARMY INDUSTRIAL COLLEGE.
Washington, D.C.

(Course at the Army Industrial College, Sept., 1925 - Jan., 1926)

PROBLEM NO. 15.

SUBJECT- Transportation.

OBJECT- A general study of the transportation situation
in the United States in war.

REFERENCES War Administration of the Railways of the
United States and Great Britain - Dixon
and Parmelee, Carnegie Endowment of Inter-
nat'l Peace, No. 3.
Principles of Railway Transportation - Jones.
Office files (particularly).
Railway Transportation in War - Ripley.
Functions and Organization of the
Transportation Service, W.D. - Dalton.
Railroad Transportation and the Army - Adams.
Solution to Problem No. 11, Second Course.
Solution to Problem No. 8, Third Course.
Notes on Conference on transportation (The
Secretary of War, transportation officials
and others) March 2 and 3, 1925.

REQUIRED- Prepare a brief monograph covering the subjects
of railroad transportation during the World
War, what has been done to prepare for a future
war and what remains which should be done.

ASSIGNMENT Committee.

Major R. Park, C.E.,
Chairman.
Lt.Col. J. Regan, O.M.C.
Lt.Col. H.B. Jordan, Ord.
Lieut. R.D. Biggs, A.S.

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ARMY INDUSTRIAL COLLEGE.
Washington, D.C.

(Course at the Army Industrial College, Sept., 1925 - Jan., 1926)

PROBLEM NO. 16

SUBJECT Resources of the Birmingham District.

OBJECT A study of the resources of the Birmingham Industrial district (W.D.P.D. #10) available to meet the War Department's needs.

REFERENCES Solution to Problem No. 7, Second Course.
Solution to Problem No. 7, Third Course.
Solution to Problem No. 9, Fourth Course.

REQUIRED An analysis of the subject from the following viewpoints.

- (a) Are the demands of the War Department upon this district logical in the sense that the kinds of goods it is proposed to obtain from the district are such which can be produced to better advantage in the district than elsewhere in the United States? Consideration should be given to the fact that goods of the same character will be obtained in other districts so that the orders placed in the Birmingham district will represent only a portion of the total requirements for the items.
- (b) Do the War Department demands on this district bear a reasonable relation to its industrial capacity, is the War Department load such as would require the importation into the district of certain articles essential to the civil population and which would normally be furnished in the industries of the district; does the War Department load on the district leave sufficient margin of safety to permit additional load being added in case of necessity?

ASSIGNMENT- Committee.

Major Wallace L. Clay, Ord.,
Chairman.

Major F. R. Garcin, C.W.S.
Capt. H.D.V. Riley, C.E.
Capt. E.M. George, Q.M.C.

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(Course at the Army Industrial College, Sept., '25 - Jan., '26)

PROBLEM NO. 17.

SUBJECT Priority.

OBJECT A general study of priorities and their
 application in war.

REFERENCES. American Industry in War, Part I, Chapt. IV - Baruch.
 Industrial America in the World War, Chapt. VIII -
 Clarkson.
 Office Monograph, "Priorities".
 War Industries Board Files.
 Report on Problem No. 14, Second Course.
 Report on Problem No. 15, Third Course.

REQUIRED A report on the action which should be
 taken with respect to priorities.

(a) by the office of the Assistant Secretary
 of War, in time of peace;

(b) by the same office on the occurrence
 of a major emergency,

(c) by an assumed super-agency after
 its creation.

ASSIGNMENT:

Committee Capt. J.H.B. Bogman, S.C.,
 Chairman.
 Lt. Col. F.H. Burton, Q.M.C.
 Major R. Taylor, Ord.
 Major B.G. Weir, A.S.

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PROBLEM NO. 18.

SUBJECT Intergraded Trusts.

OBJECT To study the theory of some organizations which control production, from raw materials to finished products.

REFERENCES. Hugo Stinnes - Brinkmeyer, 1921.
The Vertical Trust - Industrial Management, May '24.
Poors Manual of Industrials, 1924.
Report of the Purchase system of the Ford Motor Co., - Burns (A.I.C. Files).

REQUIRED. A study of the following industrial organizations
The Ford Motor Company,
The Stinnes Corporation.

Showing: (a) their gradual development, step by step, from their formation to their present organization.
(b) the reasons for this development.
(c) the application of these principles to plans for a branch or to a group of supplies in a branch.

ASSIGNMENT

Committee Major T.J. Smith, Ord.,
Chairman.
Lt.Col. W.A. Wickline, M.C.
Capt. I.B. Snell, A.S.
Capt. Chas. Kraus, Q.M.C.

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PROBLEM NO. 19.

SUBJECT Allocation of Facilities.

OBJECT A general study of the allocation of facilities.

REFERENCES Industrial America in the World War - Chap. VI,
Clarkson.
American Industry in the War - Baruch.
Files of the Allocation Section, War Ind. Board.
Solution to Problem No. 12, 2nd Course.
Solution to Problem No. 13, 3rd Course.
Office Monograph, "Allocation of Facilities".

REQUIRED A report embodying recommended action to be
taken with respect to the allocation of faci-
lities for a major emergency.
(a) in time of peace, and
(b) during time of war.
Take into account the needs of the civilian
population, the requirements of the Navy,
Shipping Board, etc., and attempt to formulate
a workable administrative scheme and system of
records that will serve all the needs of the
situation and which can be presented to a
super-agency to assist it in getting organized.

ASSIGNMENT.

Committee: Lt. Col. J. Regan, O.M.C.,
Chairman.
Lt. Col. H. B. Jordan, Ord.
Major R. Park, C.E.
Capt. M. T. Legg, Fin.

Ed

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PROBLEM NO. 20

SUBJECT: Price Control.

OBJECT: A historical study of the subject of Price Control in war.

REFERENCES: America in the World War, Part I - Baruch.
Industrial America in the World War, Chap. IX -
Clarkson.
Office Monograph, "Price Control in Time of War".
Records of Price Control Committee, War Ind. Bd.
Solution to Problem No. 15, 2nd Course.
Solution to Problem No. 19, 3rd Course.
Office files, Planning Br., supply branches, etc.

REQUIRED: A historical monograph showing the general evolution of a system of price control in the United States and a comparison with the corresponding actions in Great Britain and France. Give bibliography of any valuable references discovered with file numbers, etc., so that the subject may be further developed by succeeding classes.

ASSIGNMENT- Committee.
Lieut. R.D. Biggs, A.S.,
Chairman.
Major A.J. Davis, Q.M.C.
Capt. C.C. Terry, Ord.

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PROBLEM No. 21

SUBJECT Labor.

OBJECT. A study of Labor in War.

REFERENCES. Office Monograph, "American Labor in War", particularly memorandum dated Sept. 24, 1924.
Chapter VII, American Industry in War - Clarkson.
Second Annual Report, Provost Marshall General, 1919, pp 1 to 20, 72 to 85.
Bulletin 287, Bureau of Labor Statistics, 1922.
"National War Labor Board", pp 1 to 26.
Readings in the Economics of War - Clark, Moulton & Hamilton, pp 180-184, incl.
Industrial and Manpower Mobilization - Gen. Hugh Johnson, "The Military Engineer", Jan-Feb., 1923.
Files, War Industries Board.
Solution to Problem No. 9, 2nd Course.
Solution to Problem No. 17, 3rd Course.

REQUIRED Make an analysis of the problem and propose a practicable answer to the question:

How are we going to assure an adequate supply of labor for war industries to meet the increased load placed upon them?

Assume that the American Legion Bill (Johnson Bill, H.R. 13201, 1922, and Capper Bill, S. 2561, 1924) will be passed. This measure provides "That all persons drafted into service between the ages of twenty-one and thirty, or such other limits as the President may fix, shall be drafted without exemption on account of industrial occupation".

List references in addition to those given which are found to be pertinent.

ASSIGNMENT.

Committee: Major B. G. Weir, A.S.,
Chairman.
Lt. Col. F.A. Burton, Q.M.C.
Major R. Taylor, Ord.
Capt. J.H.B. Bogman, S.C.

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PROBLEM NO. 22

SUBJECT Personnel and Training.

OBJECT A study of the development of methods of recruitment and training of personnel for procurement in war.

REFERENCES. Solution to Problem No. 19, 2nd Course.
Solution to Problem No. 14, 3rd Course.

REQUIRED. A monograph outlining policies and methods which should be followed by the office of the Assistant Secretary of War and by the respective supply branches to the end that properly selected personnel, with necessary training, shall be available to fill with promptness all positions as they are created by the war expansion. To what extent can peace time personnel be assigned permanently to procurement duty? Take into account these factors:

Branch chiefs are and must remain responsible for the successful operation of their branches. The branch problem has a dual aspect - generally a single personnel for the field and for procurement. Training may embrace anything between short orientation courses for men who are already specialists along particular lines to courses of sufficient scope to train green men for jobs which are entirely new to them.

It will be necessary frequently to offer training to officials and employees of civilian contracting firms.

The peace time training of Reserve Officers should be coordinated with the war time training of officers and civilians.

ASSIGNMENT:

Committee. Capt. W. H. Crom, A.S.,
Chairman.
Lt. Col. W. A. Wickline, M.C.
Major R. P. Harbold, Q.M.C.

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PROBLEM NO. 23

SUBJECT War Reserves.

OBJECT. A general study of the subject of War Reserves.

REFERENCES Solution to Problem No. 27, 2nd Course.
Solution to Problem No. 18, 2nd Course.
Office Files, Planning Branch.

REQUIRED I. A report which may be used as a text on the subject, with particular reference to:

(a) The general principles and policies which govern in determining what is a proper War Reserve, and

(b) Recommendations as to how such a War Reserve may best be built up.

i The committee should bear in mind that in planning for a War Reserve, we must begin with the actual items and amounts now on hand and plan for the gradual improvement in the existing status. This planning should provide funds for our continuation of planning, include provision for balanced reserves, obtaining essential reserves in strategic and critical raw materials, gauges, special tools, etc., and, in general, all factors that are pertinent.

ii. The War Council will consider the 1927 Budget in January, 1926. This committee will report to the Chief, Planning Branch and prepare all data essential to the defense of the items pertaining to War Reserves.

ASSIGNMENT

Committee. Col. I. J. Carr, S.C.,
Chairman.
Lt.Col. J. Regan, Q.M.C.
Major T. J. Smith, Ord.
Capt. I. B. Snell, A.S.

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PROBLEM NO. 24

SUBJECT Funds for Procurement.

OBJECT A study of the methods of obtaining Congressional appropriations and the fiscal control (which insures that they are legally expended and properly accounted for as distinguished from their budgetary control which should insure that they are wisely expended for the best interest of our National Defense) of the funds so obtained.

REFERENCES- Solution to Problem No. 16, 2nd Course.
Solution to Problem No. 6, 3rd Course.
"The Budget", Gen. K.W. Walker, War College
Address, Jan. 9, 1925.
Orders, W.D., Sec'y of War - Oct. 29, 1925.
Navy Department Practices.

REQUIRED Prepare a monograph which embodies the opinion of the committee as to the best organization and procedure in the War Department for securing funds for procurement and the steps which should be taken in time of peace to insure the prompt appropriation of necessary funds in time of war.

ASSIGNMENT: Committee:

Capt. Chas. Kreis, Q.M.C.,
Chairman.
Capt. M. T. Legg, Fin.
Capt. C.C. Terry, Ord.
Lieut. R.D. Biggs, A.S.

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(Course at the Army Industrial College, Sept., '25 - Jan., '26)

PROBLEM NO. 25

SUBJECT Procurement Manual.

OBJECT. It is desired to have a "Procurement Manual" prepared which will be the general vehicle for the control of procurement in the same way the Army Regulations control military and general activities. Part I of this Manual will be issued by the Assistant Secretary of War to cover matters common to all procurement branches. Each Procurement Branch will eventually issue its own Part II to cover matters peculiar to its activities. The Procurement Manual should be written from the standpoint of its use both in peace and war.

REFERENCES Solution to Problem No. 8, 2nd Course.
Solution to Problem No. 28, 2nd Course.
Solution to Problem No. 5, 3rd Course.
Office Files, Planning Branch.

REQUIRED A careful revision of the report of Committee No. 5, 3rd Course, to whom was assigned the task of drafting Part I of the proposed Procurement Manual. What is desired is that the part of the Manual to be issued by the office of the Assistant Secretary of War and which covers matters common to all the procurement branches be complete and up-to-date. With this end in view, the committee is given free hand as to scope and subject matter, and authorized to make any use it sees fit of the previous report, making such changes, additions or deletions as, in its opinion, should be made in that part of the manual assigned.

ASSIGNMENT

Committee Lt. Col. H. B. Jordan, Ord.,
Chairman.
Major A. W. Davis, Q.M.C.
Major W. N. Porter, C.W.S.
Major R. Park, C.E.

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PROBLEM NO. 26

SUBJECT- Study of an Industry.

OBJECT A study of the effect of war on the Shoe Industry, from the viewpoint of that Industry.

REFERENCES Specific War Plan, Quartermaster Corps, "Shoes",
Major C. L. Corbin, Q.M.C. (Files, Planning Sec).

REQUIRED- Prepare a monograph, answering the following questions from Industry's point of view.

"If War Should be declared tomorrow,

- (a) how will the war affect us?
- (b) will our output be increased or decreased, and by what percent?"

Requirements should be based on the War Department Mobilization Plan and be as accurate as possible. This study should show the probable fluctuations in the Industry for each six months of the war. Fluctuations in power, labor and transportation should be considered.

The study should show the status of the Industry in 1914, during the World War, during the present year (last year for which statistics are available) and should conclude with a prediction as to the part Industry will play in a future emergency, under the present War Department Mobilization Plan.

All important firms and associations in the Industry should be located, together with key men in the Industry. Contact should be suggested as to whom the study may be presented for comment and corrections of assumptions where made. Difficulties experienced by this Industry in time of war should be pointed out, and recommendations made to remedy same.

Free use should be made of graphic charts for illustration purposes.

ASSIGNMENT

Committee. Capt. E.M. George, Q.M.C.,
Chairman.
Major R. Taylor, Ord.
Capt. J.H.B. Bogman, S.C.
Capt. H.D.W. Riley, C.E.

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PROBLEM NO. 27

SUBJECT Progress Data and Records.

OBJECT A study of reports required by the office of the Assistant Secretary of War from the several supply branches to obtain data as to progress of planning, and the reports required by the supply branches from their field agencies.

REFERENCES: Files, Planning Branch.

REQUIRED A comprehensive report covering.

- (a) Scope of the reports necessary from the supply branches for the office of the Assistant Secretary of War to keep informed of the progress in planning in time of peace and of procurement in time of war.
- (b) The progress reports which branch chiefs will demand of their field agencies in peace and war.
- (c) Recommendations as to the feasibility of standardizing these reports.

ASSIGNMENT.

Committee Major F. R. Garcia, C.W.S.,
Chairman.
Lt. Col. F. A. Burton, Q.M.C.
Major C. L. Clay, Ord.
Major B. G. Weir, A.S.

(Advisor: Major L. B. McAfee, M.C.,
Planning Branch).

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PROBLEM NO. 28

SUBJECT Conservation.

OBJECT A general study of conservation in war.

REFERENCES American Industry in War, Part I, Chap. V, Baruch.
Industrial America in the World War, Chap. XI,
Clarkson.
Office Monograph, "Conservation".
Files, War Industries Board.
Solution to Problem No. 13, 2nd Course.
Solution to Problem No. 16, 3rd Course.

REQUIRED: A monograph on the subject of Conservation which could be turned over to a super-agency, in the event of war, for the purpose of orienting it and expediting its organization and getting into operation.

ASSIGNMENT

Committee. Lt. Col. W.A. Wickline, M.C.,
Chairman.
Capt. Chas. Kraus, Q.M.C.
Lieut. R.D. Biggs, A.S.

ARMY INDUSTRIAL COLLEGE

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PROBLEM NO. 29

SUBJECT Comparative loads in War Dept. Procurement Districts.

OBJECT To compile a report showing the comparative loads in the War Department Procurement Districts studied to date.

REFERENCES Solution to Problem No. 7, 2nd Course
Philadelphia District, W.D.P.D. #5,
Chicago District, W.D.P.D. #12.
Solution to Problem No. 9, 3rd Course:
Bridgeport District, W.D.P.D. #2,
Cincinnati District, W.D.P.D. #9.
Solution to Problem No. 9, 4th Course, Cleveland, #8.
Solution to Problem No. 14, 4th Course, Boston, #1.
Solution to Problem No. 16, 4th Course, Birmingham, #10.

REQUIRED. Compile a report showing the comparative loads in the War Department Procurement Districts studied to date, viz., Philadelphia, Chicago, Bridgeport, Cincinnati, Cleveland, Boston and Birmingham.

The comparative data should be tabulated to show the resources of each district for the year 1914, during the World War, and for the current year (last year for which statistics are available), and the war load placed on each district during the World War and under the present War Department Mobilization Plan. Similar data will be tabulated for facilities, power, labor, transportation, etc., pertaining to the procurement program of the War Department.

What is desired is a brief, comprehensive report, with comparative statistics, showing the resources of the several War Department Procurement Districts, pre-war, during the war, and post-war, and the War Department's demands on these districts during the war and contemplated under the War Department Mobilization Plan.

ASSIGNMENT.

Committee: Capt. I.B. Snell, A.S.,
Chairman.
Lt. Col. J. Regan, Q.M.C.
Major M.T. Legg, Fin.
Capt. C.C. Terry, Ord.

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PROBLEM NO. 30:

SUBJECT. Standardization and Changes in Design.

OBJECT Changes in design in material in process work havoc with production. Such changes should, therefore, be kept to a minimum. Standardization and the use of commercial standards, where practicable, materially assist in securing and maintaining production. It is desired to have a general study made of the questions involved under the above subject.

REFERENCES. Solution to Problem No. 21, 3rd Course.

REQUIRED. A monograph covering what is now being done by the supply branches along the lines indicated; what they should do in time of war; what the office of the Assistant Secretary of War is now doing; what it should do in time of war, and such constructive comment and criticism as the committee may care to make. It is intended that the committee take a broad view of the subject and offer whatever ideas it considers pertinent and constructive.

ASSIGNMENT

Committee Major R. P. Harbold, Q.M.C.,
Chairman.
Major T. J. Smith, Ord.
Col. I. J. Carr, S.C.
Capt. W. H. Crom, A.S.

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PROBLEM NO. 31.

SUBJECT Commodity Studies.

OBJECT The preparation of Commodity Studies
of Assigned Items.

REFERENCES No special references are given. Planning
Branch and War Industries Board Files should
be consulted.

REQUIRED The preparation of studies of the commodities
assigned below from the standpoint of their use
under the assumption that the Basic Mobilization
Plan becomes effective.

The preparation of this study should be made
along lines indicated in "Outline of Research",
distributed with this problem.

ASSIGNMENT.

Major A.J. Davis, O.M.C...	..	Linseed oil.
" R.P. Herbold, Q.M.C.....		Flax.
" Roger Taylor, Ord.....		Abrasives
		Corundum,
		Emery and
		Silicon Carbide.
Major B.G. Weir, A.S.....		Airplane silk.
Capt. I.B. Snell, A.S.....		Parachute silk.
" H.D.W. Riley, C.E.....		Jute.
Lieut. R.D. Biggs, A.S....		Magnesium.

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{Course at the Army Industrial College, Sept., '25-Jan., '26}

PROBLEM NO. 31-A.

SUBJECT Commodity Studies.

OBJECT A study of methods which would be adaptable
for the making of commodity studies in machine
tools.

REFERENCES No special references are given. Planning
Branch and War Industries Board Files should
be consulted.

REQUIRED- Machine tools group themselves under various
categories, as follows.

General Purpose, Special purpose -
automatic, Semi-automatic, non-
automatic, Lathes, Planes and shapes;
Milling machines, Grinding Machines,
Drilling Machines; etc.

What is desired is

- (a) A report indicating the grouping
of machine tools by categories, or
in accordance with trade practice,
which would facilitate the making
of commodity studies of such.
- (b) A commodity study of one class or
category to be selected by the
students.

ASSIGNMENT

Committee. Major T.J. Smith, Ord.,
Chairman.
Capt. M.T. Legg, Fin.
Capt. C.C. Terry, Ord.

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(Course at the Army Industrial College, Sept., '25--Jan., '26)

PROBLEM NO. 31-B.

SUBJECT. The procurement functions of the Quartermaster Corps and the Signal Corps, and their present organization to meet the same.

OBJECT. To make a study of a major supply branch and of a technical supply branch as to their procurement functions, organization and personnel assigned to procurement planning, to determine the task of procurement planning and its state of completion.

REFERENCES Quartermaster Corps and Signal Corps Annexes to Industrial War Plan, O.R.S.W.

- REQUIRED. A report showing
- (a) The mission of the Q.M.C. and S.C., concerning procurement both in time of peace and war.
 - (b) The organization of the above named branches to perform their missions (a) above.
 - (c)
 1. The task involved in procurement planning by these supply branches expressed in man days.
 2. Present state of completion of their task, and personnel now employed on same.
 3. An estimate of the personnel required to complete the task (c) 1., by Dec. 31, '28, and the personnel necessary on this work to keep it up to date when completed.
 - (d) The conclusions of the committee as to whether or not the organizations of these branches are proper to meet their missions, and if adequate personnel is assigned to this duty.

ASSIGNMENT.

Committee Col. I.J. Carr, S.C., Chairman.
Lt. Col. Jas. Regan, Q.M.C.
Lt. Col. H.B. Jordan, Old.

Time allowed Two (2) weeks.
Solution due. Jan. 23rd, 1926.