LOGISTICAL IMPLICATIONS OF CIVILIAN DISASTER RELIEF

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COMMAND AND GENERAL STAFF COLLEGE
SCHOOL OF LOGISTICS

ANALYTICAL STUDY SUBJECT NO. 8-18

SUBJECT: LOGISTICAL IMPLICATIONS OF CIVILIAN DISASTER RELIEF

DATE : 17 November 1947

PURPOSE: To determine possible need for and feasibility of creating a governmental agency responsible for disaster relief.

SCOPE : 1. Review the major disasters occurring in the United States since 1900, the means employed to relieve the civilian populace, and the effectiveness of the means employed.

2. Consider the capabilities of presently available means to meet the problems engendered by atomic attack, biological warfare, and guided missiles as a forerunner or initial phase of a war on the continental United States, including the effects of such disasters on the Armed Forces.

3. Make appropriate recommendations as to responsibilities for effective organization and relief of civilians.

a. Indicate whether such an organization should be military or civilian.

BIBLIOGRAPHY

In addition the following reference material was consulted to assure coverage of this wide field. Reference notes complete the actual bibliography except for many newspaper and magazine articles not here listed because of space limits.

N 13756 Analytical Study- Atomic Warfare.

M-404 C-3 Nature of Future War.

S-14359 Instructions for Defense vs Biological Attack.

C-15457 Defense vs enemy action directed against civilians.

C-15626 Capabilities of Atomic Bomb and defense vs it.

N-11955 Report on the responsibilities and activities of G-4 in C.A. Supply.

Logistics Looks Ahead in Military Review July 1947.

C-15425 Conference on Atomic Energy.

S-14626 Guided Missile Syllabus.

Guided Missiles, the Weapon of the Future. WD Intelligence Bull. MID Apr '46

L-920 Logistical Problems- Future War.

S-13755 Air Defense.

C-15083A National Security Program.

C-13807, C-14887, C-13820, C-12527, C-2483, Emergency Plans White various ZI commands

S-8248 Relief and Rehabilitation, Jugoslavia Feb-Mar 1945.

S-11245 Red Cross Administrative Instructions- 21st Army Group 1 April 1944.

R-11075 Administration of Displaced Persons, A.S.F. 30 July 1945.

R-15108 Civil Affairs, Principles, Government,Public Safety, Assistance to civilians.

R-6852 Defense of the Zone of Interior. Nov 1943.

C-14518 German plans for compensation of domestic war victims. 16 Feb 1945.

C-13592 History of the Civilan Supply Branch Nov 1943- Oct 1945.

S-2869 Military aid to civil power.

R-6327A U.S. and British Civil Affairs Organization. WD 23 June 1943.

S-6849 Voluntary reports from Great Britain. O.C.D.

C-1783 Evacuation of Civilians- Western Defense Command and Fourth Army.

M 9405 The Odyssey of a Red Cross Man. Let there be mercy. 1941.

N-15640 Military relief activities in Texas City Disaster. Fourth Army 16 May 1947/

Annals of Chemical Warfare 1940-1947

TM 30-430

There were numerous other sources consulted but the above are considered germane. The list of articles and other material read on this subject would be too lengthy.

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FORT LEAVENWORTH, KANSAS

JUN 21 1965

LTR of TRANS

SUBJECT: Attached Staff Study.

TO: Director of Logistics, Department of the Army, Washington 25, D.C.

1. Inclosed is an approved staff study subject "Logistical Implications of Civilian Disaster Relief". The following exceptions are noted _____.

2. It is recommended that this study be reviewed by your division and transmitted to the appropriate office for action.

A. W. Pence
Colonel, C.E.
Commandant

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ANNEX 1

ANNEX 1 DEFINITIONS

1. Civil Defense : the protection of a nation's civilian population, their homes, their morale, their businesses, and their war potential from aggression.

2. Disaster Relief: organized and effective mitigation of suffering, loss of life, property damage, loss of morale fromadversity, and restoration of afflicted industrial potential of the civilian populace whether the results of natural disaster or acts of aggression.

3. Atomic Sprinkling: the spreading of dangerously radioactive dusts or particles by air, through food, heating and air conditioning systems, and similar means with intent to harm a populace.

4. Zero: Air, Ground,Water- that point at which an explosive or other lethal means is set into operatiom.

ANNEX 2

ANNEX 2

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ANNEX 2 ASSUMPTIONS

1. The U.N. will be unable to avert armed conflict between nations.

2. No effective world wide control of atomic and biological weapons will exist.

3. No nation, or group of nations, of the world will be capable of war before 1953.

4. No nation, other than the U.S., will have sufficient numbers of atomic bombs to wage an atomic war before 1958 nor a BW weapon before 1954.

5. The Armed Forces will have completed reorganization by 1950.

6. A limited and ineffectual selective service system will be in operation by 1949.

7. U.S. national policy will continue to be defensive rather than aggressive.

8. In the event of another war, the U.S. will be without effective allies, except Canada, and will have little if any warning or time for preparation for attack.

9. U.S. research and development will keep pace with the scientific and military trends of the world but only pilot or training models of the most important and advanced defensive measures and offensive means will be available.

10. By 1953 dissident minorities and radical political groups will be organized and available to serve as infiltrists into key governmental and industrial positions, as saboteurs, and as propagandists operating against the best interests of the U.S. as pacifists or isolationists. These groups will strengthen in ratio to the time allowed them.

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ANNEX 3

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1 June 1948

SUBECT: Logistical Implications of Civilian Disaster Relief.

1. PROBLEM: To determine possible need for and feasibility of creating a governmental agency for disaster relief.

2. DISCUSSION:

a. Definitions - Annex 1.

b. Assumptions pertaining to study as a whole- Annex 2.

c. For the purposes of this study, the term "logistics" was used in its broadest sense, all activities supportive to and short of combat.

d. Modern warfare necessitates the destruction of the war potential of an enemy. Annex 3

e. Cities and industrial centers present logical and lucrative targets for such attack. Annex 3

f. Protection of U.S. industry and the people who man it is an essential integer of any successful mobilization plan. Annex 3

g. The fact that U.S. industry played such a major role in contributing to the defeat of World War II aggressors will not be forgotten by any future enemy. Therefor, until perpetual world peace is assured, the U.S. must protect its war potential. Annex 3

h. U.S. industry and its connecting transportation system are extremely vulnerable to attack and information regarding vital areas is readily available. Annex 3

i. Initially, air attack and sabotage against the U.S. represent the most feasible means to be employed by an enemy. Annex 3

j. Two means of mass warfare are considered to be in the possession of any potential enemy nation, namely: toxic chemicals and high explosives. Both means are dependent on the development of air vehicles to carry them. U.S. Air Power must, therefor, be modern, efficient, and sufficient. Annex 4

k. Biological Warfare is only a probability in the foreseeable future. Atomic Warfare represents the gravest danger to the security of the U.S. as well as the existence of the civilized world. Subversion is a real and present danger to the well being of the U.S. and safeguards against it must be constantly maintained. Each agent of war must be carefully appraised and detailed plans prepared to offset their possible effects. Annex 4

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l. Atomic Warfare has altered the Economics of War, so that great losses can be sustained by an atomic attacker, provided he has put sufficient effort into the fray and as long as a sufficient number of his air-vehicles reach predesignated targets. Conversely, a defender must destroy all atomic attackers. The introduction of such a mass destroyer makes cities particularly vulnerable to destruction. American cities are not immune to a similar fate as that of Hiroshima. App A Annex 4

m. The relative scarcity and cost of atomic materials must always govern their use to assure the greatest destruction dividends for expenditures. The possession of atomic weapons gives an attacker a tremendous advantage over a non-atomic defender. When both possess these weapons, the one having the most and striking first and effectively will win. App A Annex 4

n. BW is not the scarehead it has been portrayed by overenthusiastic and/or misinformed columnists. Future development will probably create an efficient weapon. Continuing research is essential in this field. It can be a two-edged sword, doing as much damage to the introducer as to those attacked. The public must be better informed on this subject. App B Annex 4

o. In the foreseeable future, an enemy seeking to wage war with high explosives, persistent combustives, or incendiaries, whether with aircraft or guided missiles, must first secure bases on the approaches to the U.S. Such action will give the U.S. warning of intent. App C Annex 4

p. Defenses against CW are or can be made available. Preparation of such defense is costly. Early warning is required of its imminence. App D Annex 4

q. Subversion can be a very effective means of destroying morale, industry, and lines of communication. Defense against it comprises a well informed public headed by a better informed seat of government both supported by effective intelligence and counter-subversive activities. App E Annex 4

r. No effective disaster relief agency exists in the U.S. today. Reliance on the American Red Cross to mitigate disaster must be reduced to the clothing, feeding, and furnishing of money grants to sufferers from disaster and allied activities not concerned with assuming control of an area..Continued reliance on the Armed Forces for disaster relief, in the face of a possible future war, is faulty in concept. Annex 5

s. A single peacetime relief agency is required, with adequate funds, personnel, and equipment, to serve as a control agency and a cadre about which

relief workers and organizations can be formed into an efficient organization. Such an organization should form the nucleus for a wartime civil defense and disaster relief agency. Under such an organization, the Red Cross, other charitable organizations, and even the Armed Forces could then be responsible for services within their abilities. Legislative action would be required to implement such an organization. Annex 5

t. The World War II experiences in this field furnish several noteworthy pitfalls to avoid as well as the essentials of such an agency. The broad policies and the basic activities of such an agency can be evolved. Four essential steps are nesessary to establish a successful defense and relief agency: (1) Education of the people. (2) Designation of central authority. (3) Formulation of plans and initial work. (4) Full scale development. Annex 6

u. No existing governmental agency is capable of assuming this responsibility without augmentation and enabling legislation. By reason of its interest in and responsibility for closely allied matters, the Department of National Defense is deemed the most appropriate to assume such duties. Annex 6

3. ACTION RECOMMENDED:

a. The attached letter be dated and signed.

b. At the earliest practicable date the President and Congress be apprised of the serious situation with respect to peacetime civilian disaster relief and the even more serious situation with regard to the lack of a civil defense and disaster relief agency in the event of war.

c. That enabling legislation be asked to establish an agency sub - stantially as outlined in this study. (Annex 6)

d. In the interim, The Department of National Defense embark on a program of public education on disaster relief and civil defense based on factual and impartial data.

James R Francis
James R. Francis
Major, MSC
Student, Regular Course

7 Incl
Draft of ltr/trans
6 Annexes

ANNEX 3 THE LOGIC AND PROBABLE MEANS OF ATTACK AGAINST THE U.S.

1. Since the earliest of tribal wars, man has recognized the necessity of destroying or capturing the seat of government of an enemy. As man has become more civilized and refined the art of war, he has used scientific advancement to devise more efficient means of destroying his neighbor. Thus, modern warfare, with its technological demands and the requirements for vast quantities of machinery, has added the importance of destroying or capturing the industrial centers of an enemy, for without the outporings of its industry no nation can hope to successfully prosecute a war. In this era, the basic formula for industry/war potential is:

Raw Materials + Energy + Manpower = War Potential

Accordingly, it has become imperative to an aggressor to break that chain and cities and industrial centers are prime targets for nations at war, for in these areas are gathered the basic ingredients of the formula.

2. History partially bears out the many advocates and champions of Air Power, who point out the feasibility of defeating a nation without opposing with a large land army or naval armada by the simple expedient of bombing it out of existence. Moot as is this question, some credence must be given by even the most conservative militarist to the early defeat of an enemy by destruction of his war potential and the will of his people to resist. The means to be employed is a matter for national stategists to decide. The defeat of Germany, in World War II, was certainly greatly accelerated by the failure of her industries. This failure, in turn, was due tothe unprecedented air assaults against her population and industrial centers and her subsequently unsuccessful attempts to restore disabled industry. Japan's war potential had suffered several crippling blows before the Atomic Bomb forced the decision of her leaders to surrender.

3. Since no nation's armed might is any stronger than the industrial capacity which arms and supports it, the U.S., like other nations, must take adequate precautions to protect its war potential. Further, until perpetual world peace is an assured entity, that protection must be dynamic and realistic. It is axiomatic that military mobilization plans are dependent on the mobilization of industry. However, it must fully recognized that the best made mobilization plan will surely fail if the paralleling protection of industry and the people necessaryto produce war materiel is not as carefully outlined and as aggressively prosecuted. Moreover, if that defence fails, the earliest possible restoration of that effort must, likewise, be adequately planned.

4. It is an accepted fact that the industrial capacity of the U.S. was a major factor contributing to the defeat of aggressor nations in two World Wars. Historians may well cite the failure of the Axis Powers to immobilize U.S. industry as the gravest error of World War II. It would appear unduly optimistic, in fact, foolhardy, to believe that this historically patent fact would again be overlooked by aggressors. This same fact must not be forgotten in any approach to a defense plan for the U.S.

5. Several exhaustive studies have detailed the extreme vulnerability of certain key industries of the U.S. to attack. It is not the purpose of this document, to point out any specific essential industries that are particularly vulnerable or to delve more deeply into the subject. It is desired to point out, however, that as long as a single area produces 64%, 91%, 57%, and 80% of the total U.S. produced portion of several vital materials and also produces 53%, 100%, 98%, and 64% of total U.S. production of essential end products, such an area is a logical and lucrative objective for attack. The fact that there are several areas of comparable specialization , each worthy of great expenditure of effort by an enemy, further stresses the problem. Further, it is not necessary to consult highly classified studies to gain insight into actual conditions. Appendix A is a map taken from an article by Robert M. Hutchins, Chancellor of the University of Chicago, appearing in American Magazine for December 1947 entitled " The Bomb Secret Is Out!" Without attempting to establish the authenticity of other information in the article, it is all too apparent that full information on this subject is readily available. Certainly, study of the groupings of producing industries and consultation of their trade journals, coupled with visits to industrial areas by qualified agents of any potential enemy country, can but result in the earmarking of vital areas. Even the Atomic plants of the U.S. have been widely publicized as to what is manufactured. Since all industry can not locate itself directly at the sites of raw materials, the transportation system that inter-connects U.S. industry with raw materials and other fabricators or suppliers is also a vital and vulnerable link. The dependence of the steel industry upon the Soo Canal is a striking example, for if use of those locks were to be denied the U.S. it is estimated that the steel industry would be forced to close down in two weeks.

6. In determining the most feasible means of attack against the U.S. to be pursued by an aggressor several factors must be considered. Since the U.S. is <u>the</u> Naval Power of the world, any attempt at amphibious assault against its shores would be subject to immediate defeat unless its Navy were first destroyed. No nation or

combination of nations has, or is likely to have in the foreseeable future, the necessary naval force to accomplish this. The U.S. is also a primary Air Power. This position is supported by an industrial capability unequalled in the world. Thus, any nation seeking to bring war to U.S.shores must first assure the destruction of its Air Potential. The very geographical position of the U.S. coupled with the above facts tends to overwhelmingly support the theorem that, initially, attack of the U.S. must be by air, by either conventional aircraft or long range guided missiles.This type of attack has the possibilities of using:

a. Atomic bomb or spread of radioactive materials.

b. Virulent bacteria.

c. High explosives, persistent combustibles, and/or incendiaries.

d. Debilitating chemicals.

e. Any combination of above.

Sabotage, of course, would represent an additional assisting means and a constant threat to certain key areas.

7. CONCLUSIONS: That:

a. Modern warfare necessitates the destruction of the war potential of an enemy.

b. Cities and industrial centers present logical and lucrative targets.

c. Protection of U.S. industry and the people who man it is an essential integer of any successful mobilization plan.

d. Until perpetual world peace is assured, the U.S. must protect its war potential.

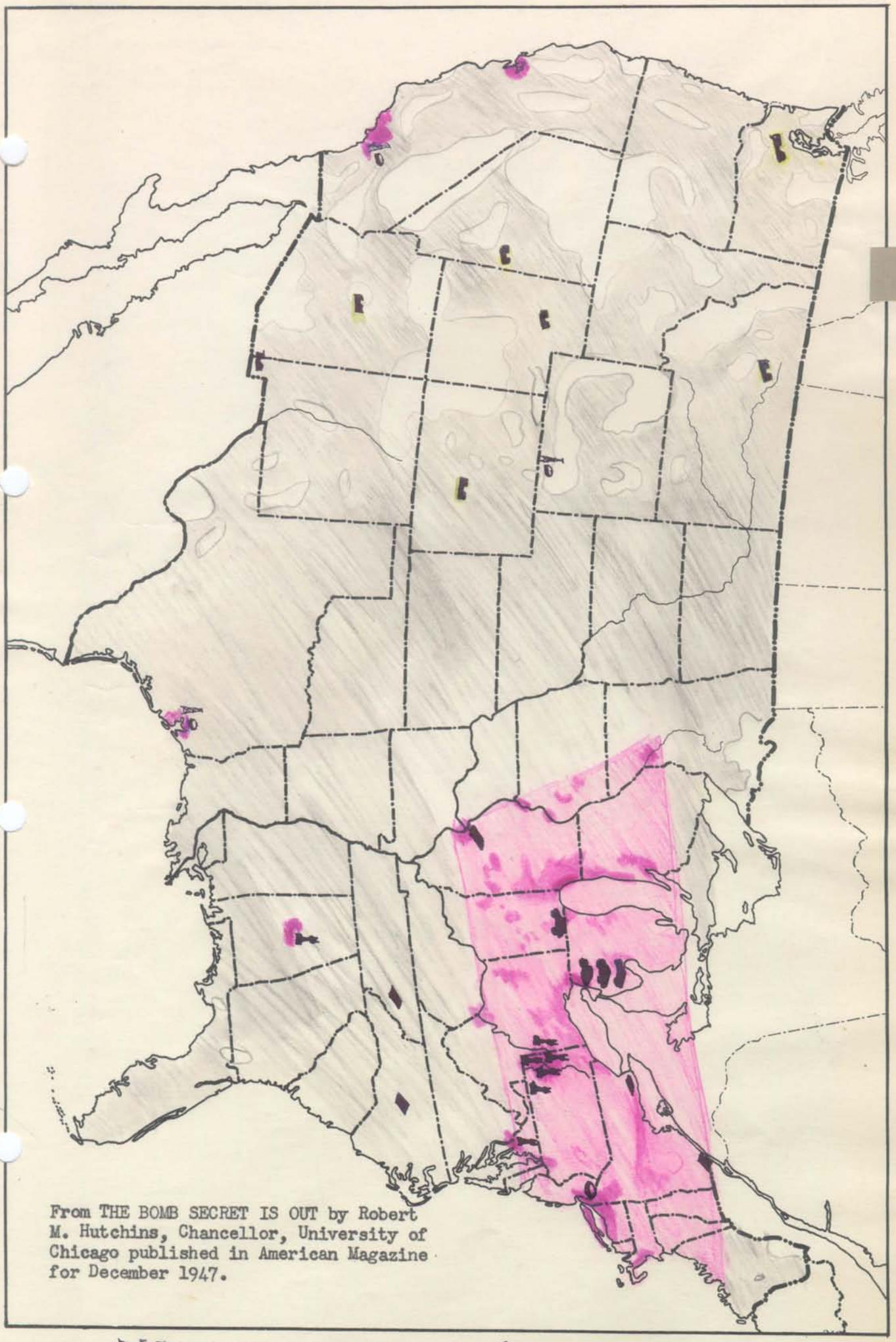
e. The industrial capability of the U?S. will not be forgotten by a future enemy.

f. U.S. industry and its connecting transportation system is extremely vulnerable to attack.

g. Information regarding the vital areas of U.S. industry are readily available.

h. Initially, air attack and sabotage against the U.S. represent the most feasible means to be employed by an aggressor nation.

APPENDIX A LUCRATIVE TARGET AREAS IN THE UNITED STATES



From THE BOMB SECRET IS OUT by Robert M. Hutchins, Chancellor, University of Chicago published in American Magazine for December 1947.

ANNEX 4

ANNEX 4 ESTIMATE OF THE EFFECTS OF SEVERAL TYPES OF ATTACK AGAINST THE U.S.

1. The most dramatically demonstrated weapon to emerge from the past war was the atomic bomb. The utter chaos and the almost incomprehensible effects it had on two target areas and the subsequent Bikini Tests have focused much attention on the grave dangers its uncontrolled use portends for civilization. The almost mountainous array of articles and books regarding its capabilities and phenonema written by experts and pseudo-experts represents a major task of indexing and segregation. This has resulted in a general tendency to forget that there are few, if any, targets that are destructible by atomic bombs that can not be destroyed or rendered untenable by other means.[1] Various experts have ventured the opinion that because of manufacturing difficulties it will be from 8-15 years before other nations of the world could have the atomic bomb in appreciable amounts. For this reason, as well as the belief that other means of mass destruction may actually exist in the hands of nations,potentially belligerent, it is considered essential to examine in some detail the possible results of the use of the agents established as representing those most efficient to employ. The establishment of the most efficient agents does not rule out the possibility that the more conventional weapons will not be used in a future war nor does it obviate those weapons, as yet unknown, that may be developed for a future conflict. It should be borne in mind, at the outset, that many variables will alter the results to be obtained by use of these agents. Included are terrain, weather, temperature, air defenses, types of buildings, and the geographical location of each potential target area. Any generalization regarding a wholesale attack by any one means or combination thereof would be, at best, inaccurate because of these variables. Each agent is treated below:

a. Atomic Warfare- Appendix A

b. Bacteriological Warfare— Appendix B

c. High explosives, combustibles, incendiaries- Appendix C

d. Chemicals- Appendix D

e. Sabotage- where applicable will be brought into above appendices and conclusions regarding it contained in Appendix E

f. A visualization of an attack against the U.S.- Appendix F

2. <u>CONCLUSIONS</u>:

a. Two means of waging mass warfare are considered to be in the possession of any potential enemy nation, namely, toxic chemicals and high explosives.

b. Both means are dependent on the development of air-vehicles to carry them.

c. U.S. Air Power must be modern, efficient, and sufficient.

d. BW is only a probability in the foreseeable future.

e. Atomic Warfare represents the gravest danger to the security of the U.S. as well as the existence of the civilized world as we know it.

f. Subversion is a real and present danger to the well being of the U.S. and safeguards against it must be constantly maintained.

g. All the agents herein discussed represent strong possibilities, each one must be carefully appraised, and detailed plans must be prepared to offset their possible effects on U.S. war potential.

* *

Reference Notes for this Annex:

1. "Vulnerability to Atomic Bombs" by Ansley J.Coale. Princeton University 1947.

2. Radiological Safety Manual U.S.Navy USF 85, 1947.

3. "Anticipated Effects of Atomic and Radiological Attack" by Lt Col Barnet W. Beers, 19 September 1947 at Industrial College of the Armed Forces.

4. "Atomic Bomb Explosions- Effects on an American City" by Dr R.E.Lapp.

5. a."A General Account of the Development of Methods of Using Atomic Energy for Military Purposes under the auspices of the United States Government" H.D.Smyth.

b. "The Release of Atomic Energy" by M.L.Oliphant in Nature Magazine 5 Jan 1946.

6. "Bacterial Warfare- The Use of Biologic Agents in Warfare" by Major Leon Fox MC in The Military Surgeon March 1933.

7. Gerald Piel's article "BW" in Life Magazine 18 November 1946.

8. "The Effect of Smallpox on the Destiny of the American Indian" by Allen E and Esther W. Stearn February 1947.

9..Letter BUMED-3211 P2/P3-1(Cholera) 27 April 1948 to Captain H.B.Temple,USN, subject "Partisipation by Naval Medical Organization in Cholera Epidemic in Cairo, Egypt.

10."Annals of the Knight Hospitaleers" Masonic Press March 1944.

11.George Merck in Army Press Release October 1946.

12.Report of the Civil Defense Division,U.S.Strategic Bombing Survey-Draft Oct 1945.

13."The Effects of Bombing on Health and Medical Care in Germany", U.S.Strategic Bombing Survey 20 October 1945.

19. "Experimental Airborne Infection" by Theodor Rosebury 1947.

APPENDIX A ATOMIC WARFARE

1. The experts have given few answers for the researcher seeking to determine what might happen to a given city if attacked by atomic bombs. Various statements have been made concerning the power of this weapon, using comparisons against more conventional means, such as:

" One Bomb is the equivalent of 20,000 Tons of TNT." Manhattan Engineer Dist.

" The action *** can best be explained by the analogy of the destruction expected to a model town built to the scale of Gulliver's Lilliput, 1 inch to 1 foot, if there were exploded above it a bomb more than twice as large as the largest blockbuster." Radiological Safety Manual, 1947, USN, USF 85.

These statements, while indicative of the tremendous force embodied in this weapon, give no concrete basis for study of expected results from its use. Further, it must be remembered that radiological research is in its infancy and not of a static science, and that possible future developments are unlimited. Despite this some common meeting ground must be established. The material developed below is a compilation of the expert opinion, such as is available, as well as conclusions drawn from reports on the five bombs exploded to date by the U.S. Since many excellent reference books exist, no basic Physics, essential to understanding of the bomb, is included in this document. Illustration 1 is intended as a simple refresher, only, of what happens when atomic bombs are detonated.

2. Most people erroneously believe that the havoc of Hiroshima and Nagasaki would not occur in a U.S. city because of the superior buildings and fire equipment. This is due mainly to ignorance of the fact that many buildings in Japan were earthquake proof and to failure to realize that combustibles form an integral part of the average U.S. building and that the fire equipment of many cities is actually deplorable and almost universally not interchangeable between neighboring communities. The British Mission to Japan, The United States Strategic Bombing Survey, and the Special Manhattan Engineer District Investigating Group are in complete agreement that British and American cities would suffer substantially the same fate as either Nagasaki or Hiroshima under the same conditions of air drop, air zero, type bomb and topography. Illustration 2 makes this conclusion obvious.

APPENDIX A Continued

3. Variations in results can be anticipated or may be caused by the following:

a. "Altitude or depth could be such that:

(1) A different combination of effects will result. For instance, if the burst were slightly above or below the surface of a body of water, a combination of Bikini Tests Able and Baker may result.

(2) A deep water detonation might have radically different results."

(3) A ground burst at the height of Almogordo might completely destroy an otherwise impregnable target and in addition would undoubtedly radiologically contaminate the immediately adjacent area for many days, months, or years.

(4) Great heights would lessen damage and disperse effects.

b. "The methods of delivery may differ:

(1) Aircraft with ranges of thousands of miles.

(2) Guided missiles with ranges of a few hundred miles.

(3) Clandestine (Trojan Horse) for seaports, canals, or airports.

(4) Sabotage.

(5) Torpedo or mine against naval craft.

c. Bomb efficiency may be improved or lessened. It is considered only remotely possible for an enemy to produce an identical bomb.

d. The distinct possibility of use of radioactive agents with detonation."[2]

4. In considering the use of the bomb, the above variables should be each explored exhaustively, however, time and space factors obviate such a process within this study. Certain findings regarding its use are enumerated because of their bearing on general understanding of the problem:

a. "Destructive effects of identical types of atomic bombs used in the same manner (as with conventional explosives) do not increase in direct proportion to the 'size' of the bomb. For example: A bomb of the same type as the Nagasaki bomb, but with twice the HE equivalent would not necessarily effect twice as much destruction.

b. The use of bombs of greater explosive magnitude, to obtain a greater radius of damage would also suggest a higher altitude zero to gain maximum range of blast damage.

c. Because of the conformation of many cities, a large proportion of destructive power might be wasted over sparsely inhabited areas and the conservation of fissionable material will always influence its economical use.

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ILLUSTRATION 1 ATOMS ARE DETONATED

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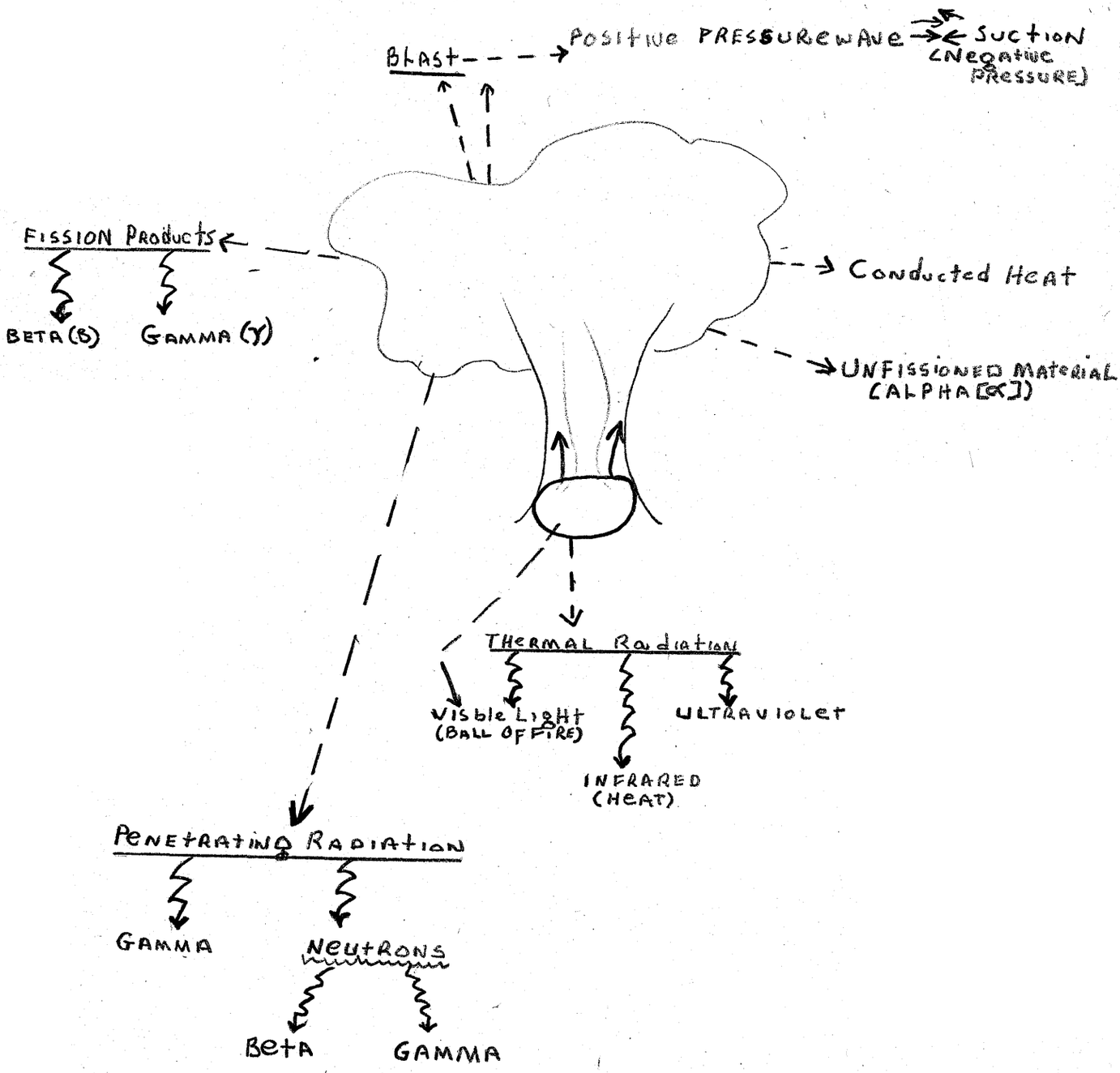

The dotted arrows have no meaning insofar as direction is concerned. They are intended for identification of activities of the explosion only.

Material adapted from printed matter and lecture by Major Maxwell Dauer for course " Medical Aspects of Atomic Explosion" at A.M.S. May 1947.

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ILLUSTRATION 2 COMPARATIVE TABLES OF BUILDINGS AND PERSONNEL DENSITIES

Buildings

CITY	Types of structures by exterior material(U.S. cities)					
	Total reported	Wood	Brick	Stucco	Other Materials incl Blast resistant	
New York	591,319	236,879	299,482	41,661	13,297	Source: 16th Census of the U.S.1940 Vol II.
Washington	156,359	48,971	95,939	5,764	5,685	
Chicago	382,628	131,148	238,959	5,797	6,724	
Detroit	267,677	165,488	94,333	1,933	5,933	
San Francisco	105,180	61,172	2,334	40,902	722	

Japanese cities compare favorably in most part except for residences which are of very flimsy materials, in general. Damage to similar structures at Hiroshima furnish the best index, remembering that the less powerful bomb was used there:

Multi-story brick buildings with load bearing walls— destroyed or seriously damaged area 3.6 sq miles

One story brick— destroyed or damaged area 6 sq miles

Wood frame industrial and commercial shops— destroyed or damaged area 6 sq miles

CONCLUSION: Overwhelming bulk of buildings in American cities could not stand up against an atomic bomb bursting a mile to mile and one half away.

Population Densities

City	Population	Area Sq Mi	Population per sq mi	
New York	7,492,000	322.8	23,200	
Manhattan (day)	3,200,000	22.2	145,000	Source: New York: Fortune 1 July '39. Other cities: 16th Census of the U.S. 1940.
Manhattan (night)	1,689,000	22.2	76,000	
Bronx	1,493,700	41.4	34,000	
Brooklyn	2,792,600	80.9	34,200	
Queens	1,340,500	121.1	11,000	
Staten Island	176,200	57.2	3,000	
Washington	663,091	61.4	11,000	Notes:
Chicago	3,396,808	206.7	16,500	1 Prewar
Detroit	1,623,452	137.9	11,750	
San Francisco	634,536	44.6	14,250	2 As of Aug '45
Hiroshima	340,000[1]	26.5	12,750	
Center of city	140,000[2]	4.0	35,000	
Nagasaki	250,000[1]	35.0	7,000	
Center of city	220,000[2]	3.4	65,000	

The so-called teeming cities of Japan have their counterpart in American cities which also have their slums where the tendency to build vertically as well as intense crowding compound into great densities. Since most figures above are merely averages for people within a city limits, the most significant and meaningful figures are those for the central areas of Hiroshima and Nagasaki and for the boroughs of New York.

CONCLUSION: The casualty rates of Hiroshima and Nagasaki applied to the massed inhabitants of Manhattan, Brooklyn, and the Bronx present a grim picture, particularly when it is remembered that the results of the Japanese bombings stem from the first and therefor unimproved bombs.

Material adapted from Reports of: The U.S.Strategic Bombing Survey, Chairman's Office, 30 June 1946, " The Effects of Atomic Bombs on Hiroshima and Nagasaki." " The Atomic Bombings of Hiroshima and Nagasaki" by The Manhattan Engineer District. Adjusted by material presented at "Introductio n to Atomic Warfare" by Dr.R.E.Lapp March 1947.

[redacted]

d. By increasing the magnitude and zero height of a single bomb, a limitation is soon reached where the substitution of two bombs of limited magnitude and altitude is more economical.

e. Unquestionably, a greater degree of destruction by blast can be accomplished at zero point by a ground burst or near ground burst. However, the following considerations are significant:

(1) There is no practical degree of "total" destruction by blast or of death . A man mortally injured is a total casualty, and a structure beyond salvage is as totally lost as if it were pulverized.

(2) A ground burst would generally limit and reduce the extent or range of physical and personnel damage from blast.

(3) A ground burst would increase the radiological hazards but this increase would be principally in an area otherwise generally doomed by other lethal effects." 3

5. In theory, there are four methods or techniques that represent the most dangerous possibilities to population centers, namely: air burst, ground burst by bomb or missile, shallow water burst in an adjacent body of water to utilize the "fall out" effects of particles of moisture charged with radioactive fission products, and atomic sprinkling or spreading without actual fissioning explosion. Sabotage is considered as a means of delivery rather than a technique. Ground burst is not considered in detail for the following reasons:

a. This technique represents a generally uneconomical use of atomic materials, as set forth in par 4e above, unless directed against a specific ultra-important target.

b. This use requires almost the same pin-point accuracy as conventional bombs.

c. Its use would have to be carefully weighed against the necessity of the user having access to the specific area attacked, since radioactive contamination would probably deny entry.

6. One final grave factor to be noted is the necessity for total interception of atomic attackers. To date, the best recorded interception rate against air attack is the approximately 90% against the V-1, a weapon with no evasion capabilities. That rate existed only after several months of study of points of origin, most probable targets, and flight patterns and extensive training of pilots and anti-aircraft crews. Even on the assumption that it would be possible to achieve such

a rate against the first surprise attack, without previous experience against the attacker and possibly without adequate warning of approach, air defense units would fail their mission because of the relative destructive power left in the remnant 10% force. Further, unless the interception was accomplished miles from U.S. shores, the areas where the air-vehicles(plane or missile) grounded would probably be untenable because of radioactive contamination. Atomic weapons, can thus be said, have raised the ecomomics of air warfare to a heretofor unvisaged level. That is, an enemy able to put 1000 bombs in the air could afford a 90% loss since 100 bombs would still get through to targets and unleash 2,000,000 tons HE equivalent(using Hiroshima bomb as basis). Conversely, a defender must expend all effort to destroy such an invader. Consideration of the results of 100 bombs, parceled out as 2 or 3 per population and industrial center, gives greater validity to the gravity of this factor.

7, ESTIMATED EFFECTS OF ATOMIC ATTACK AGAINST A CITY

a. Assumptions:

(1) Size of bomb: 40,000 Tons HE equivalent.

(2) Height of drop: 3000 feet except for water , sabotage, and spreading.

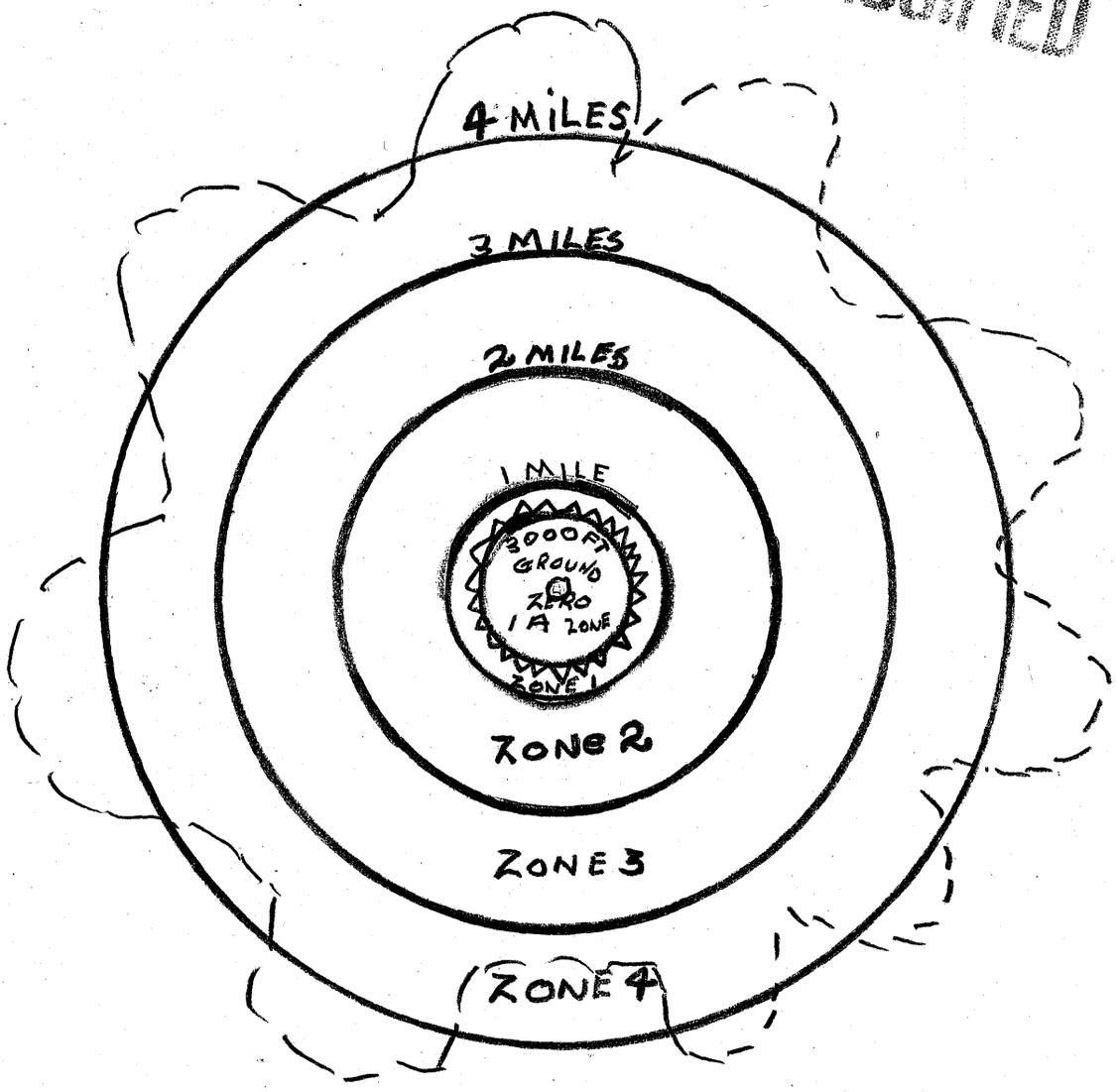
(3) Ground zero: Epicenter of industrial effort(the ideal).

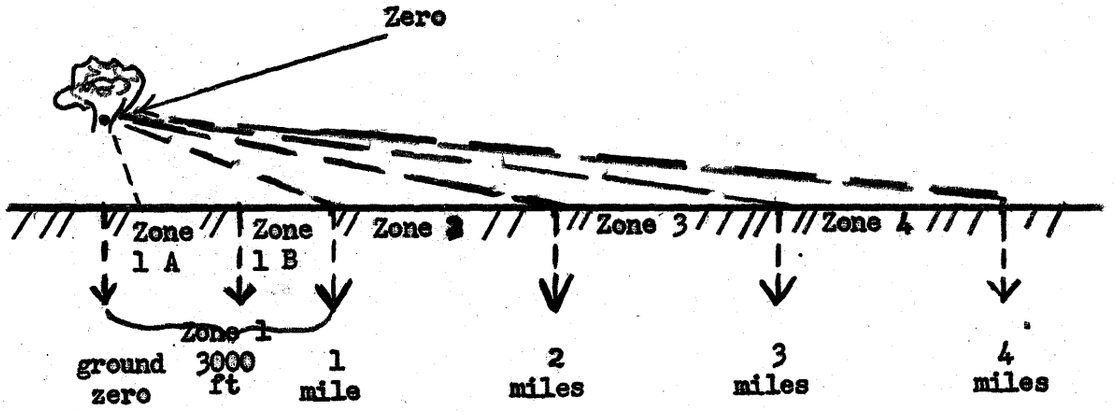
(4) City: Population- 1,000,000. In general conforms to topography of Hiroshima and has a large body of water as a boundary on which the major portion of its industries front.

b. One bomb air burst: Illustration 3 establishes the zones hereafter discussed. By drawing circles of corresponding radii upon any city map a fairly accurate estimate of the effects of a "typical" bomb on that city can be made.

(1) Zone 1 is the easiest to describe, for it must be accepted that for all intents and purposes this area is doomed. It is certain that within this area almost total destruction would occur. Only the heavy steel and reinforced concrete type of building would even partially survive. Buildings of load-carrying masonry walls would be crumbled to piles of rubble, and steel framework buildings with masonry veneers, including "skyscrapers" would probably shatter from the intense pressure blasting inward and downward the masonry walls. Reinforced floors of many buildings would remain in place, but the general effect throughout the area would be one of rubble so scattered as to make the center of destruction one huge pile of debris. Frame buildings would be smashed and the area one of immediate

ILLUSTRATION 3 ZONES OF DESTRUCTION





Adapted from "Anticipated Effects of Atomic and Radiological Attack", 19 Sept 1947 at Industrial College of the Armed Forces by Lt Col Barnet W. Beers.

general conflagration induced mainly by secondary causes(short circuits, smashed heating plants, incinerators,etc). This fire effect is so certain as to make it unnecessary to offer any estimate of the combustion induced by the intense heat from atomic explosion. Water systems, regardless of the immunity of underground pipe, would be ineffectual because of the twisting of water lines throughout structures. The effect upon personnel would be almost as devastating— that of almost total death, immediate or delayed. In fact, so many lethal influences are at work, particularly in the 3000 ft cordon that survival could be termed almost miraculous. This total destruction area is one of ragged boundaries out to the 1 mile line and only 'on spot' inspection can determine just where the boundaries exist, and where effort is worthwhile.

(2) Zone 2 will be an area of heavy damage but worthy of immediate post-explosion activities directed toward the saving of life, salvage of property, and most important containing of the spread of fires. Heavy concrete and reinforced concrete multi-story buildings will receive moderate structural damage. All other buildings will be unsalvageable. Industrial machinery will suffer heavily from secondary causes. Water pressures would be spotty and scant and actual water supply would require testing to assure potability. Power lines and telephone lines overhead would be unusable, although underground cables would be intact. Exchanges and booster stations would depend on the type building in which housed. Most radio transmitters could operate if power were available. The limiting factors on use of roads and rail in this area are the debris and the possible secondary effects suffered by cars in the area. Heavy fire damage is almost inevitable from secondary causes. It is in this zone that early and effective fire control is of utmost importance if the entire city is not to become a furnace. If the area is congested, most personnel will be shielded from any direct radiation by buildings, but this same personnel will pay somewhat of a penalty for that shielding by deathand serious injury secondary to blast.

(3) Zone 3 is a moderate damage area. Only wood frame and lightly constructed buildings would be beyond salvage. Considerable window breakage will occur and the area is one which will furnish many freak examples of immunity and damage. Many buildings will be shielded by other buildings. The lower portion of Illustration 3 illustrates the low angle of blast

direction. The greatest danger, in this area, is the fire hazard. This hazard will be in proportion to the wooden and other combustible buildings in the area, as well as the success of the efforts against fire in Zone 2. There will be some reduction in utilities depending on the percentage of destructible buildings. The greatest danger to personnel will be from flying glass, secondary fires, and incident to panic and mass hysteria..This is the keystone or blocking area on which the fate of the remainder may well depend.

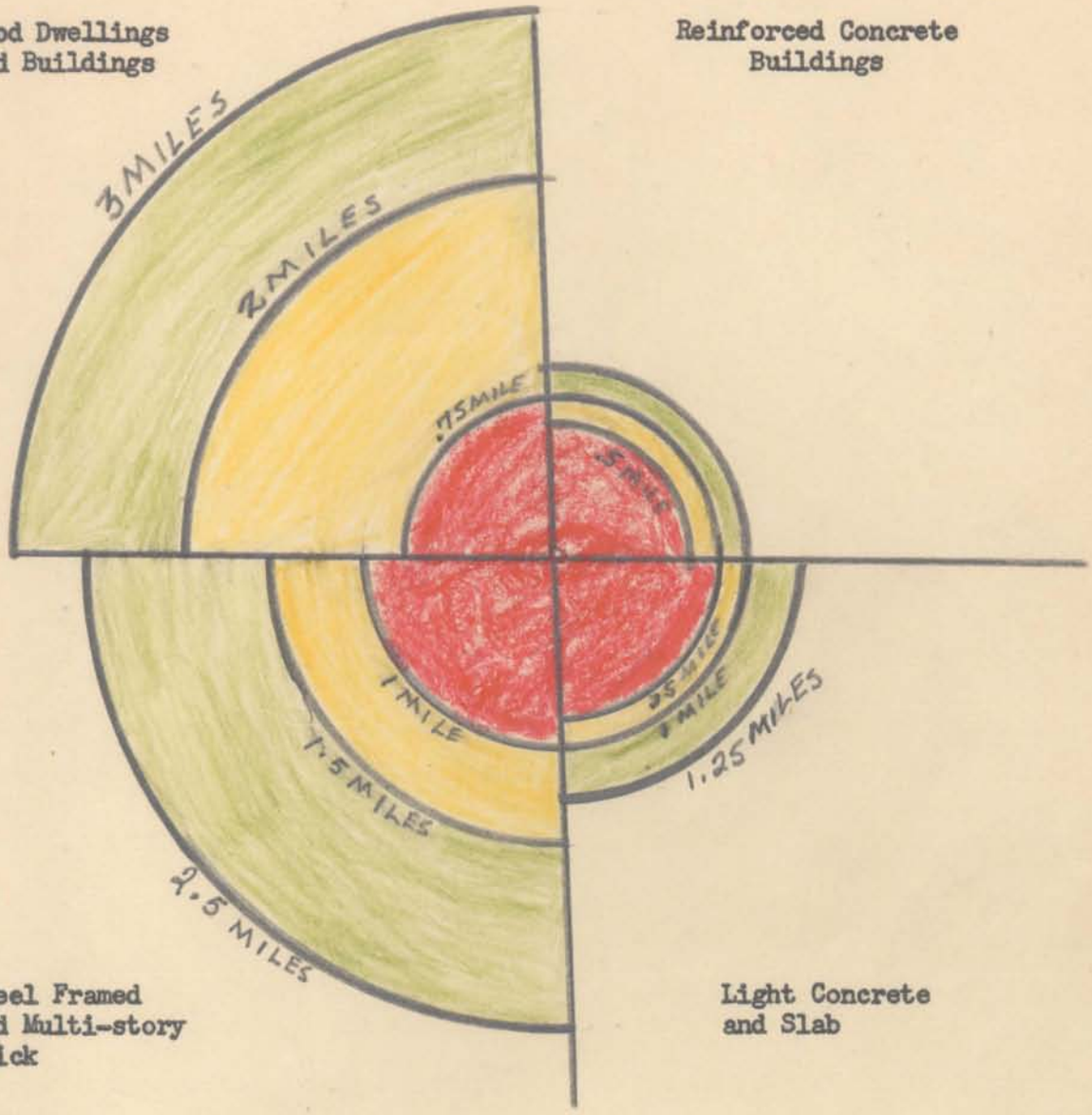
(4) Zone 4 outward is an area of only slight damage. While reflections may carry damage out to 8 miles, the area should be able to operate almost normally. Illustrations 3a & b give a resume of the probable effects of one bomb and indicate the zones of damage.

c. Multiple air burst: The effect of the use of more than one bomb would be to intensify the damage in overlapping areas and make more complete or positive the destruction of an area. Illustration 4 demonstrates this effect from two bombs exploded with 3 miles between epicenters.

d. Shallow water burst: Since there are few industrial areas or population centers in the U.S. that do not have at least a medium size lake or river within city limits this is a particularly important technique for consideration. The generally familiar " atomic cloud" contains great masses of particles that are persistently radioactive. These particles will float indefinitely in the atmosphere unless carried to earth by attachment to other heavier particles, such as the precipitation of rain. The "fall-out" of these particles constitutes a danger. Bikini Tests and other experience indicates that in the case of an aerial burst under ordinary dry weather there is little danger. Rain, however, passing through the atomic cloud will deliver some deposits of radioactive particles. In the case of shallow water burst, the danger can be said to be intensified by the heavy upward draft of moisture and local contamination of water. The tidal wave which accompanies this technique would damage small craft and any wharfing. The fact that this contamination, irrespective of degree, is not recognizable by the senses intensifies the danger. The vulnerable path or fall-out zone can be roughly plotted as follows:

(1) Plot a one mile circle on a city map, draw tangents from the circumference of this circle in a leeward direction and at a 10° angle from the direction of the wind/ water blast. The intervening segment will be, for all practical purposes, the dangerous fall out area, inclus-

ILLUSTRATION 3a STRUCTURAL DAMAGE

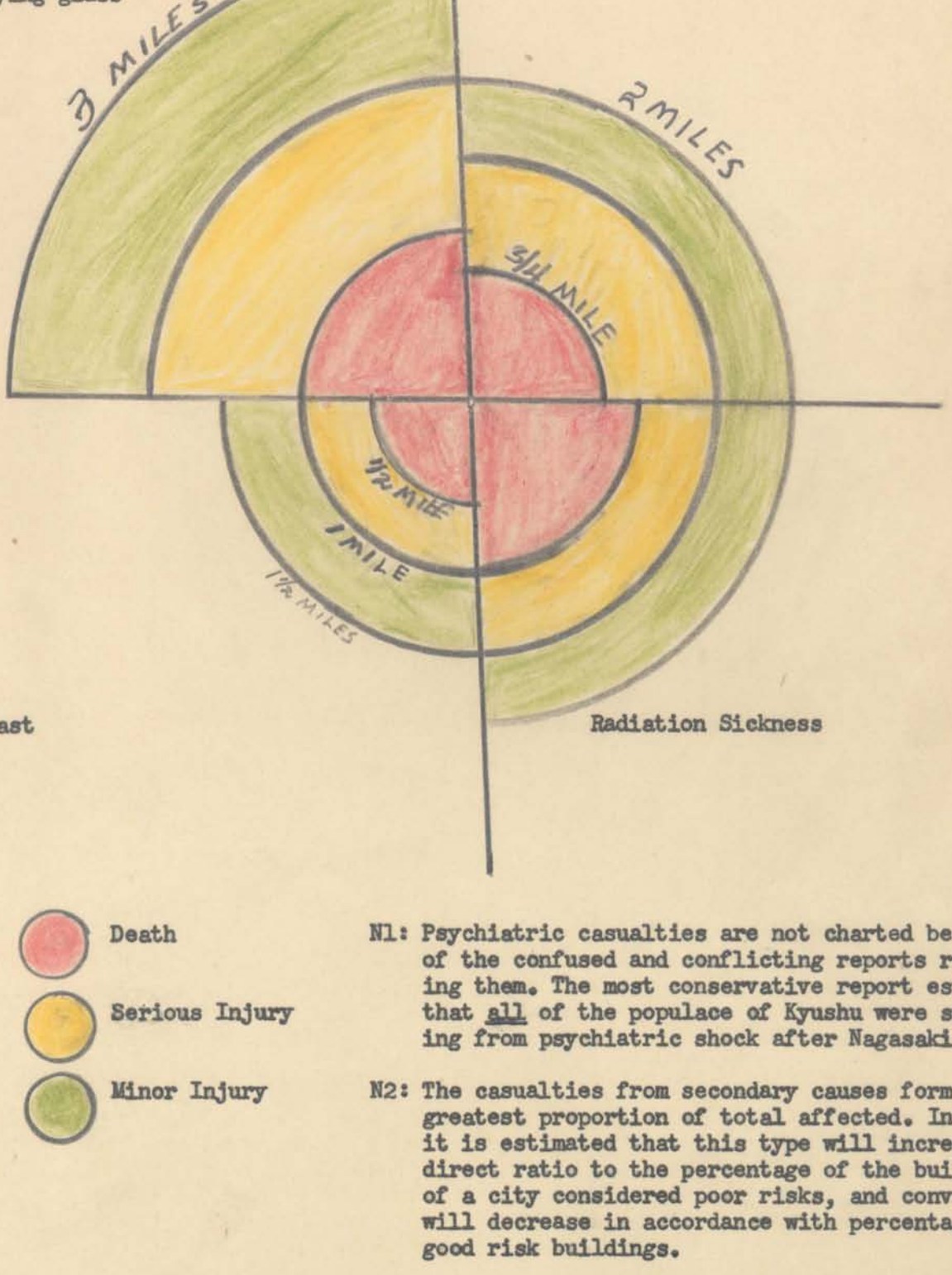


Adapted from "Atomic Bomb Explosions - Effects on an American City" given by Dr. R.E. Lapp, R&D Div, at A.M.S.for course " Medical Aspects of Atomic Explosion" May 1947.

ILLUSTRATION 3b PERSONNEL CASUALTIES BY CAUSATIVE ACTION

Secondary: such as fire, falling debris, flying glass

Burns: flash burn may extend beyond 2 miles



Blast

Radiation Sickness

Death

Serious Injury

Minor Injury

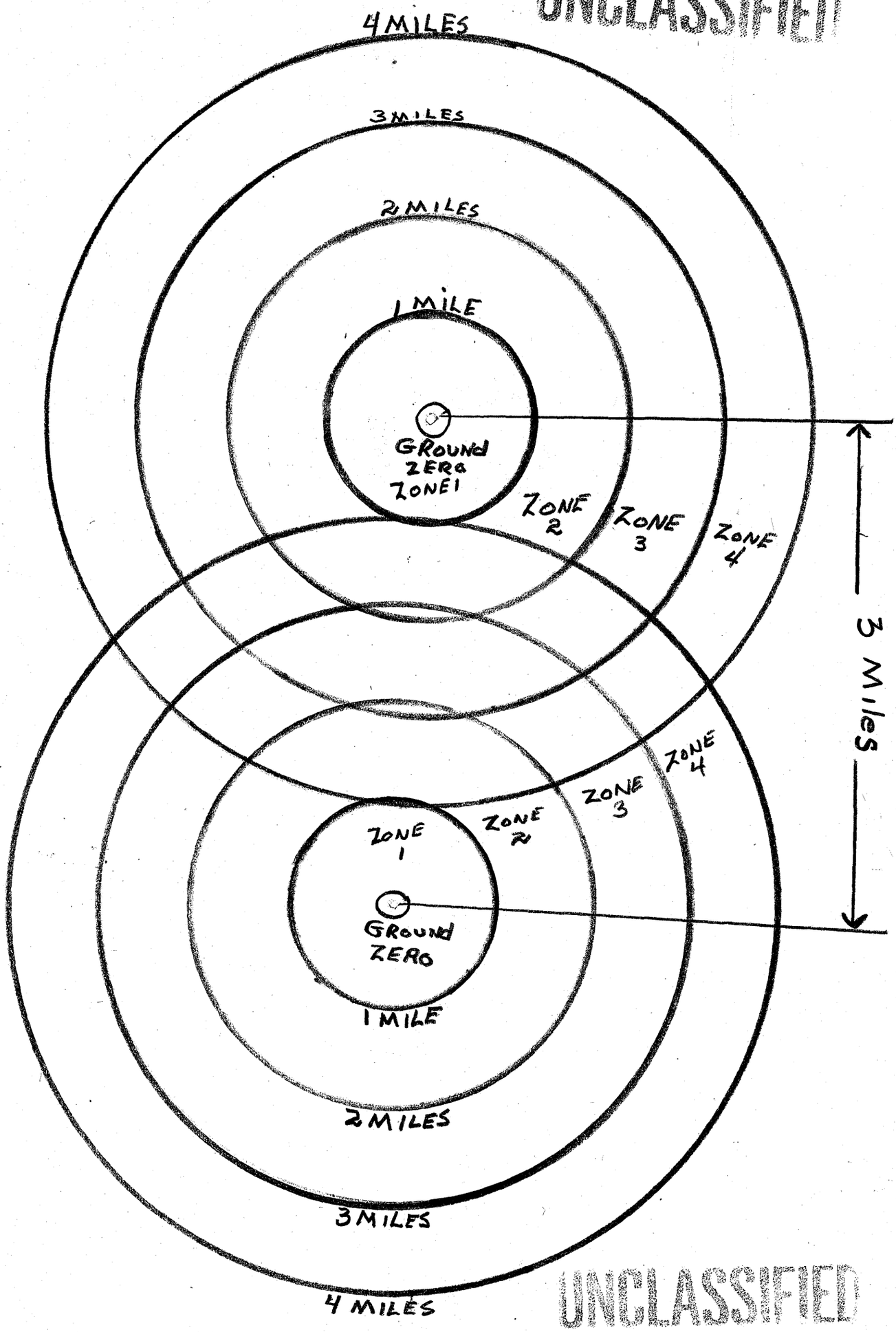
N1: Psychiatric casualties are not charted because of the confused and conflicting reports regarding them. The most conservative report estimates that all of the populace of Kyushu were suffering from psychiatric shock after Nagasaki.

N2: The casualties from secondary causes form the greatest proportion of total affected. In turn, it is estimated that this type will increase in direct ratio to the percentage of the buildings of a city considered poor risks, and conversely will decrease in accordance with percentage of good risk buildings.

Adapted from: "Anticipated Effects of Atomic and Radiological Attack" by Beers; Lectures "Medical Aspects of Atomic Explosion" by Col J.P. Cooney MC, Dr R.E.Lapp, Capt G.M. Lyon USNMCR, Col E. DeCoursey MC, Dr E.H. Williams USPH, and Maj M.Dauer; "The Effects of Atomic Bombs on Health and Medical Services in Hiroshima and Nagasaki", The U.S. Strategic Bombing Survey March 1947.

[redacted]

ILLUSTRATION 4 EFFECTS FROM USE OF MORE THAN ONE BOMB



Adapted from "Anticipated Effects of Atomic and Radiological Attack" by Lt Col Barnet W. Beers, 19 September 1947 at Industrial College.

[redacted]

ive of the one mile circle.[3 4] See Illustration 5.

e. Atomic sprinkling: is a means that might be resorted to by an enemy capable of copying the "atomic piles" of Hanford and Oak Ridge but lacking the technological ability to bring about "critical mass" in a manner suited for use in a bomb or weapon. Further, an enemy, because of its devotion to research in guided missiles might consider it more feasible to deliver such materials in this manner by releasing spurts over heavily populated areas. In any event, this use of atomic matter represents a generally uneconomical one when compared to the results expected from a similar amount of material incorporated in a bomb. If many air-vehicles were to permeate an air defense and be permitted to fly in the most effective patterns for release, it is considered conceivable that large numbers of an area's population could be rendered ineffective- ranging from death in a few days or weeks through seriously ill to mildly sick with or from radiation sickness. There has been much conjecture concerning the feasibility of this method for use by subversive groups by contaminating water and food supplies and spreading such matter through air conditioning and heating units(through moist air) in large buildings and convention halls. The fact that detection by the senses of such activity is nil adds weight to these conjectures. It is not considered out of the range of possibility or probability but there are several factors that impinge upon further examination of this technique:

(1) Use would require great amounts of radioactive material in suitable form and represent a major stockpiling task.

(2) Such a stockpile would present insuperable storage problems and would be subject to early detection.

(3) Access to best return areas such as reservoirs, food dispensing or canning activities, and other means of mass introduction with a sufficient and effective amount of radioactive material would appear impossible.

(4) Finally, this technique is <u>the</u> most uneconomical use of a relatively scarce and expensive commodity.

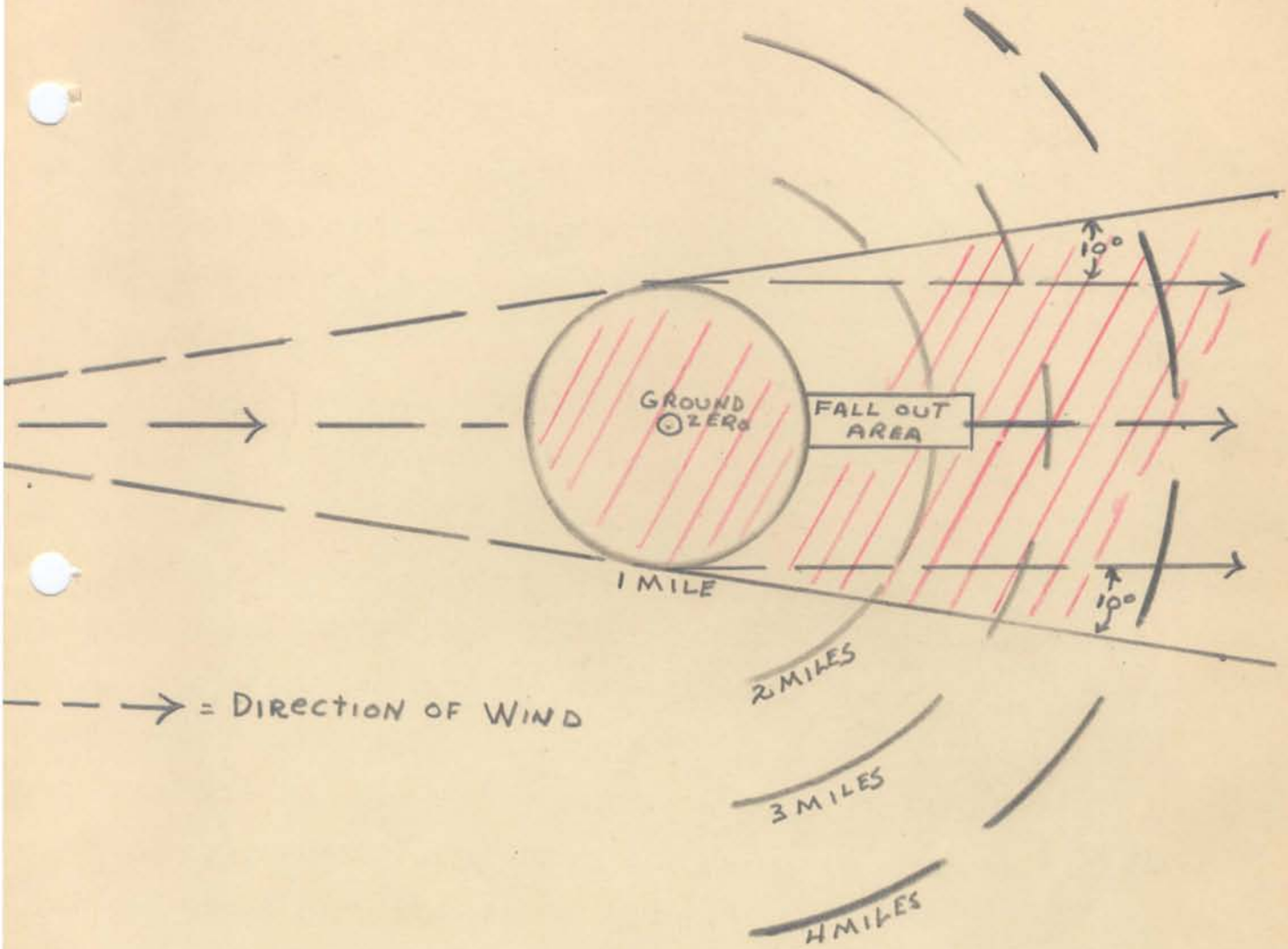
f. Subversion: as a means of delivery is a distinct possibility provided careful consideration is given the inherent difficulties in the use of atomic material. Of the techniques discussed above certain ones are considered amenable to use "from within" or as an instrument of sabotage. They are:

(1) Air burst_ single bomb.

(2) Ground burst - single bomb.

(3) Shallow water or surface burst.

ILLUSTRATION 5 THE FALL-OUT AREA



Adapted for illustrative purposes from Beers' "Anticipated Effects of Atomic and Radiological Attack" and " Medical Aspects of Atomic Explosion".

(4) Atomic Sprinkling.

It is firmly believed that well financed and organized groups could use at least the first three techniques, providing they included scientists and technicians familiar with radioactive processes. It is not beyond good reasoning to assume that a bomb could be constructed in an office high above some city and detonated ata crucial time in support of alien efforts. Nor is it unreasonable to conbemplate similar activity close to a crucial or vital control point in a shed or insignificant appearing lumber office or small shop. The shipment of such a vicious weapon as innocent cargo in the hold of a ship or the use of a small ship as a vehicle to explode the bomb in vital harbors is so logical as to appear rudimentary. The effects to be anticipated are roughly the same as delivery by other means with the possible addition of pin point accuracy, for the detonation could be set off at precisely the point deemed most likely to give desired results,under ideal conditions. Theone limiting factor to this method of delivery is technological ability for weight appears to be no limit accepting OLiphant's and Smyth's range of weight of 10-30 kilograms.[5](for critical mass) It is not believed that such activity would occur alone, but rather as an aid to air attack or other type assault. Certainly, it will remain a distinct possibility as long as fissionable materials are manufacturable by any and all nations possessing or having access to basic raw products. There are other methods that suggest themselves to use by dissidents such as deep water explosion in harbors and deep earth explosion. These methods will no doubt receive the attention of prospective users and failure to discuss them in this study should not be construed as dismissal of their probability or ignorance of their feasibility. They are not discussed because of the lack of sound experience in such techniques and the prevalence of controversial and contradicting opinion as well as the high classification of the small amount of data existing.

g. Summary: The anticipated effects of the atomic attack of the city about which this study is drawn can be summarized as follows:

Item	Number in city		Estimated Destruction (total or unsalvageable)					
	Total	Epictr	Air Burst Single	Multiple		Shallow Water		Sprinkling **
Wood Bldgs	55,000	13,000	40,000	13,000		200	200	-
Single story Brick	75,000	20,000	55,000	20,000		10	10	-
Multi-story Brick	26,000	9,000	13,000	8,500		—	—	-
Reinf Concrete	7,500	1,500	110	110		—	—	-
Steel Fr Skyscaper	500	10	200	10		—	—	-
Personnel*	1,000 M	200M	275M	180M		110M	66M	55M

Estimate that for each succeeding bomb 1.9 times more damage i.e. 2 bombs = 1.9 = 3.9 etc until total destruction occurs This assumes effective drops

* Based on population of 200,000 at epicenter and around body of water. Ordnance Tables of HE equivalents form baseline.

**While no buildings are destroyed, many would be so contaminated as to be untenable. Continued occupation of such areas would result in much higher casualties.

Structural damage was scaled against the formula $MAE = \int_a P\, da$. For example, if P is the probability that a 9-inch wall will be blown down in a certain area da which is 170 feet and no further, then the Mean Area of Effectiveness for 9-inch walls is given as: $MAE = \pi(170)^2$ or approximately 100,000 sq ft.

At present, there appear to be four techniques requiring detailed study by passive defense planners as applicable to each vital area of the U.S., namely: Air burst, ground burst, shallow water burst, and atomic sprinkling. Each must be evaluated for each specific area. Educated "guesstimates" must be boldly utilized. Two other methods, upon which data must be developed, deep water and deep earth explosion, also represent grave possibilities. Atomic attack by any of the means discussed would result in tremendous damage to any densely populated or built-up area. Although specific answers to what will happen to each area do not at present exist sound planning data can be developed.

h. Conclusions that:

(1) Atomic Warfare has altered some of the Economics of War, to wit: Great losses can be sustained by an atomic attacker, provided he has put sufficient effort into the fray and as long as approximately 10% of his air-vehicles reach predesignated targets; conversely, a defender must destroy all atomic attackers.

(2) The introduction of such a mass destroyer makes cities particularly vulnerable to destruction.

(3) American cities are not immune from a similar fate as that of Hiroshima.

(4) The relative scarcity and cost of atomic materials must always govern their use to assure the greatest destruction dividends for expenditures.

(5) The possession of atomic weapons gives an attacker a tremendous advantage over a non-atomic defender. When both possess these weapons, the one having the greatest number and striking first and effectively will ultimately win.

(6) Finally, while not strictly within the purview of this study, the possible effects of unlimited atomic war upon the world, should give pause to all men to devise other means of settling international disputes short of destruction of the civilized human race.

APPENDIX B BACTERIOLOGICAL ATTACK AND WARFARE

1. History dramatically points out that disease has influenced many military campaigns and sealed the fate of nations. Some of the more striking examples include: the rise of the Mohammedan World due chiefly to the fact that Europe was in the throes of its worst plague epidemic; the failure of the Crusaders at the gates of Antioch and Jerusalem caused by decimation due to plague and typhus;[10] the decrescent legions of Napoleon from Moscow to Neumen. Not until the 20th Century is it found that, in any war, weapons killed more men than did disease.[6 7] Pestilence and famine are Apocalyptic and historic companions of war. These same scourges are the ones man seeks to harness for the purpose of waging more effective war.

2. The researcherron this subject is struck by the secrecy accorded many facts and theorems known to any bacteriologist or clinician. Further, this very secrecy has resulted in much rumor and misinformation being "scattered" to the public in "scarehead" publications. Based on this misinformation, there is damnation from many sources frowning on this " new and inhuman" form of war. The thought must be uttered at the outset that <u>all</u> war, since the discontinuance of heralds to announce challenges and the introduction of gunpowder, has been inhuman, perhaps varying in degree, but nevertheless "directed against humanity." This same hue and cry, for essentially the same reasons, arose after World War I regarding the use of chemicals. Later, in the Disarmament Conferences of 1922(Washington) and 1932(Geneva), it included bacteriological war in those deliberations. BW is not a new or strange phase of investigation. The earliest recorded use of it is Biblical. In more recent times, during the French-Indian War, General Bouquet intoduced smallpox among the Ohio Indian tribes and thereby decimated them.[8]

3. An inherent difficulty to the approach to this method of war is the lack of a comprehensive and authoritative study such as the Smyth Report[5] and the field tests of Hiroshima and Nagasaki. Estimates, then are based on laboratory and minor field tests and <u>are drawn from unclassified sources</u>.

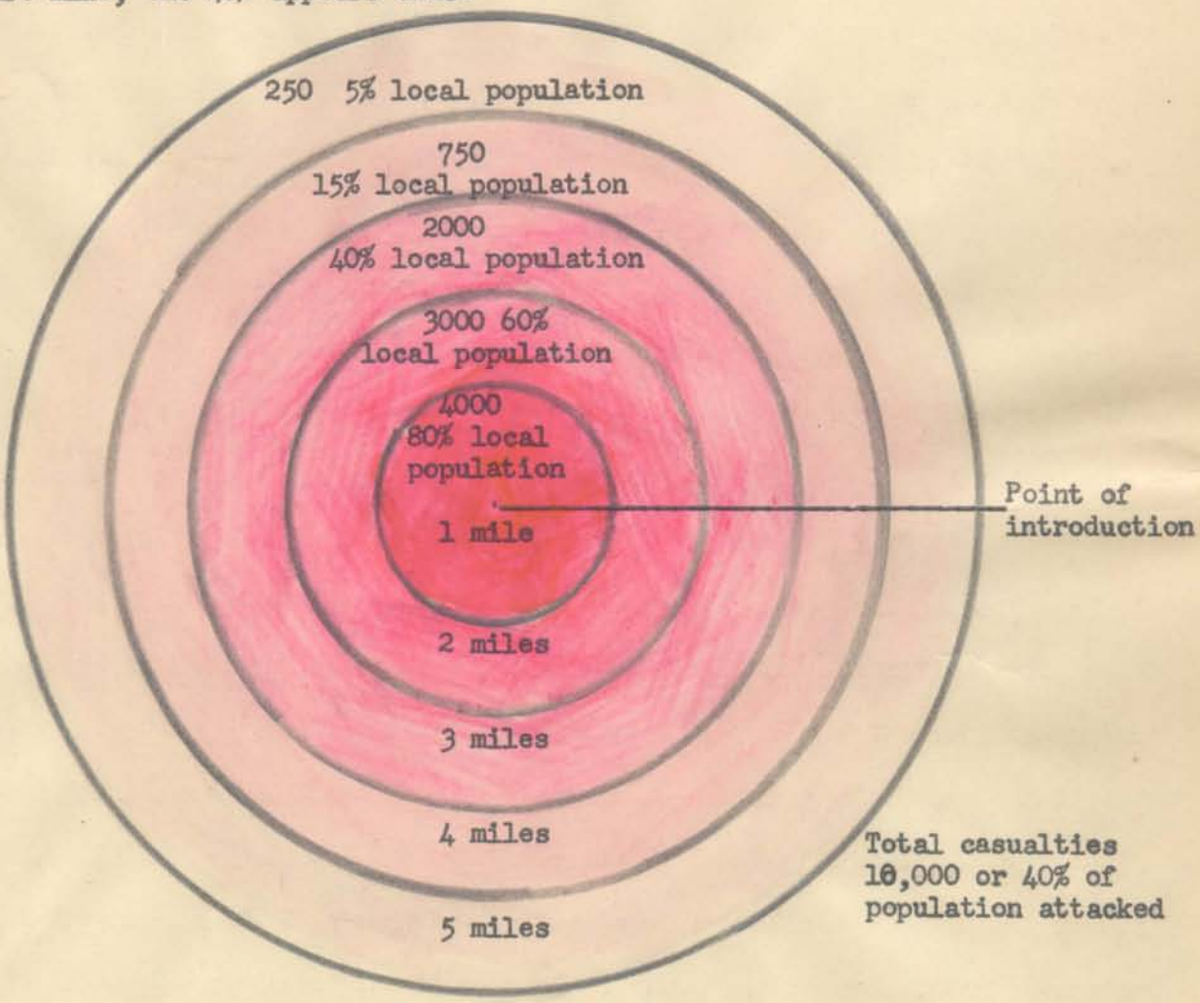
4. Theoretically, all the means of destroying growth, such as rusts and hormones (which grow an organism to death),and all the diseases and toxins that beset man and beast make up the field of BW. In actuality, the field is considerably narrowed by such practicalities as: the fact that many potent organisms live only a short time under the most ideal conditions; diseases are non-discretionary as to whom they attack and accordingly many otherwise splendid agents backfire on the user in the form of epidemics; most standard means of delivery, such as artillery shells and bombs, sterilize by their intense heats. Moreover, while there are many dead-

ly toxins "so potent that only a few drops would be required to kill the entire population of the U.S.",[11] no method has been devised to get the populace to line up to receive a lethal dose. Many statements are found to the effect that whereas other types of advanced warfare require huge industrial plants, BW requires only a small laboratory or brewery for the launching of a pathogenic campaign. It is readily apparent that such statements fail to visualize the engineering effort necessary to produce a successful weapon. It has been suggested that the same amount of money expended for the Atomic Bomb would have produced several as efficient BW weapons.[7] This is accepted as fact, for it points out the most essential phase of required BW activity— that of continuing and unlimited research in this field. This is further validated, at least inferentially, by the relative success of laboratory tests using "cloudlets" or aerosol for dissemination and growth-killers such as 2,4-D, which is now commercially distributed. While the statements are partially true that BW more than any other means of war tends to equalize great and small nations, they can only be wholly true as long as the great nation is scientifically stagnant and unaware.

5. From the standpoint of use of bacteria against humans, it must be used against population concentrations to be economical and effective. Since cities already represent primary tergets of war, this requirement is an added jeopardy to urban life. In cities, however, there is a first line of defense against such tactics in the form of a highly organized and effective Public Health System. Unfortunately, however, this line is not impregnable for the very areas that present the gravest public health problems because of overcrowding, poverty, ignorance, and generally insanitary conditions are also the areas where the greatest returns can be expected from the introduction of disease. With regard to a campaign against U.S. crops and livestock, this would appear to greatly increase an enemy's logistical effort since he would be destroying indigenous means of feeding his troops. These seemingly skeptical observations must be tempered, however, by the claims made for BW by experts who are familiar with the highly classified details.

6. Laboratory and field tests indicate that several agents have attained an 80% efficiency against animals (35% death—45% seriously ill with about a 50% death rate[19]. If only 50% of this efficiency were obtained against a given population, a very potent weapon would exist. For purposes of this study,it is assumed that an enemy can develop a BW weapon of 40% efficiency against humans(25% death,15% seriously ill with recovery) out to a 5-mile radius, effects starting 24 hours after introduction and reaching peak in 72 hours,without resulting pandemic or epidemic

conditions. On this premise, the casualties to be expected can be roughly charted in proportion to population density and propinquity; i.e. In an area of 1000 per square mile density theoretically 400 people would suffer throughout the area, yet actually it would be more nearly the 400 closest to the point of introduction, allowing for immunities, who would suffer with increasingly casualties in succeeding zones from that point. Example: a 5 mile radial area with uniform density of 5000 per square mile, the 40% appears thus:



Thus in a city of 1,000,000 population and an area of 60 square miles, if such a weapon were introduced into its most densely populated area, a zone of almost complete debility would exist immediately adjacent to the introduction point, with several surrounding zones with varying degrees of personnel immobility. It is emphacized that unless the agent were epidemic in nature only these one time casualties would occur. On the other hand, if the agent were to be epidemic the entire city and perhaps several neighboring communities could very readily be immobolized. A very recent example of the explosive characteristics of epidemics occurred about 23 September 1947 in the Cairo, Egypt area when cholera broke out in three villages and spread to 4000 villages in the Nile Delta to the port areas. In a four month period, 20,000 cases with a mortality rate of from 45%-50% were reported, with an unknown greater total unreported. Four factors appear to have kept this disease this low and out of Cairo, proper:

a. Early arrival and introduction of preventive measures.

b. Immunization of approximately 80% of population.

c. DDT spraying against the fly population.

d. Satifactory water supply and adequate sewage disposal system.[9]

7. The above epidemic example is only one of many that could be cited and is definitely not an example of BW but it does serve to illustrate some of the factors established:

a. An efficient and alert Public Health System is the first line of defense and offense against the introduction of bacteria.

b. The areas where that service is overburdened and least effective are those where the inroads of disease and epidemic are greatest.

8. CONCLUSIONS: While this can by no means be considered even an outline coverage of this subject, certain conclusions can be drawn:

a. Bacteriological Warfare is not the scarehead it has been portrayed by over-enthusiastic and/or misinformed columnists.

b. Future BW development will probably create an efficient weapon.

c. Continuing research is an essential in this field.

d. BW can be a two-edged sword, doing as much damage to the introducer as to those attacked.

e. A better informed public, through the media of factual, impartial, and unclassified data, is a must requirement.

[redacted] UNCLASSIFIED

APPENDIX C ATTACK FROM HIGH EXPLOSIVES, COMBUSTIVES, AND INCENDIARIES

1. World War II gives many graphic examples of the damage high explosives, persistent combustives, and incendiaries can cause to a city. While the many lessons learned from these mass assaults may result in better air and passive defense plans and operations, development of more efficient offensive means may, to a great extent, offset such improvement.

2. Like the other means discussed, cities also represent the most lucrative and primary targets for this agent of war. A defender can be expected to anticipate this fact and make such tactics so costly as to be prohibitive. The requirement is obvious, then, for a means of delivery either overwhelmingly superior to defense measures or so inexpensive as to make large losses possible. Faster aircraft with greater ranges and payloads are a partial answer to the first requirement, while the V-1 and V-2 are crude models of the answer to the latter..Better explosive and incendiary agents and more efficient fuels increase the efficiency of both. Using the V-1 and V-2 as a base and adding the generally reported rocket altitudes of 100 miles, a rough geometric projection indicates that present projectiles can theoretically attain distances in excess of 1500 miles assuming they have a capability of change of course at peak of flight to a 5° glide. It is conceivable that in the foreseeable future this distance can be pushed out to 3000 miles. The two major difficulties surrounding effective use of such means at this distance appear to be the present lack of accuracy and the fact that the weight of the fuel and the casing reduce the weight of explosive to an inefficient amount. This leads to the conclusion that any enemy, seeking to wage war by the use of guided missiles in the foreseeable future, would first have to secure bases on the approaches to the U.S. to bring his launching sites within effective range. Aircraft, on the other hand, appear to be on the threshold of the 10,000 pounds - 10000 miles category at this writing. This,in theory , brings most of the vital areas of the U.S. within range of any potential enemy. However, it also appears that as larger and faster bombers come off the development lines much faster fighters are already in being and probably, in turn, obsolescent because of blueprinted and tested models. This also leads to the conclusion arrived at above that an enemy would have to establish himself within range of the U.S. Such seizure should serve as a five-alarm warning to the U.S.

3. Assuming that an enemy can improve on World War II results from bombings and guided missiles, it may be anticipated that for every 5 explosive tons dropped on

[redacted] UNCLASSIFIED

a city 1 person will die and one person will be seriously injured. This will represent a tremendous increase in efficiency but is not unreasonable. The average for World War II was about 13 tons for similar casualties.[13] The results to be expected from an attack by these means is in direct ratio to tons effectivelydropped not aircraft or missiles launched. It is believed that Essen, Hamburg, Duisburg, and the fire strips of Tokyo and Yokohama can be duplicated or bettered in any future war. Any one of the cities attacked is fairly rpresentative with its fire gutted buildings, debris, charred bodies in the streets, relaxed dead from carbon monoxide in shelters , disrupted utilities, and utter chaos.[12] Strangely enough, and not as anticipated, such attacks resulted in relatively minor increases in communicable disease rates, although they did cause a grave drop in morale.

4. It is believed that this means of war is presently possessed by any potential enemy nation and, therefor, is one of almost immediate concern. It is not dwelt on in greater detail because of the wealth of material available, as well as the general knowledge on the subject. It amounts to the bringing of war action and casualties to civilian communities and the casualty tables for overall military effort have parallel application.

5. CONCLUSIONS that:

a. In the foreseeable future, an enemy seeking to wage war with high explosives, persistent combustives, or incendiaries, whether with aircraft or guided missiles, must first secure bases on the approaches to the U.S.

b. Such action will give the U.S. warning of intent.

c. This means is one presently in the possession of any potential enemy.

d. The dead European and Japanese cities of World War II can be equalled or bettered in the U.S., in a future war, unless U.S. airpower is modern, efficient, and sufficient.

APPENDIX D CHEMICAL WARFARE

1. Chemical Warfare since its modern application in World War I has occupied a position of dread and distaste in most minds unequalled until the Atomic Bomb drops of World War II and the scarehead releases on BW crowded it into a poor third. Its lethal portion an everpresent specter in any military plan of operation and its possible use against cities must be given equally adequate appraisal.

2. More than any other means herin discussed, with the possible exception of BW the use of chemicals is at the mercy of the elements. Winds, precipitation, temperature, altitudes and many other factors all have an effect on their efficiency of use. It is felt that CW is a relatively refined means of war, that is, research and development have produced agents that have known characteristics, and while they have not been actually used against humans, exhaustive laboratory and field tests give an index that applied conservatively to humans should prove fairly accurate. Volumes of research data and conclusions are available to the researcher and any complete coverage of the potential of CW would of necessity be voluminous.

App D Par 4 CW

3. It is not believed necessary for purposes of this study to detail the various known agents and the results they may be expected to produce. It can be safely assumed that a CW agent can be used against a population with an efficiency of 50% death. The fact that effective gas masks may exist and actually be in the hands of the populace may not appreciably alter this figure for civilians in European cities, so equipped, like American soldiers, discarded the gas mask among the first items abandoned. This fact may be due to faulty indoctrination or the failure of any great power to use toxic gasses. This is a major factor to overcome, if the use of toxic chemicals becomes imminent. With an effective air warning system, properly built shelters, and a properly trained and equipped population this 50% efficiency can be markedly reduced, however, each of these requirements represents a major and costly undertaking.

4. This means is also one believed to be presently in the possession of any potential enemy. It is subject to the same restrictions as the air vehicles that transport it. This premise is based on the fact that initial attack will most probably come by air. If amphibious assault on the US were to be successful, doubtful as is that possibility, in the initial stages, the variables previously discussed and the accuracy of use are the only limitations. It is not believed to

be especially suitable for use by subversive groups unless the U.S. ceases to have an effective Intelligence Service and an F.B.I. for it represents a major stockpiling task and another major achievement in release.

5. Conclusions that:

A. Effective Chemical Warfare is a grave potential presently in the hands of any potential enemy,

B. Defenses against CW with a marked effect on casualties, are or can be made available.

C. Preparation of such defenses represents a major and costly undertaking.

D. Early warning must be given as to the imminence of the use of toxic and persistent gasses.

APPENDIX E SUBVERSION

1. For the purpose of this study, subversion covers the entire field of subversive activities. It is well to throw off the mistaken concept of "cloak and dagger" picturization in approaching this subject. One encounters individuals whose heartfelt thoughts as to the welfare of the U. S. may be thought to be treasonable despite their good intent. Under the U. S. Constitution these individuals are free to exercise that freedom of thought and action. Perhaps, these individuals because of their honesty of opinion, persuasiveness and singleness of purpose, however perverted, represent the gravest danger to the U. S. "from within". Certain groups seeking political power, prestige, or advancing the aims of foreign powers seek to prey on the many minorities of the U. S. to create a constant cauldron of unrest. Many clashes of social position, monetary achievement, race, and religion, exist in the U. S. to serve as fuel for this cauldron. When the second group becomes allied with the first, and use the first for a front, a condition of red alert can be said to exist. Also when tools of this second group rise to high office a condition of danger to the U. S. exists.

2. The activities of subversive groups can be several:

a. Sabotage against vital areas, key industrial plants, or lines of communication.

b. Propaganda activities designed to split public opinion such as promoting pacificism, alliance with or acceding to the demands of a scheming foreign power, attacks against the Executive Dept., dissidende among minorities, and strikes in key industries.

c. Infiltration into key positions of government, labor, and industry.

d. Securing information vital to the defense of the U. S.

3. A well financed and organized group could cause a grave amount of damage to the war effort of the U. S. just prior to and during an actual attack by: political blocking of vital legislation; building a wall of public opinion against necessary national action; causing strikes and race riots; and assisting the attack by sabotage and other means.

4. Of the means of war discussed the following appear the most logical for use by subversive groups:

a. Radiological in the form of an air burst or shallow water burst in the epicenters of industrial and population centers.

APPENDIX E SUBVERSION (CONT.)

b. BW—by introduction of agents into crowded areas.

c. Explosives against rail centers, key industries, strategic stockpiles.

5. These by no means obviates the other effective methods that subversive groups might use but serve as a partial reminder that the bastion of the U. S. is only as strong as its public.

6. The defences against subversive groups are multiple but the more important include:

a. A well informed public headed by alert, conscientious and well informed Executive and Legislative Departments.

b. The corollary effective intelligence and counter-subversive activities.

7. Conclusions that:

a. Sabotage represents a potential menace to the security of the U. S.

b. It can be a very effective means of destroying morale, industry, and lines of communication.

c. Defense against it comprises a well informed public headed by an equally well informed seat of government both supported by effective intelligence and counter subversive activities.

APPENDIX F A VISUALIZATION OF AN ATTACK ON THE U.S.

1. There follows a vizualization,if the U.S. were attacked, of what could happen to the life we know as American. The dynamic presentation is sought to point out the inescapable fact that unless the U.S. is strong and vigilant "IT CAN HAPPEN HERE !" It is emphasized that what is described, while fiction, is based on a controlled imagination, that is, one arising from sound data, reports, bibliography, and personal investigations and the results portrayed are, for the most part, ultra-conservative. All names are fictitious.

2. Of the means of war previously discussed it is considered that their danger to the U.S.is of course in proportion to the amount of each agent a potential enemy has, his proficiency in their use, his means to deliver them, and the status of U.S. defenses. However, for purposes of summary the considered relative danger of each is listed:

a. Radiological-- perhaps not a real danger for 5-15 years depending on the advances made by other nations and the ability of the UN to bring it under control.

b. Bacteriological-- probably presently a potential danger.

c. High explosives etc — presently possessed byany potential enemy. The key that decides actual danger is the status of an enemy's development and manufacture of air-vehicles.

d. Chemicals-- presently possessed by a potential enemy with the same key to danger as high explosives.

e. Subversion-- is considered to be presently operating in the U.S., the degree is of relative unimportance. The fact that such groups may be in operation with immunity should serve as sufficient warning of the real danger this activity holds.

3. Scenario: Although strained relations have existed between the U.S. and Aggressor, a nation formed by remnant Nazis and Fascists ocsupying most of what was formerly Spain, North Africa, and Southern France , there have been no acts by either nation to provoke war. Pacifists in the U.S. have repeatedly blocked all attempts at definitive legislation designed to bring the U.S. defenses up to strength. At about 0800 13 May 1953, the Coastal Command reported to the National Defense Control Center that approximately 550 bombers of an unrecognized type were about 1200 miles off the coast of the U,S. and asked instructions. Similar reports of flights of from 300 to 700 new type bombers are received from warning stations along the coast from Presque Isle, Maine to Galveston, Texas. The Control Center from its composite reports that1100-2000 bombers are converging on the U.S. and

recommends to National Defense Headquarters that a full air alert be ordered. The National Defense Secretary has ordered the Air Force and the Navy to send out flights seeking positive identification and has asked The President to call out the National Guard and Class A Reserve units. The President is hesitant to do so without the consent of Congress. He has contacted the leaders of both Houses and asked for permission to speak to them in executive session with their meeting as a Committee of the Whole to expedite his urgent business. The meeting was set for 1000. At 0900, the Ambassador of Aggressor and the Assistant Foreign Secretary, who has been in this country ostensibly to mend relations between his nation and the U.S., presented themselves at the office of the Secretary of State, seek- extraordinary council with the Secretary and The President. The Secretary received them, calling the White House to make an appointment. They proceeded to the White House and are admitted to the President's Office at 0925. They presented their Chief of State's demands that the U.S surrender to Aggressor Forces who landed last night in the vicinity of Vera Cruz and are now poised on the Mexican Border or suffer the fate of Hiroshima. They explained that the bombers enroute to the U.S. are the latest type long range "Pinpointers" developed by their nation behind its security screen and that they carry the most modern weapons of death. Unless their demands are met by 1030 it will be too late to defer wholesale death and destruction to the U.S. The President asks them to wait until Congress is informed. The President presented Aggressor demands to both Houses at 1005 and asked for confirmation of a State of War. The motion is made from the floor to enact such a declaration but both Houses are thrown into a Parliamentary deadlock by refusals of Senator Lolo and Representative Aguirre to permit unanimous consent to such consideration. The Speaker of the House and the President Pro Tem of the Senate are vainly seeking order when the Chief of Staff of the Armed Forces bursts into House Chamber with news that the bombers have been engaged all along the coast and that New York is under attack. A House Clerk turns on his portable radio and fragmentary reports are pouring in from all over the East coast. Commentators outside New York, Baltimore, Detroit, Pittsburgh, Birmingham, Philadelphia, and Houston report tremendous explosions in and around the cities. The Washington Control Center reports several bombers approaching the city, all but three are intercepted and destroyed. At 1053 the assembled legislators are thrown from their seats as if a giant hand had lifted the floor and crushed the roof. Fire breaks out in the chambers. The President and the members of his cabinet are killed when the dome crashes. Only one or two legislators who were in the cloak

rooms are alive and they are seriously injured.

INITIAL OPERATIONS REPORT -- AIR ATTACK FORCES IN U.S.

FAIRFAX ARMORY, VA

FROM: Marshal in Chief Aggressor Forces U.S.A.

TO: Supreme Commandant Armed Forces Madrid, Aggressor.

1. Situation:

a. New York, Baltimore, Detroit, and Washington, D.C. attacked by fission according to schedule. Damage tremendous.

b. Pittsburgh, Birmingham, Philadelphia, and the Houston Area attacked by Block-blast at 1050. Severe damage reported.

c. St Louis and Chicago received Bio-blasts yesterday. Deaths reported.

d. Boston, New Orleans, and Charleston were attacked by Horrida Bella our new death gas at 1054. Reports are being received on results.

e. Our cooperators in the U.S. have destroyed all bridges over the Mississippi River and disrupted certain strategic bottlenecks on the Eastern Seaboard essentially as planned. All major Atlantic and Gulf ports were effectively neutralized by detonating atom ships in appropriate locations in harbors. Collaborators have seized the Atomic Plants east of the Mississippi River and await instructions. The remaining Atomic Plants will be destroyed before nightfall. Collaborators report that all is in readiness to destroy Armed Forces Command Centers throughout the U.S. (called Army Hq, Naval Districts, and Air Forces).

2. Enemy Situation:

a. Local commanders are devoting their efforts to succoring the various cities attacked. No control exists over the U.S,Armed Forces, although the Second U.S. Army has been vainly seeking to assume control. Local governing officials are thwarting all attempts at calling State Militia into Federal Service, by using them as state relief units. One "governor" has foolishly declared that he will defend his state every inch of the way. We shall give him an early opportunity.

b. Communications, transportation, in fact life, in general, has been completely disrupted in the Eastern half of the U.S.

3. Enemy Capabilities :

a. The two Regular Army divisions, in the U.S., are so understrength and so ill equipped for combat as to present only nuisance value. About ½ the Air Force in the U.S. has been destroyed and we are encountering minor difficulties from

air sorties from the western parts of the U.S. The Atlantic Fleet was largely destroyed in the harbors attacked. There is some possibility of the Pacific Fleet reinforcing the remnants of the U.S.Fleet in Atlantic and Caribbean waters. This will entail use of the Panama Canal or sailing around South America. Our timetable of seizure or destruction of the canal, appears to require amendment to this week. The latter course seems to be the one the U.S. will adopt as it has been aware of the vulnerability of the Panama Canal for years.

b. There are two U.S. Armies at Pacific and Alaskan stations and three U.S. Air Forces, similarly situated, that may at some future date attempt to come to the relief of the country. The continuance of our plans to seize cintrol of the entire country will constitute an effective blocking of any such attempt. They could not effectively support themselves nor land in any great front due to lack of transportation.

c. Ill equipped and untrained guerilla forces will probably spring up in the more inaccessible areas. They can be left to starve or be taken care of as control of local areas is consummated. Their potential is nil and only of nuisance value.

d. Estimate of forces:

(1) Army: 9 Divisions(2 continental U.S.5 Pacific) (& Alaska, 4 Natl Guard U.S,)			80,000
Miscellaneous sevice units same areas			15,000
Remnant Forces alltypes			20,000
		Total	115,000
(2) Air: 180 Jet Ftrs W of Mississippi		Crews	2,500
210 Ftr-Bmrs including trainers in SW & W U.S.		Crews	7100
300 Miscellaneous craft same areas		Crews	3,100
Miscellaneous sevice units			12,000
		Total	24,700 (incl trainees)
(3) Navy: 120 combat craft DE and larger 22 Caribbean (1 Battleship, 2 carriers 4 Hvy Cruisers)		Crews	6,000
Remainder Pacific and off Alaska (4 Battleships, 7 carriers 11 cruisers)		Crews	11,000
Shore Stations:			
2 Marine Divisions (1 San Diego 1 Pac Flt)			30,000
1 Marine Brigade with Fleets			8,555
Miscellaneous service units			38,445
		Total	94,000
		Estimated Air O/S	85,000
		Grand Total	318,700

e. Estimate of support: It is estimated that not over 7 days of supply exists inany one area for local troops. The two Atomic Plants remaining in enemy hands will be destroyed today. Stocks of other lethal materiel were destroyed during our attacks of eastern cities.

3. Enemy Courses Of Action: There is the possibility of the Pacific Fleet attempting to reinforce Atlantic forces. Air search has been established to obviate success. The Panama Canal should be seized this week to block this course of action. The enemy is apparently using all the air effort he can and the possibilty exists that he will attack our forces entering from Mexico using Atomic stocks. The arrival of our flash fighters this afternoon will markedly reduce this capability. There appears little for the enemy to do but surrender as he is in a hopeless situation. Collaborator forces are attempting to establish new regime governments. Radio reports from throughout the U.S. indicate that the populace is demoralized and ready to surrender.

4. Tabulation of Results of Attacks : Pursuant to instructions of Scientist-General Litso, Director of Strategic Assault, the first fragmentary reports are inclosed as indicated, as well as a summation by Scientist-Colonel Mage of my staff:

a. Atomic- Incl 1

b. Biological- Incl 2

c. High explosives and incendiaries- Incl 3

d. Toxic chemicals (Horrida Bella)- Incl 4

e. Summation- Incl 5

5. Recommendations:

a. The attack be continued as planned.

b. Panama schedule be changed to this week.

c. Additional staff officers and clerk-stenographers be allotted this headquarters to prepare the many reports required by the Manual of Procedures.

To the ingenuous victor go the fruits of conquest.

s/ Grandemio
t/ GRANEMIO
Marshal in chief
AggressorForces U.S.A.

Inclosure 1 ATOMIC ATTACK

UNCLASSIFIED

1. Franz Burter, Senior Leader, Collaborator Group of New York reports:

a. Manhattan is a shambles. Estimate 210,000 dead or dying.

b. Northeastern half of Brooklyn destroyed. About 375,000 dead or dying.

c. Bronx a raging inferno. Estimate 220,000 dead and dying.

e. No reports from other Boroughs. Waterfront on Hudson side completely wrecked from atom ships. Many areas in flames. The few exits from the city, remaining, are jammed with frantic people. More details as assembled.

2. Mauriz Thorez, Senior Leader, Collaborator Group of Baltimore reports:

a. Waterfront completely destroyed. Three major areas in and around city, are in a state of complete destruction and fires are fast making one zone of the three and are extending outward. Glenn Martin Plant demolished and Buzzard's Point gone. Edgewood Arsenal reported in flames from saboteurs.

b. First report only. Further details later. 105,000 dead.

3. ___ Rukker, Observer chief from Detroit Area, reports:

a. The Soo Locks are effectively blocked. All industries in the "U" of the Detroit River are demolished. Estimate about 75% of heavy industry. Smoke and flame obscure vision in two large areas in center and southern portions of city.

b. No estimate of casualties but if statistics are correct on the number of workers in the major effected area estimate 60% or 265,000 are dead. Have been unable to contact Collaborator Group Leader.

4. A flash broadcast must serve as the Washington report as no contact established. The Capitol, White House, all the downtown area from 18th and K Sts N.W. to the Potomac is a mass of flames, the Pentagon, and the Government Office Bldgs are a complete and absolute wreck. Over 200,000 reported dead. Investigators report that a bomb that exploded in the Potomac has so contaminated the Virginia exits that noone is permitted in the area. Anyone caught in the rain of 11 o'clock are directed to report to the emergency aid post in Falls Church.

UNCLASSIFIED

Inclosure 2 BIOBLAST ATTACK

1. St Louis morning papers report 6000 deaths overnight from a new and strange malady which has local doctors puzzled. Travel in and out of city prohibited. No further details at present as no reports available from our groups.

2. Carl Doenitz, Senior Medical Director of Great La kes Collaborator Group reports:

a. Bioblast "A" is very effective and has caused 19,000 deaths in Chicago in one day. Many others are ill with typical symptoms. Peak should be reached in 72 hours for an estimated 85,000. Local doctors do not recognize disease. Specialists enroute.

b. Bioblasts "B" and "C" have shown no signs of activity as yet. Not sure whether this is due to bungling or the nature of the bug. If "C" ever starts I am leaving this vicinity for I fear its epidemic potential despite your reassurances.

C. Our Leader and his group are manning the homing devices for the follow-up attack this afternoon. Do not believe this will be necessary if "B" and "C" get going.

Inclosure 3 BLOCK BLAST ATTACK

1. Sam Smoe, Asst Leader Collaborator Group of Pittsburgh reports:

a. Jon Smuk, our leader was killed while manning homing devices.

b. Open Hearth Area was effectively hit and fires are rampant. Electric plant and large surrounding industrial area severely damaged. Estimate 75,000 dead. Population in frenzy.

c. Our group on surrounding hills assessing damage. When do we take over area?

2. The report from Birmingham went off the air abruptly and contact gone. Fragmentary report:

Steel industries destroyed. Many fires. Estimate 25,000 *****

3. Phillip Jones, not listed on our master list, reported on our frequency and in our code as follows:

a. Philadelphia is a wreck. The Navy Yard and docking facilities on both sides are completely destroyed.

b. Philco plants and oil industries in flames. "Fishtown" a wall of flame. Estimate 165,000 killed.

4. The reports from the Houston area are several and we are not sure who reported as some messages badly garbled. Such as can be pieced together follows:

a. The hits on the cracking and Butadeine plants along the ship canal have resulted in a chain series of explosions and major destruction along the 30 miles from Texas City to Houston.

b. The city itself is not yet in serious danger although the Goose Creek west of the city is in flames. Deaths probably not over 15,000 but vital plants are either demolished or seriously endangered.

Inclosure 4 Horrida Bella

UNCLASSIFIED

1. A radio broadcast reports a tremendous explosion in the harbor of Boston which has destroyed the waterfront and all ships in the harbor. Commentators are presently gibbering about the many dead from a smoke laid down by some planes about 11 o'clock. Confused reports give anywhere from 12,000 to 100,000 dead. Believe something closer to the first figure more probably correct. No reports from our groups.

2. Francois Laumont, Senior Leader, Collaborator Group of Louisiana reports:

a. Harbor demoloished. Heavy precipitation immediately after release of Horrida Bella, our new death gas, accompanied by a strong wind has dispersed the gasses over a wide area. About 9000 people are very sick or dead.

b. People around waterfront are dying from strange malady, described as a series of hemorrhages from the mouth and nose. Several doctors describe it as possibly Radiological Sickness. More details later.

3. Norreliable reports from Charleston are available. The local radio stations went off the air after reporting that the harbor had exploded. Weather reports indicate that ideal conditions should have existed for the use of our gas. Am attempting to gain contact with our groups in the area.

UNCLASSIFIED

Inclosure 5 SUMMATION

1. Evaluation of the results so far determined brings out the singular fact that each agent employed has had remarkable success. This must be charged to the careful and painstaking plans we prepared for each area attacked. The conditions encountered were virtually as envisaged except at New Orleans.

2. Apparently our observers and collaborators were not instructed to look for Radiological Sickness in and around the harbor areas attacked by atom ship. This has been corrected and further reports are expected.

3. Based on fragmentary reports so far received, it is believed that original estimates were substantially correct. Life in the Eastern U.S. is in a turmoil and no safe haven exists. Greater returns from BW and CW can be expected in another 24 hours. The chaotic psychological state of the populace is receiving detailed investigation by staff psychiatrists.

4. Radiological attacks gave the greatest returns in death and destruction but apparently all atomic stocks are exhausted, which indicates that our gamble was close to failure. The HE and Fire attacks also returned great dividends.

5. The attack was assisted immeasurably by the homing devices and other actions of the collaborators and agents. They performed their jobs magnificently. Scientist-Major General Sella is expected in the near future. Several of his agents have reported in from their atom ship tasks and other duties.

6. Scientific Data Report for this period will be forwarded direct to the Director's Office by noon 20 May.

ANNEX 5

ANNEX 5 PRESENT RELIEF

ANNEX 5 PRESENTLY AVAILABLE DISASTER RELIEF AGENCIES

1. Periodically a major disaster occurs somewhere in the U.S, involving over 5000 people and almost daily minor disasters occur affecting 100-500 people. Conclusions as to the capabilities of the agencies charged with mitigation of disaster in the U.S. must be drawn from their operations in these peacetime disasters since actual combat conditions have not existed in the U.S. since the Civil War.

2. The first hours after a holocaust occurs have been likened unto a whirlwind of telephone calls, telegrams, and frenzied and flurried activity, often misdirected and harmful.[1] Pandemonium exists, confused and scared people are wandering around aimlessly, the immediate area is one of contrasting conditions of apathy and frenzy, and firm and immediate leadership is urgently required. Fire Departments, state troopers, sometimes National Guard units, and local Red Cross and other charitable organizations appear on the scene and,unless a representative of the local or state government is in control, a completely disorganized and uncoordinated series of actions take place that are often as disjointed and chaotic as the devestation they are seeking to alleviate. This frantic activity, regardless of its good intent, more often than not, brings about control of the situation only through sheer weight of effort and numbers, cessation of the disaster, or happenstance.[2]

3. The American Red Cross is the charitable agency authorized by Congressional Charter to relieve suffering and disaster should such occur in the U.S.[3] The Armed Forces are "on call" to assist in the relief of such emergencies at the request of the A.R.C. or local governments through the President in accordance with certain laws and specific Service regulations based on custom, Executive Order, or statutes. A local commander may act to alleviate such a distressing situation if the emergency appears to warrant such action. [4] Certain benevolent, fraternal, and charitable organizations spring to the assistance of personnel so affected and include: the Salvation Army, Y.M.&Y.W.C.A.S, Y.M.H.A.,KofC, KofP, American Legion, V.F.W., Masonic organizations, Elks, C of C, Kiwanis and other similar agencies. The responsibility for early and effective action rests, however, with the local and state governments. Many other groups get into action for particular types of accidents or disasters such as: State Mine Inspectorships and Bureau of Mines for mine disasters; Coast Guard for marine accidents; Indian Service and Forestry Service for disasters affecting their activities. The impression is gained of many people doing many things in many ways and not anyone sure of what is being done.

The outcome of such activity has fortunately been good but it is striking how aptly the old adage " Too many cooks spoil the broth" describes the situation.

4. Despite the claims made for the services rendered by the American Red Cross in the cataclysms of the past, examination discloses the fact that no major disaster has occurred in the U.S. that the A.R.C. was capable of handling without major assistance from the Armed Forces.Moreover, in the majority of past holocausts a branch of the Armed Forces was in operation in the area for several days before effective Red Cross assistance arrived. It is important to note that the early hours and days succeeding such catastrophes are the most important from a relief standpoint for it is during this crucial period that casualty rates are kept low, that areas are saved, suffering kept to the absolute minimum, and the disaster brought under control. The researcher must seek the answer as to why the A.R.C. is unable to cope with major disasters. 5

5. The bald fact is that the Red Cross is involved in so many activities such as social service work, job counseling, blood banks, Armed Forces welfare projects, and other community volunteer projects that its corresponding disaster relief organization must by limitation of budgetbe very small and consequently inadequate. This should not be construed as a statement that the A.R.C. does not perform a very necessary and almost daily task but rather indicates that as long as the disaster is minor or the A.R.C. performs within its capabilities it does an admirable job. The requirements for a well disciplined, trained, and organized activity with ability to live, operate, and bring order out of chaos in devastated areas of major catastrophes is simply too great an undertaking for an organization built around local volunteer chapters, loosely controlled by Regional offices and for the most part not equipped or manned to take over such an area. No such organization operating by sufferance or invitation in an area where civic control has failed or is absent and without control authority can hope to cope with the existant chaotic conditions.

6. What of the assistance the Armed Forces have rendered in these major emergencies? It has comprised such activities as: furnishing electric power for towns from naval craft or portable generators; feeding from field kitchens; operating emergency hospitals and first aid stations; evacuating sufferers by truck, train, small boats, and ambulance; fire-fighting and levee control; incidence control, clearing of debris,and erection of emergency shelter; police control of looting, traffic, and cordonment. In fact, it has covered everything from the periodic floods of the Mississippi River system and the perennial tornadoes and hurricanes

to such bizarre and tremendous catastrophes as the San Francisco disaster. In theory, because of disciplined manpower, field equipment, custom of coordinated control, and the existence in most headquarters of Emergency Plans, the Armed Forces are ideally suited for such operations and history records the relative ability of military units to so perform. It is true that many lives have been saved, much suffering alleviated or obviated, and many catastrophes brought under control more quickly by use of the Armed Forces. It is well to examine such heroics and look behind the scenes and see how it was performed rather than accept that this is the only way it can be done. The Army, Navy, Marines, Coast Guard, and now the Air Forces are only called into a devastated area when the situation is out of control and appears hopeless or when a forthright local commander, estimating the gravity of the situation, offers the service of his command. There is no automatic springing into action of a preformed task organization, trained and equipped to operate as a team in such emergencies. In most cases, people must be brought from their homes, ordered to revise existing plans, secure supplies, alert the necessary troops, arrange for transportation, proceed to the scene and find someone in charge or take charge, and finally go to work. It is inconceivable that the best commander with a superstaff could be expected to organize, equip, and transport a completely efficient organization to a disaster scenewithout some lost motion, under such conditions. Invariably the Army Area, Naval District, Air Force, or Coast Guard District must virtually suspend normal operations to bring the full weight of necessary effort into being. That the Armed Forces have been able to attain such a praiseworthy record under such circumstances speaks more for the commanders given the tasks, the existence of some type of Emergency S.O.P., and the training of military men to be prepared for emergency than for the premise that the military services are ideally suited for such duty. Rarely, does the group going into the area include any personnel with experience in such matters and accordingly it is difficult for inexperienced personnel to envisage the conditions that may exist and the role military forces carry out in such a situation. Fortunate indeed are units that have had benefit of a training program designed to create a disaster team or that have proper equipment available on call. 6

7. Admirable as have been all the efforts expended in past disaters, one must conclude that they may often be too little and too late. This does not descry such undertakings as Funston's relief of San Francisco, the Fourth Army's and Air Forces' assistance in the recent Texas City disaster, the Coast Guard's perennial activity in river floods and heavy seas, or the Red Cross's almost daily job of

relieving suffering haumanity. It simply points out inescapable fact that major disasters are not on the Planning Tables of any one organization in the U.S. capable of effective action and each one that occurs, results in a hastily assembled, jerry-rigged,and polyglot organization that somehow bring order out confusion and even under the most ideal of situations one that by its very makeup is doomed to bickering, misunderstanding, loss of effort, and generally uneconomical of the quantities of money, supplies, and manhours involved. This leads to the premise t that for the same amount of money and effort so profligately expended in a few major catastrophes the U.S. could better afford a single disaster relief agency capable of operating as such. What would happen if such disasters were the initial acts of war can be but conjecture, however, a choice would have to be made, under existing conditions, as to whether the Armed Forces would be diverted from their primary mission of defense and offense to mitigate such disasters or let the devastated areas be relieved by other means known to be inadequate. The dilemma is one to challenge the wisdom of the sagest of men for, on the one horn lies the dissipation of military effort at atime when the very existence of the nation may rest in the balance, while on the other horn the destruction of vital areas, loss of life, the grave suffering, and the loss of war potential presents a dire humane and economic problem that may have equal effect on the nation.

8. CONCLUSIONS: That

a. No effective disaster relief agency exists in the U.S. today.

b. Reliance on the American Red Cross to mitigate disaster must be reduced to the clothing, feeding, and furnishing of money grants to sufferers from disaster and allied activities not concerned with assuming control of an area.

c. Continued reliance on the Armed Forces for disaster relief, in the face of a possible future war in the U.S., is faulty in concept.

d. A single peacetime organization is required, with adequate funds, personnel, and equipment, to serve as a control agency and a cadre about which relief workers and organizations can be formed into an efficient organization.

e. Such an organization should form the nucleus for a wartime Civil Defense and Disaster Relief Agency.

f. Under such an organization, the Red Cross, other charitable agencies, and even the Armed Forces could then be responsible for services within their abilities.

g. Legislative action and statute revisions would be required to implement such an organization.

Reference Notes Annex 5

1. Article 4, Annual Report Hartford Fire Insurance Co. 1946.

2. Report of operations in San Francisco. Gen Frederick Funston 1906. National Archives.

3. 361 "Red Cross in Peace and War." 1941

4. "Military Aid to the Civil Power" by Major Casius Dowell. The General Service Schools.

5. Field Reports American Red Cross- Disaster and Destruction 1901-1946.

6. Conclusions drawn from 16 reports from commanders of military forces in disaster areas, Associated Press dispatches covering 9 major national disasters as found in the Kansas City Star and Times morgue, and from personal experience in five disaster areas as a part of a relieving force.

ANNEX 6

ANNEX 6 ESSENTIAL REQUIREMENTS OF A DISASTER RELIEF AGENCY

1. Disaster relief agencies are, in time of war, an essential activity of the broader civil defense organization. In time of peace it appears logical that they be organized to form the nucleus about which thw war organization could be erected. Since the major concern of this study is with the relief agency necessary to carry out essential war duties, the World War II activity in this field of the U.S.; Japan, Great Britain, and Germany is examined to determine essential requirements.

2. Great Britain's civil defense agency has been termed the most successful in operation during World War II. It furnished the pattern for the U.S. Office of Civil Defense. It had its birth in 1935 when the Home Security Office was authorized to take the people in its confidence and publicly announce the necessity to create a civil agency to minimize the consequences of possible attack. Thus was undertaken a difficult tas k- that of preparation of a peaceminded people against war not for war during a period when the cry was universal "Peace in our times". Numerous instructions were issued relative to gas defenses, air raid shelter construction, and similar data all issued to the people through Local Authorities(Town and County Councils headed by town or county clerks). In 1939 the Home Security Office was given Ministry rank and the Civil Defence Act made law, making certain proclamations mandatory and enforceable by local authorities. Crown representatives were designated and control decentralized to their regions for flexibility of operations. Later the fire services were nationalized because of the compelling requirement for quick standardization. Mutual aid was highly developed between communities. The one grave lack was failure to provide mobile reserves. Great Britain's organization furnishes six points to note:

a. The five year prewar period of preparation of the people for acceptance of an authorative program when it became vitally necessary.

b. The confinement of activities to protective services, to effective action to minimize the effects of hostile attack, and to the earliest possible restoration of communities to normalcy.

c. Authority stemmed from the central government, was decentralized to regions, from whence it flowed to local communities.

d. A strong nucleus of full time salaried leaders.

e. "Incident Control Officers"had complete command over all civil agencies in any effected area. This control existed from his arrival until the disaster was

mitigated and the community functioning or officially abandoned.

f. Manpower and materiel requirements were accorded priorities in the national resources structure.

3. Germany initially had the beginning of an excellent organization. Promulgations of its defense agency were law and implementation through a disciplined people required only a decree. However, the struggle for powers and political prestige by several of her top leaders soon had the system so divided that it is amazing that anything was accomplished. Goering dominated policy and techniques, developed self-help and the warning system, and organized the mobile reserves. Himmler maintained operational control through the national police. Several ministries supervised and controlled industrial protection. Hitler, Goebels, and National Nazi Party Headquarters reserved for themselves the relief and welfare services that increased their popularity. The principle of self help was so emphasized and such a rigid requirement of law that mutual aid was eliminated between individuals. Such mutual aid as was carried out was ordered through party channels. In early 1944 a tremendous undertaking produced hundreds of concrete bunkers, hospitals, and even reservoirs underground and started industries underground and in forest cover at a stupendous cost. Some of the most ingenious devices imaginable came from this effort. Mobile reserves were highly developed. Major lessons to be learned from German organization are:

a. The necessity for mobile reserves.

b. It failed because each progressive step was behind the new weapons and techniques of the enemy and because of top leadership bickerings.

4. Japan had almost seven years start on the rest of the world and by far the most receptive population. In 1931 Neighborhood Groups were holding mock air raid drills, putting out simulated fires and incendiaries, and generally providing a well disciplined, if ineffective, civil defense system. Despite the violent nonconcurrences of the military clique, the Home Minister prevailed upon the Emperor to issue decrees establishing air raid procedures, principle of self help, and protective services. Prefecture governors were required by Imperial Directive to personally be the chiefs of air raid protection in their regions. The machinery for an effective civil defense and relief agency was established. Its requirements, however, were diverted or forgotten through the efforts of the War Minister and the military clique, who considered it unthinkable that anyone could ever pierce their defenses. The Doolittle raid stepped up operations but their techniques were so outmoded that protective services and emergency measures were over-

whelmed. They developed very effective evacuation [redacted] for children and a major casualty prevention task was accomplished although the shelters were extremely crude. The three things to be learned from Japanese experience are:

a. Organization alone will not accomplish the tremendous tasks of civil defense and relief. Requirements must be given appropriate priorities in resources.

b. The principle of self help can be a tremendous asset.

c. Civil defense and disaster relief agencies must keep abreast of the latest developments and techniques of mass warfare.

5. United States Office of Civil Defense was created by Executive Order 6 months prior to Pear Harbor, operating under the Office of Emergency Management with an appointed nonsalaried director. Its assigned functions were vague and ambiguous and it had no power to direct. Of the sum of $100,000,000 appropriated, 85% was to be for equipment and materiel, 15% for salaries. Prior to its establishment many state and municipal governments and agencies of the Federal government had sent missions to Great Britain to study their system. As a consequence, programs of varying types and stages of development grew up all over the U.S. each patterned after the British system without regard to applicability and each exhibiting personal and local individuality. The U.S. defense system grew from the bottom up and the national agency had to be superimposed over this variance of effort and take into account States Rights. Initially results were desultory and ineffective and it was not until Pearl Harbor that cities and states passed war legislation that enabled civil defense operations. Regional offices were established to conform to Army Corps Areas. Confusion and misunderstanding arose because of the assistance rendered by the War Department and there was much belief that the military was in the chain of command. Guided and assisted by regional offices local syatems did evolve, auxiliary fire equipment distributed, auxiliary emergency units were recruited and organized. Practice drills and simulated air raids were carried out. At no time, however, was it visualized that mass raids might be undertaken. Of the 1400 O.C.D. employees 60% were engaged in the volunteer services promoting: nutritional surveys, rationing, consumer interest in substitute items, war bond drives, victory gardens, child welfare, day nursery care for children of war workers, and similar activities. The following is learned:

a. A tremendous volunteer mobilization of effort was accomplished butsits effects were dissipated through a major devotion of time and funds to activities that diverted effort from the primary mission of civil defense.

b. Authority was lacking and no clear lines of responsibility existed.

c. Inexperienced leadership and lack of advanced planning required hasty organization to fill unforeseen needs.

d. Acceptance of the principle of States Rights and municipality individuality, in the face of a national need, seriously blocked standardization, an essential to mutual aid.

e. There was no Federal and little state legislation to effect mutual aid agreements or to give force to basic methods of operation.

f. The major thing pointed out is that a civil defense organization must not be diverted from its primary mission no matter how seemingly beneficial the activity. 1,2+3

6. From examination of the various national systems can be deduced the basic and broad platform upon which a civil defense and disaster relief agency must be erected to be successful:

a. Centralized control and decentralized operations.

b. Authority must stem from the central government and flow through regional control and the community to the individual. Responsibilities must be clear cut.

c. Civil defense plans must be integrated with other national controland security plans.

d. Must have the compulsion of law.

e. Must be flexible and capable of immediate operation locally, regionally, or nationally. This requires a layer system of support built from the individual to the community to the state to the national government.

f. Emphasis of the protection of life and property, the responsibility of the individual and locality for self help and mutual assistance, and the subordination of selfish requirements to the welfare of the nation.

g. Must receive wholehearted public support. This places a concommitant responsibilty on the government to keep a well informed public.

h. Manpower and materiel requirements must receive priorities within the national resources structure.

i. Must considere that the military forces must be free to perform their primary mission of offense and defense.

7. Similarly the basic activities can be determined. Those marked with an asterisk are war requirements, the remainder comprise activities found necessary at any "typical" disaster:

a. Area control agency.

b. Area cordonment and traffic control.

c. Liaison with military, police, and fire agencies.

d. Supplies, both operating and reserve.

e. Guiding assistance.

f. Auxiliary fire details with locally available fire equipment.

g. Auxiliary police.

h. Mobile reserves.

i. Dissemination of air warning signals.*

j. Enforcement of light control.*

k. Emergency services:

(1) First aid and emergent hospitalization.

(2) Evacuation of both able-bodied and the sick and injured.

(3) Mass feeding.

(4) Shelter, protective as well as for displaced persons.

(5) Incidence control.

(6) Transportation and transportation control in, out, and within area.

(7) Rescue service fitted to meet local and area needs.

(8) Debris clearance.

(9) Water purification.

(10) Communications and utilities restoration and opearation.

(11) Mortuary service.

(12) Bomb disposal.*

(13) Radiological detection, decontamination, and monitoring.*

(14) BW detection, decontamination, and toxin teams.*

7 (15) CW protection and decontamination.*

(16) Transfusions and blood collecting teams.(probably only feasible in war although great need often arises in peacetime disasters)

8. It is readily apparent from the above that no such organization presently exists nor could it evolve in a few weeks. A tremendous training, organizational, and logistical effort would be necessary before even the peacetime skeleton could ensue. This is apparently realized by the U.S. Secretary of National Defense and the leaders of Great Britain for boards have been appointed in both countries to study the problem. It is to be noted that no provision is made for counter-subversive activities in the civil defense organization. This is based on the conviction that the security of the U.S. is properly the responsibility of existing agencies. Perhaps the responsibilities of the several agencies and the civil defense organization would require definition with positive assurance of coordination and mutual assistance.

9. It is all very well to cite estimates of 200,000 killed, 300,000 injured, 20 city blocks destroyed and say an organization must be developed to cope with such a situation. This gives no conception of the prodigious effort required to mitigate such a disaster. At the outset, it might be well to point out that realism would probably soon force upon such an organization and the people a radical departure from present beliefs, to wit: the dead and the poorest live risks would have to be left until the salvageables were cared for. To the cry of "inhuman" there is the grave consideration that it is far more inhuman, from the broader concept, to waste time and effort on the dead and unsalvageable at the expense of the living with good chances of survival and restoration of activity. Such a decision could and would not be administered lightly but would require a control decision similar to that of a field commander who knowingly sends men to their death in one small sector in order that the greater force may proceed unhampered and win the campaign. Similarly,hopeless areas would probably be abandoned to devote the necessary restoration and definitive effort required in salvageable areas. Serious as is the conflict of this concept with present codes of ethics, it need not result in hopelessness, despair, or immoral implementation, for, if it is soundly administered and explained to the people it can result in devotion to the common good. It will require the soundest of leaders and the best of public education. An index to the logistical effort involved may be gained from a comparison the E.T.O. medical service at peak and the estimates of one of theses tragedies. At peak, E.T.O. hospitals(U.S.) had 198,500 patients with over 200,000 Medical Department personnel caring for them.[4] While no such wealth of trained medical personnel could be expected to be made available for a single devastated area, if one half this number could care for twice the number of casualties a stupendous organization problem arises for just one area. If ten areas are considered the figure soon reaches more than all the trained doctors, nurses,technicians and other medical ancilliaries available in the U.S. The problem of space to care for such a number of casualties, alone,is staggering. Other essential services would in like manner be inundated. It is obvious, that in a future war, each individual will have to carry out an assigned mission in accordance with his or her capabilities and that service as we now know it must be the minimum essential to support well being, if the requirements of the nation are to be met.

10. What type of organization would best carry out the above responsibilities?

a. The American Red Cross? It has been brought out that this quasi-public charitable organization performs many necessary and ideal services to the people

and furnishes help and assistance in times of stress. The relative inability of this agency to cope with the major disasters of peace would obviate any consideration that they might be able to cope with war disasters. Such an organization does not lend itself to the rigid controls necessary in such circumstances. They very ably can fill the void of reclothing, relocating, and otherwise assisting suferers and evacuees from devastated areas. They can operate communty blood banks, furnish other assistance in line withtheir major peacetime activity of communal service, and furnish experienced personnel to national and local defense agencies but their role in war disasters must definitely be a supportive one.

b. An existing governmental agency? Few if any of the agencies could absorb or adopt this organization without a feeling of getting a strange and foreign bedfellow. Indeed, its activities would be strange to all but the security group of agencies with whom it would have to intimately coopezate. No independent agency now in operation could take over its function and survive in its present activity. This eliminates all but the present Department of Defense which by inference and partial charter has deep and compelling interest in such activities. Further, since the security of the nation is a primary directive to this agency, and the war potential that civil efforts present is of major concern to the N.D.E., it is a logical sub-activity of that department. This is further discussed below.

c. A duplicate of the Office of Civil Defense? The lessons learned from the activity of this organization in World War II are so graphic as to require little if any elaboration on the resoundingly negative answer to this question. So faulty in concept and so robbed of authority it could not hope to be overly successful. Tremendous personal effort on the part of its heads must have been the elixir that produced the results obtained for nothing in its charter or anything granted it by law assisted it in carrying out what could have been a grim mission.

d. A group of governmental agencies coordinated by the top civil defense agency? Undoubtedly any agency created will have something of this in it for the ramifications of civil defense and disaster relief are too broad and encompassing to be wholly and completely a single agency activity. However, the very essence of coordination is often compromise. Compromises are more often than not a middle course of action that is not necessarily the best. Therefor by connotation such an organization would be doomed to endless conferences, bickering, divided responsibility, and inefficiency.

e. Department of N ational Defense? The overall problems of waging total war

are so inseparable as to appear almost one. Logically protection of the nation should be the responsibilty of one agency. The N.D.E. is the primary agency concerned with defense and protection therefor it appears the best agency to assume responsibility for this activity. It is cautioned that this activity can not be a part of an existing service but must be coequal in order that its demands may receive impartial hearing and its plans made a part of the overall defense program. Moreover, its directorship and components must be wholly civilian for the activity in which they will be engaged will have great bearing on the everyday life of the civilian population. Therefor, the approach to the civil populace must be civilian and the planners of civilian activity must think as civilians to assure that what is planned is not inoperable from a civil standpoint. Even the best and most broad minded of military leaders could not be expected to meet these requirements. Since, control of the military by civil heads is an enunciated principle of our government, nothing but misunderstanding could result from attempted control, in turn, of an activity reaching into the home of each individual in the U.S.by a military force. The envisaged framework and an outline of enabling legislation comprise Appendix A.

There are undoubtedly many other answers to this problem that are as good or better than that devised. The conviction is voiced,however, that this is the best organization that can be developed in the near future and in a democracy that can carry out its difficult and manifold responsibilities.

11. Conclusions: that

a. The experiences of national defense and disaster relief agencies of World Wra II furnish several noteworthy pitfalls to avoid as well as the essentials of such anagency.

b. Four essential steps or periods are necessary to establish a successful national defense and disaster relief agency:

(1) Education of the people.

(2) Designation of central authority.

(3) Formulation of plans and initial work.

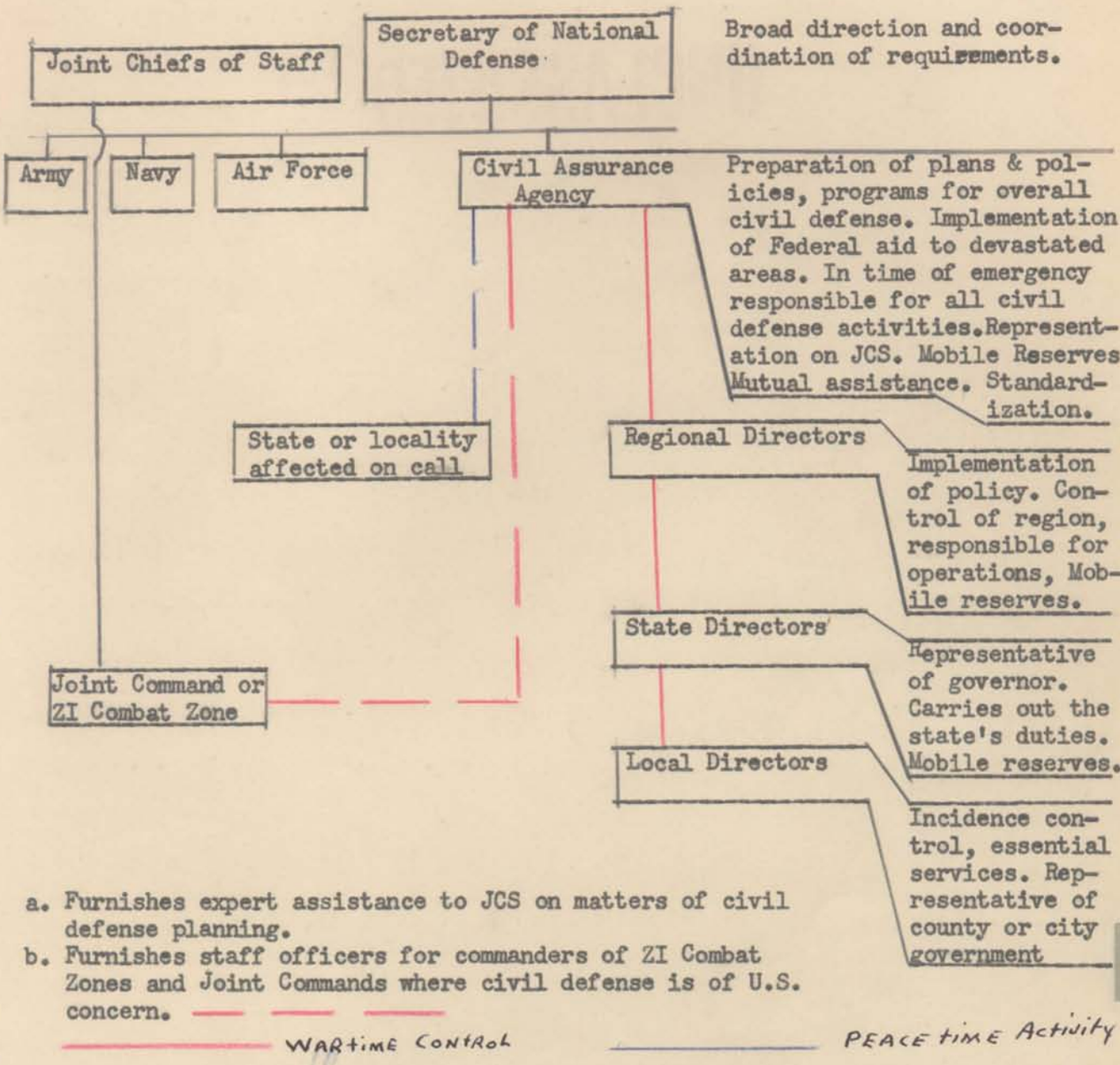
(4) Full scale development.

c. The broad policies and the basic activities of this agency can be evolved.

d. No governmental agency exists capable of assuming this responsibility without augmentation and enabling legislation.

e. By reason of its responsibility for closely allied matters, the Department of National Defense is deemed the most appropriate agency to assume such duties.

APPENDIX A ORGANIZATIONAL CHART AND LEGISLATIVE OUTLINE



a. Furnishes expert assistance to JCS on matters of civil defense planning.
b. Furnishes staff officers for commanders of ZI Combat Zones and Joint Commands where civil defense is of U.S. concern.

App A Ann 6 CHART

Legislative outline:

1. Passage of a law creating a peacetime disaster relief agency to carry out Federal Aid to devastated areas and to assume control of all agencies in area.

2. Repeal or amendment of existing statutes and charters of charitable agencies that are in conflict.

3. A corresponding law or section of above law establishing the wartime responsibilities of this agency for civil defense and outlining the responsibilities of states and communities for appointment of directors in the system.

4. Repeal or amendment of any existing statutes in con flict.

Reference Notes Annex 6

1. Final Report of Civil Defense Division, U.S. Strategic Bombing Survey (drft)Europe
2. Final Report of Civil Defense Division, same agency, covering Japan.
3. Five years of civil defense- A Final Report of O.C.D. 1945
4. Records of Office of the Surgeon General of the Army.

Paragraphs 1-5 are drawn from"A Study of Civil Defense" the report of the War Department Civil Defense Board released February 1948 as amended or modified by reports 1-3. This study was invaluable inthe form of a summary of the systems discussed.

UNCLASSIFIED

1 June 1948

MEMORANDUM FOR: Lt Col F. Skelly, Research Advisor, School of Logistics.

SUBJECT: Classification of Logistical Study.

1. Inclosed is logistical study "Logistical Implications of Civilian Disaster Relief."

2. It is recommended that this study be classified "Restricted". There are two lifts or almost quotes from the Navy Radiological Safety Manual, which (Confidential) is returned by hand. They appear on page 13(page 1 App A to Annex 4) and page 14, par 3 same appendix, and are so noted. The same information is covered by the Smyth Report, Oliphant, Dr. Lapp before several courses in Atomic Energy although perhaps worded just a little differently.I have used the first quote before in talks on Atomic Energy— it was written by Col DeLorrimer U.S.A. who worked on this manual at Bethesda and had previously furnished me reference data— it was then Restricted. These two elements of the document can not be said to be a part of the reason it is Confidential.

3. Since I have deliberately steered away from classified data, perhaps to the detriment of the study, I would hate to see the study more highly classified than Restricted because of two minor references. I am retaining my copy for use during my oral presentation, would appreciate early notification of action on classification, full well realizing that this is in the nature of a last minute request. If the above recommendation is not approved, I will cut out the two references and classify my copy Restricted, unless otherwise instructed. No other Reference Notes are higher than Restricted.

Concur
Col Concur
Asst Comdt Sch of Log

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