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GUIDE TO INTELLIGENCE REQUIREMENTS IN THE WAR AGAINST JAPAN

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JOINT TARGET GROUP
Washington, D. C.

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FOREWORD

The purpose of this guide is to define the intelligence requirements of the Joint Target Group and to request all existing intelligence units and agencies to assist in the fulfillment of these requirements. The Joint Target Group wishes to utilize the existing intelligence-gathering and analytical facilities of such agencies and this guide does not intend in any way to alter their functions as presently defined.

S E C R E T

TABLE OF CONTENTS

	Page
Establishment of Joint Target Group.....	1
Purpose of Joint Target Group.....	1
Specific Functions and Responsibilities.....	1
Importance of Intelligence Collection.....	2
Intelligence Requirements.....	2
Scrap Intelligence.....	2
Request to Collection Agencies.....	3
Routing of Intelligence.....	3
Intelligence Not Required.....	3
Existing Intelligence.....	3
Appendix A. Joint Chiefs of Staff Report 1020, amended.	4
Appendix B. Directive of Deputy Commander, Army Air Forces, 11 September 1944 and amendment 14 October 1944.....	7
Appendix C. Directive to Deputy A.C. of A.S., Intel- ligence for Targets, 6 December 1944.....	10
Appendix D. Types of Japanese Target Intelligence Required by Joint Target Group.....	12
1. General Economic and Military Data.....	12
(1) Production Trends.....	12
(2) Requirements.....	12
(3) Shortages and Bottlenecks.....	13
(4) Labor Supply.....	13
(5) Imports and Exports.....	13
(6) Expansion and Capacity.....	13
(7) Stockpiles of Raw Materials or Equipment.....	13
(8) Administrative Controls over Production.....	13
(9) Camouflage.....	13
2. Information on Specific Industries.....	13
(1) Capacity and Production.....	14
(2) Planned Output.....	14
(3) Plants in the Industry.....	14
(4) Specific Bottlenecks in the Industry.....	14
(5) Type of Industrial Organization.....	14
(6) Evidence of Dispersal or Conversion.....	14
(7) Technical Methods and Changes, Substitution of Materials.....	15
(8) Time Required for Production.....	15
(9) Stockpiles.....	15
3. Detailed Data on Specific Plants.....	15
(1) Precise Name and Pinpoint Location.....	15
(2) Definition of Product, Source of Supply, and Customers.....	15
(3) Capacity and Output.....	16
(4) Plant Layout Showing Functions of Buildings..	16
(5) Physical Construction.....	16
(6) Employment.....	16
(7) Studies of Nameplates, Equipment Markings, Log Books, etc.....	16

TABLE OF CONTENTS - Continued

	Page
4. Shipping and Transportation.....	16
(1) Merchant Shipping Capacity and Losses.....	16
(2) Shipbuilding and Repair.....	16
(3) Shipping Routes and Ports.....	17
(4) Rail Routes.....	17
(5) Physical Characteristics of Rail Facilities..	17
5. Airfields, Military Supply Organization, Methods, and Installations.....	17
(1) Details on Supply Organization and Methods...	17
(2) Details on Repair Organization and Methods...	18
(3) Details on Specific Military Stores and Repair Depots.....	18
(4) Military Supply Routes.....	18
(5) Details on Airfields.....	18
(6) Oil Storage and Pipelines.....	18
6. Information on Cities, Areas, and Special Types of Installations.....	18
(1) Town Plans.....	18
(2) Telephone Books.....	18
(3) Commercial Directories.....	18
(4) Photographs.....	18
(5) Security Defense Measures.....	18
(6) Provisions for Emergency Rehousing.....	19
(7) Breakdown of Cities into Main Industrial, Commercial, and Residential Areas.....	19
(8) Urban and Interurban Transportation System...	19
(9) Details on Power Stations, Dams, and Power Networks.....	19
7. Effects of Allied Air Attacks.....	19
(1) Factories.....	19
(2) Ships and Harbors.....	19
(3) Rail Facilities.....	19
(4) Military Storage Depots and Airfields.....	19
(5) Cities.....	20
Distribution	21

TO: ALL INTELLIGENCE PROCUREMENT AGENCIES

1. ESTABLISHMENT OF JOINT TARGET GROUP

a. The Joint Target Group has recently been established under A.C. of A.S., Intelligence, U.S. Army Air Forces, Washington, to integrate and coordinate pre- and post-attack analysis of air targets in the war against Japan. (Refer to Joint Chiefs of Staff Report 1020, amended; Directive of Deputy Commander Army Air Forces, 11 September 1944 and amendment, 14 October 1944; Directive to Deputy A.C. of A.S., Intelligence for Targets, 6 December 1944 - Appendices A, B & C). Joint Target Group is an inter-service organization, with personnel drawn from the U.S. Army Air Forces, the Navy, the Royal Air Force, the Office of Strategic Services, the Foreign Economic Administration, and the National Defense Research Council, with the cooperation and assistance of the Military Intelligence Service, G-2, War Department, Office of Naval Intelligence and other appropriate agencies. This new organization will be a major user of all intelligence reports and materials having any bearing on air targets in the Pacific and Far East areas.

2. THE PURPOSE OF JOINT TARGET GROUP

a. To effect economy, reduce duplication, and promote efficiency in the pre- and post-attack analysis of air targets in the war against Japan; and to consolidate and coordinate under one head the best available talent on the evaluating, working and producing levels to be responsible for target analysis and target material.

3. FUNCTIONS AND RESPONSIBILITIES OF JOINT TARGET GROUP

a. Assemble and analyze all available intelligence concerning Japanese air targets.

b. Prepare material for use of planning agencies, commands and combat units of the services engaged in the air war against Japan.

c. Recommend target priorities.

d. Distribute target material.

e. Recommend collection of information to proper agencies.

f. Prepare special studies for planning agencies.

g. Maintain field liaison with using agencies.

4. IMPORTANCE OF INTELLIGENCE COLLECTION

a. The success which the bombing program has in reducing the cost and length of the war against Japan will depend in no small measure upon the quality and quantity of intelligence materials on which bombing plans and operations are based. It is therefore of the highest importance that maximum effort be made by all parties concerned to secure the best possible intelligence from every source and to route such material promptly to Washington where it can be analyzed by the Joint Target Group for the use of all appropriate field units of U.S. and British land and carrier based aircraft. This applies both to intelligence agencies in the Pacific and Far Eastern Theaters and to those in the European Theater.

5. INTELLIGENCE REQUIREMENTS

a. Appendix D provides a preliminary guide to Joint Target Group intelligence requirements. From time to time, Joint Target Group will provide appropriate intelligence agencies with further specifications of intelligence requirements and with briefing materials of use particularly in connection with interrogation. It is not expected that any single document, prisoner or other source, will yield more than a small fraction of the total information desired on a given subject. The outline of intelligence requirements in Appendix D should be regarded as a frame of reference for testing the relevance of a particular intelligence item to the problems with which Joint Target Group is concerned. Different kinds of intelligence sources will, of course, prove more fruitful than others for certain categories of information. Appendix D assumes availability of all kinds of sources including prisoner and refugee interrogation, captured documents, photographic reconnaissance and interpretation, captured equipment, publications, and secret sources.

6. SCRAP INTELLIGENCE

a. It is wished to emphasize that even the smallest scrap of intelligence should not be overlooked. The intelligence needs of the bombing program are tremendous compared to the available supply. It is necessary to piece together the total picture from numerous small bits. European target intelligence experience has demonstrated repeatedly that items which appear relatively unimportant to the initial collector frequently proved to be of highest value in completing a partial picture. This is likely to be even more the case with regard to intelligence on the Japanese enemy.

7. REQUEST TO COLLECTION AGENCIES

a. It is requested that in the procurement or processing of intelligence materials, all intelligence units and organizations take special account of and make every effort to fulfill the requirements of the Joint Target Group.

8. ROUTING OF INTELLIGENCE

a. It is further requested that all intelligence secured by any intelligence unit under American command having a bearing on the matters outlined herein - including but not limited to intelligence from P/W, refugees, members of Allied Armed Forces escaping from enemy territory, captured documents and equipment, and secret sources - be routed with the greatest possible expedition through appropriate channels to A.C. of A.S., Intelligence, Army Air Forces, Washington, D. C., for the use of the Joint Target Group. This does not intend to preclude the retaining of such materials in the field for a reasonable period in cases where special processing is required to extract intelligence of immediate operational use.

9. INTELLIGENCE NOT REQUIRED

a. Information regarding defenses, A/C movements, radar, smoke screens, etc., of great importance to other agencies, is not included in the Joint Target Group intelligence requirements.

10. EXISTING INTELLIGENCE

a. Much intelligence now exists in the Joint Target Group. This does not however reduce the requirements outlined in Appendix D as there is always a need for confirmatory and amplifying material.

b. Collection agencies may be able to operate more effectively if supplied with published target material, such as city plan maps, target folders, photo intelligence reports, etc. Requests for such through proper channels will be honored by the Joint Target Group.

S E C R E T

APPENDIX A

ANALYSIS OF STRATEGIC AIR TARGETS IN THE WAR AGAINST JAPAN

Report by the Joint Staff Planners

THE PROBLEM

1. To make recommendations for the improvement and integration of the analysis of strategic air targets in the war against Japan.

FACTS BEARING ON THE PROBLEM

2. Numerous agencies, military and civilian, at headquarters and in the field, are independently carrying out target analysis and the preparation of target material.

3. In Washington, six agencies are making major contributions to target analysis work. They are: Army Air Forces (various groups), Military Intelligence Service, Division of Naval Intelligence, Office of Strategic Services, Foreign Economic Administration, and the Office of Scientific Research and Development. Several other agencies also contribute to the overall picture.

4. In the field, target analysis and the preparation of target material is largely uncoordinated as between the field and headquarters, between the theaters themselves, and frequently within individual theaters.

5. The Joint Chiefs of Staff approved by informal memorandum on 2 August 1944 recommendations for the coordination of Japanese air intelligence made by an ad hoc committee appointed by the Service Members, Joint Intelligence Committee. These recommendations provide a degree of coordination in target matters between the Army, Navy, and British, but not complete integration nor the inclusion of several of the principal agencies now engaged in target analysis work.

DISCUSSION

6. (Omitted)

CONCLUSIONS

7. Duplication of effort and lack of integration and coordination between the various groups concerned with Far Eastern target analysis is handicapping the work of planning agencies in Washington and of the operating air forces in the field.

8. There is need for continuing target analysis work at headquarters as well as in the field. Further study of basic data and analysis of European experience will require constant revision of previously accepted conclusions on target priorities and weapons effectiveness. Moreover, progressive attacks affecting the enemy's economy and military capabilities, as well as the development of new techniques of air attack, will make necessary constant re-analysis of the overall target picture and revision of priorities.

9. A joint target group should be established to provide the integration and coordination justified by the importance of the subject.

10. A joint target group should:

a. Be responsible for all headquarters target analysis functions.

b. Provide headquarters data and information on selected targets adequate in detail, form and quantity for those agencies having responsibility for the planning and execution of operations.

c. Be primarily a working, as distinct from a coordinating, agency.

d. Rely on existing agencies for the collection of basic data.

e. Relieve other agencies of target analysis functions as it absorbs personnel from them.

f. Be established with the minimum organization adequate to initiate the above.

11. With a few exceptions, sufficient qualified personnel for a joint target group can be detailed on a full-time basis from existing agencies without interfering with present non-target functions of such agencies and with a resultant substantial economy of target personnel.

RECOMMENDATIONS

12. It is recommended that:

a. A joint target-analysis group be established without delay in the Army Air Forces for the purpose of integrating and coordinating pre- and post-attack analysis of air targets in the war against Japan.

b. Existing agencies of the War and Navy Departments and the Office of Strategic Services, now engaged in target analysis, be requested by copy of this paper to furnish, upon the request of the Commanding General, Army Air Forces, appropriate personnel and other assistance and information required in the performance of the above function.

c. The Commanding General, Army Air Forces, be authorized to invite the participation in the joint target group of the Foreign Economic Administration, Office of Scientific Research and Development and other appropriate agencies.

d. The Commanding General, Army Air Forces, be authorized to invite such participation of other United Nations agencies or individuals in the joint target group, as may be desirable.

S E C R E T

APPENDIX B

HEADQUARTERS ARMY AIR FORCES
Washington

11 September 1944

SUBJECT: Directive - Joint Target Analysis Group,
AC/AS, Intelligence

TO: Chief of Air Staff; Assistant Chiefs of Air Staff,
Intelligence, Plans, OC&R, and Personnel; Chief,
Management Control.

1. There is established, effective at once, under the supervision of the AC/AS, Intelligence, an agency to be known as the "Joint Target Analysis Group, AC/AS, Intelligence". Its mission will be to accomplish the integrated and coordinated pre- and post-attack analysis of air targets in the war against Japan.

2. An additional military position, in the grade of Brigadier General, to be known as "Deputy, AC/AS, Intelligence, for Targets", is authorized. This officer will function as Director, Joint Target Analysis Group. The Director, Joint Target Analysis Group, will be procured without delay and will organize and supervise this Group so as to carry out the provisions and intent of JCS 1020, as amended by Joint Chiefs of Staff Decision, dated 4 September 1944, pertinent extracts of which are appended (Incl. No. 1), - see reverse.

3. The AC/AS, Intelligence, in the name of the Commanding General, Army Air Forces, will tender the requests or invitations for participation by agencies outside the Army Air Forces, mentioned in the Joint Chiefs of Staff decision.

4. No increase in Army Air Force personnel, other than as indicated above, is authorized for the present. Transfer of existing personnel and vacancies from other divisions of AC/AS, Intelligence, and other echelons of the Air Staff if necessary, will be accomplished through Management Control. Space, mechanical facilities, and other requirements necessary to implement the provisions and intent of JCS 1020, as amended, will be submitted to the proper Air Staff agency. The Chief of Air Staff will insure their fulfillment by assignment of the highest practicable priority where necessary. Functional charts and detailed descriptive procedural data will be submitted to Management Control for publication.

5. Except as indicated in JCS 1020, the Joint Target Analysis Group will work with existing staff agencies. Complete

coordination with such Air Force agencies as the Air Forces Board and the "Special Study Group, Air Phase of Defeat of Japan, AC/AS, Plans" is essential and is directed.

By command of General ARNOLD:

1 Incl.
Distribution:
Chief of Air Staff
Deputy Chiefs of Air Staff
Secretary of Air Staff
AC/AS, Intelligence (15)
Each other AC/AS (4) AFDMC (4)
ORD & AC/S, G-2 each (4)

/s/ Barney M. Giles
BARNEY M. GILES
Lieut. General, U.S. Army
Deputy Commander, Army
Air Forces

APPENDIX B - Continued

HEADQUARTERS ARMY AIR FORCES

Washington

14 Oct. 1944

SUBJECT: Amendment to Directive (Joint Target Group)

TO: Chief of Air Staff; Assistant Chiefs of Air Staff, Intelligence, Plans, OC&R, and Personnel; Chief, Management Control.

1. Reference is made to Directive, 11 September 1944, establishing the Joint Target Analysis Group, AC/AS, Intelligence.

2. This Directive is hereby amended to change the name of the "Joint Target Analysis Group, AC/AS, Intelligence" to the "Joint Target Group, AC/AS, Intelligence."

By command of General ARNOLD:

Distribution:
Chief of Air Staff
Deputy Chiefs of Air Staff
Secretary of Air Staff
AC/AS, Intelligence (20)
Each other AC/AS (4); AFDMC (4)
OPD & AC/S, G-2 each (4)

/s/ Barney M. Giles
BARNEY M. GILES
Lieut. General, U. S. Army
Deputy Commander, Army Air
Forces

S E C R E T

APPENDIX C

HEADQUARTERS, ARMY AIR FORCES
OFFICE OF ASSISTANT CHIEF OF AIR STAFF, INTELLIGENCE
WASHINGTON 25, D. C.

6 December 1944

SUBJECT: Directive

**TO : Deputy Assistant Chief of Air Staff, Intelligence
for Targets.**

1. Reference is made to letter, Headquarters, Army Air Forces dated 11 September 1944, subject: Directive Joint Target Analysis Group, which established as of that date the agency known as the Joint Target Group. In accordance with cited letter you will function as Director Joint Target Group.

2. In order that the provisions and intent of JCS 1020 as amended be implemented in accordance with cited letter you will:

a. Prepare, distribute, and maintain in the hands of Air Force and Naval Commanders concerned, a list of all air targets important to the enemy's general economic and military strength, excluding those targets whose importance is transitory. This list will indicate a numerical designation for each target, its name and type and the current status of Joint Target Group material pertinent thereto.

b. Prepare, produce, and distribute for all targets listed, detailed target information of a standard acceptable to the using agencies. Preparation and production will be accomplished progressively following priorities determined by you in the absence of other directive. This material will include recommendations as to the most suitable munitions and forces to be employed against each target. Close liaison will be maintained with the using agencies through personal contacts by JTG representatives as well as by other usual means toward improving the service rendered and insuring the adequacy and acceptability of material produced.

c. Prepare and distribute standard air target objective folders and target charts as requested by the using agencies.

d. Maintain a priority list of target systems to include priority of targets within systems. This list supplemented by formal recommendations as to specific targets,

S E C R E T

target systems or combinations thereof for immediate attack by the deployed force, will be provided the Assistant Chief of Air Staff, Intelligence, on the 15th and 30th of each month.

e. Prepare damage assessment reports following attacks against priority targets analyzing physical damage to the target and the probable effect on production.

f. Prepare reports on the repair and reconstruction of damage priority targets.

g. Prepare technical studies of the performance of different weapons against specific targets or types of target.

h. Prepare such special studies as may be required by Army and Navy planning agencies.

3. The Office of the Assistant Chief of Air Staff, Intelligence, will make provision for the collection of all primary intelligence data which is available. You will make specific recommendations to that office regarding any requirements for primary intelligence data.

4. Personnel strengths Army Air Force, U S Navy, OSS, FEA, OSRD, and civilian have been arranged for by the Office of the Assistant Chief of Air Staff, Intelligence, and are initially as follows:

Army Air Forces:	1 Brig. General	U S Navy:	2 Captains
	8 Colonels		3 Commanders
	8 Lt. Colonels		8 Lt. Commanders
	3 Majors		16 Lieutenants
	2 Captains		6 Lt. (j.g.)
	1 Tech Sgt		2 Ensigns
	25 Civilians		3 Yeomen
			5 Civilians
OSS:	1 Lieutenant	FEA:	5 Civilians
	3 2nd Lieutenants	OSRD:	7 Civilians
	2 Ensigns		
	2 Civilians	RAF:	1 Wing Cmdr.
		CWS:	1 Major

5. You will use the services available to the Executive Office of the Assistant Chief of Air Staff, Intelligence, and the Administrative Section Air Intelligence Group ONI for the processing of personnel and supply matters.

6. You will submit to the Assistant Chief of Air Staff, Intelligence, and to CNO, ONI, (Op-16-V) as of 1 December a progress report, followed by similar progress reports on the first day of each subsequent month.

/s/ James P. Hodges
 JAMES P. HODGES
 Major General, U. S. Army
 Assistant Chief of Air Staff,
 Intelligence

APPENDIX D

TYPES OF JAPANESE TARGET INTELLIGENCE REQUIRED
 BY JOINT TARGET GROUP

1. GENERAL ECONOMIC AND MILITARY DATA

a. This type of information is required to improve our present knowledge of: (a) the capabilities of the total Japanese economy and its various segments; (b) how that economy is organized for military and civilian production; (c) what proportions of total resources are devoted to different categories of production (e.g. Navy and Merchant Marine, Air Force, ground forces, expansion of plant capacity, goods, etc.); (d) for what items and to what extent Japanese production depends on sources of supply outside of Japan Proper; (e) what the main shortages and bottlenecks are; (f) general changes occurring within the Japanese economy; and (g) the extent to which Japanese military forces outside the Inner Zone can be supplied from local sources. Only on the basis of such information is it possible to determine those points at which the enemy's economy and military machine are most vulnerable to air attack.

b. The ideal captured document for this category of information would be the Japanese counterpart of such reports or directives as are issued in the U.S. by the War Production Board, Army or Navy planning or procurement agencies, Treasury or Commerce Departments, or Federal Reserve Board. Such documents might be found in field offices of a quartermaster, of ordnance or other supply officers, or of military-economic missions to occupied territories.

c. Information on the following specific topics is needed:

- (1) Production Trends - e.g. indices of total production with breakdown by such categories as raw materials, capital equipment, consumer goods, metals, or specific products such as steel, shipping, aircraft, coal, etc.
- (2) Requirements - Total amounts of various raw materials or finished goods required for specific period to fulfill procurement plans of the military forces and civilian needs, (e.g. total steel requirements broken down to show amounts going into shipbuilding, ground armaments, new factories and machinery, railroads, etc.).

- (3) Shortages and Bottlenecks - These are frequently revealed in captured correspondence or directives found in field supply or repair depots, relating to unfulfilled requests for supply items or to reduction of field stocks and consumption. The reason for bottlenecks are also important to know.
- (4) Labor Supply - Total workers, broken down by industries, areas, skilled and unskilled. (Government regulations concerning draft status of various types of workers, or shifting labor from one industry or area to another will shed light on this problem.)
- (5) Imports and Exports - Break down by outside areas concerned and by commodities.
- (6) Expansion and Capacity - Extension of facilities of any industry, or conversion of certain kinds of plants (such as textiles) to different types of output. (Prisoners are frequently good sources for this.)
- (7) Stockpiles of Raw Materials or Equipment - Amounts, types of commodities, location of stocks. (Knowledge of stockpile position is necessary in order to estimate the enemy position in any given industry; the time lag between a successful attack on the industry and affect on his front-line strength.)
- (8) Administrative Controls over Production - Priorities system, government procurement methods, control methods for particular industries.
- (9) Camouflage - Information concerning the general use of camouflage - any unusual or novel applications and what types seem to be most favored.

2. INFORMATION ON SPECIFIC INDUSTRIES

a. Considerable information is required to ascertain the strategic importance of various industries and their vulnerability to air attack, as well as to estimate the anticipated effect of destroying a portion of any industry. Data on the following industries are especially desired:

- (1) Aircraft (air frames, final assembly, aero-engines, engine parts).
- (2) Anti-friction bearings (ball, roller, needle, etc.)

- (3) Shipbuilding and repair
- (4) Machine tools
- (5) Coal
- (6) Alumina, Aluminum, and aluminum rolling, extrusion, forging. (Conversion of cement or other plants to aluminum).
- (7) Radio and radar
- (8) Iron, steel, coke
- (9) Synthetic oil
- (10) Refineries, blending plants and oil storage
- (11) Armament and munitions (artillery, ammunition, explosives)
- (12) Copper (smelting, refining, rolling, etc.)
- (13) Tanks and vehicles

b. Any information of the following types for any industry would be helpful:

- (1) Capacity and Production - Levels of output at different times; existence of and reasons for any unused capacity; expansion of capacity.
- (2) Planned Output - past and future. (To determine how well actual production met planned output and whether expansion is likely.)
- (3) Plants in the Industry - list of plants, actual output or proportion of the industry's total accounted for by each; production by areas.
- (4) Specific Bottlenecks in the Industry - Specific factors limiting production; reasons for these bottlenecks.
- (5) Type of Industrial Organization - e.g., are most plants highly integrated, making their own parts and assembling them; or is final assembly concentrated in a few large plants which receive components from numerous small specialized plants? At what stages of production is output concentrated in a few concerns; where is it most dispersed? How is the industry regulated? Is small-scale enterprise ("back-yard" production) significant in the industry?
- (6) Evidence of Dispersal or Conversion - If an industry has been dispersed, what form has the dispersal taken?

(e.g. underground installations, wide geographical dispersion, numerous small producers each specializing on one or a few components, etc.) Have old plants, such as textile mills, been converted to war production?

- (7) Technical Methods and Changes, Substitution of Materials - Description of the production process and types of equipment used. Changes from small scale or hand methods to mass production methods using more machinery and requiring changes in the organization of the industry. Man-hours required per unit of output; changes in this requirement due to production improvements. Substitution of materials (e.g. aluminum or steel for copper; plain bearings for ball or roller bearings.)
- (8) Time Required for Production - Length of production by stages (e.g., how long before aluminum sheet appears on the front line in a finished aircraft; how "deep" is each stage of production from the front line?)
- (9) Stockpiles - Amount of finished or semi-finished material on hand.

3. DETAILED DATA ON SPECIFIC PLANTS

a. The following information is required to appraise the relative importance of a particular plant in its industry and hence the value of destroying it, and to plan specific bombing missions against a factory (e.g., force requirements, appropriate type of bombs and fusing, most vulnerable installations within the plant, etc.) Prisoner interrogation can make a large contribution in providing detailed data on specific plants, particularly if special effort is made to get full and careful details.

- (1) Precise Name and Pinpoint Location - Necessary to secure photo reconnaissance; give coordinates where possible, but also geographical relation to coasts, rivers, rail installations, roads, towns, neighboring plants, and other features prominent from the air. Wherever possible, indicate the pinpoint on a standard map or photo mosaic so that intelligence users can locate it easily and accurately.
- (2) Definition of Product, Sources of Supply, and Customers - In order to evaluate the target importance of a plant it is necessary to know how it fits into the pattern of its particular industry; hence it is vital to know (1) exactly what the plant produces and what stages of production are handled within the plant, (2) where the raw materials and particularly semi-fabricated or finished components come from, and (3) to what other concerns this plant delivers its products.

- (3) Capacity and Output - Actual production for any period; actual or planned changes. Changes in production techniques or equipment.
- (4) Plant Layout Showing Functions of Buildings - When available, use photographs or accurate diagram; otherwise request informant to prepare sketch of buildings. Such sketches from memory are often quite inaccurate but nevertheless frequently prove valuable when studied in conjunction with other sketches. The greatest attention should be paid to determining exactly what goes on in each building and what types of equipment are contained.
- (5) Physical Construction - Type of material (e.g. wood, brick, cement, etc.), type of frame (e.g. steel frame, load-bearing walls), thickness of walls, thickness of walls, extent of internal partitions, number of floors, thickness and construction of roofs and floors, date of construction, special fire-protection devices.
- (6) Employment - Number of employees (indicate whether for one shift or all combined), number and length of shifts, breakdown between skilled and unskilled, male and female; data on training of employees for skilled work.
- (7) Studies of Nameplates, Equipment Markings, Log Books, etc. - Of use in identifying manufacturers and determining production rates.

4. SHIPPING AND TRANSPORTATION

a. All studies and other information is desired concerning the rail and water transportation facilities available to the enemy, the use actually made of these facilities, and the amounts and kinds of traffic flowing over various routes, in order that the most vulnerable points in the enemy's transportation network can be selected and proper methods determined for attacking them.

- (1) Merchant Shipping Capacity and Losses - Total tonnage available at different times with breakdown of tonnage by types of ships; losses for specified periods with total broken down by types of ships.
- (2) Shipbuilding and Repair - Data on total production, with breakdown by types, tonnage under repair, maintenance policies for different types of ships, overall information of extent to which building and repair facilities are utilized, nature of building and repair facilities at specific points, including number and types of ways, drydocks, machine and plates shops, cranes, etc., types of vessels constructed or repaired and rate of progress.

- (3) Shipping Routes and Ports - Routes used and types and tonnage of shipping and products on such routes, types and capacities of port facilities, including notation of special cargo-handling equipment, and availability of harbor for stevedoring.
- (4) Rail Routes - Types and tonnage of traffic on various routes, names of yards used in making up different types of trains, particularly those carrying military traffic, capacity of various routes in terms of trains per day, tons per axle, operating practices in terms of maximum tonnage per car and per train, train speeds, headways, etc.
- (5) Physical Characteristics of Rail Facilities - Line construction; bridge construction and measurements including span lengths; tunnel lining thickness and stability and hardness of rock traversed; layout of rail yards (marshalling yards), including number and character of sidings; loading and unloading facilities, roundhouses, repair shops, etc.; number and types of cars and locomotives available in an area.

5. AIRFIELDS, MILITARY SUPPLY ORGANIZATION, METHODS, AND INSTALLATIONS

a. In order to weaken the enemy's ability to resist in a given zone, or over-all, it becomes appropriate at times to attack his lines of supply and his stores. Detailed knowledge of his logistics methods and of installations at which concentrations of supplies and equipment are located is essential to the selection of the most vulnerable points in his military supply organization.

b. Prisoners can frequently provide useful details on this matter. Captured documents of the following types are extremely helpful: Military supply handbooks and directives, military manuals and directives relating to repair organization and spare parts, topological and transportation handbooks. Any information on the following points would be useful:

- (1) Details on Supply Organization and Methods - Showing standard procedures and administrative units for handling supplies at various echelons, flow of equipment and supplies from factories to front-line units, lists of main supply and equipment depots.

- (2) Details on Repair Organization and Methods - (Same items as for A, above).
- (3) Details on Specific Military Storage and Repair Depots - Pinpoint location, diagram showing functions of each building, specific types of equipment and supplies handled, capacity, stocks on hand at a particular time, physical construction, sources of supply, types of units and area supplied or serviced by the depot.
- (4) Military Supply Routes -
- (5) Details on Airfields - Specific uses, identification of buildings, facilities, etc.
- (6) Oil Storage and Pipelines - Information is particularly desired on this, including pinpoint locations, number of tanks, capacity, construction (if underground, what thickness and construction of cover?), what types of fuel stored, sources of fuel, points to which shipped; pipeline routes and capacity, location and capacity of pumping stations.

6. INFORMATION ON CITIES, AREAS, AND SPECIAL TYPES OF INSTALLATIONS

a. Any information is desired relating to enemy cities and special installations which will be helpful in determining vulnerability to air attack, types of weapons required, and location of important installations, as well as preparing planning and operational materials.

- (1) Town Plans - Showing details of street layout, parks, firebreaks, main landmarks, etc.
- (2) Telephone Books - Giving names and addresses of firms.
- (3) Commercial Directories - Giving firm names, products, addresses.
- (4) Photographs - Of cities, buildings, dams, power houses, bridges, etc.
- (5) Security Defense Measures - Fire prevention measures and organization, air raid precautions, etc. water mains and water supply re incendiary attack, air raid shelters.

- (6) Provisions for Emergency Rehousing -
- (7) Breakdown of Cities into Main Industrial, Commercial, and Residential Areas -
- (8) Urban and Interurban Transportation System - Transportation lines, location of car barns, garages, etc.
- (9) Details on Power Stations, Dams, and Power Networks - Interchange of power through grid systems - months during which steam standbys are utilized.

7. EFFECTS OF ALLIED AIR ATTACKS

a. Data are required promptly both to determine the strategic effects of Allied air attacks and to evaluate the effectiveness of various techniques and weapons of attack. (A separate memorandum has been issued stating in detail the types of information required by Joint Target Group concerning the effects of Allied air attacks in Europe from which lessons can be learned for application to Japanese targets.)

b. There is particular interest in the following types of targets:

- (1) Factories - Effect of bomb damage on production; repair methods and time required; repair policies of the industry; specific damage done; effect of high explosives and incendiary bombs on different structures; casualties and absenteeism.
- (2) Ships and Harbors - Ships sunk; ships damaged and probable repair time; harbor installations damage or destroyed; supplies destroyed; effect on harbor handling capacity.
- (3) Rail Facilities - Details on damage or destruction of bridges, with repair time and duration of rail line blockage; same for tunnels; duration of through-line blockage at rail centers; cars, locomotives, car content, and facilities destroyed or damaged by attacks on rail yards; duration of traffic blocks created by attacks on open lines. Tactics employed to circumvent blocks.
- (4) Military Storage Depots and Airfields - Damage to facilities; resulting changes in enemy use; repair methods and time; contents destroyed; aircraft destroyed or damaged; destruction of fuel, casualties.

- (5) Cities - Dehousing; casualties; absenteeism; number of buildings damaged and destroyed; general administrative and social disorganization; damage to public utilities; effectiveness of fire-fighting equipment; wind conditions; industrial damage, etc.

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