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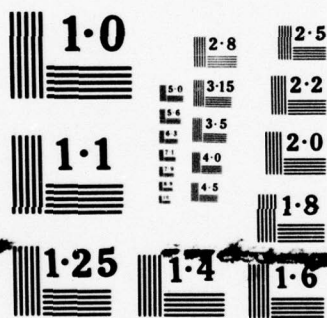
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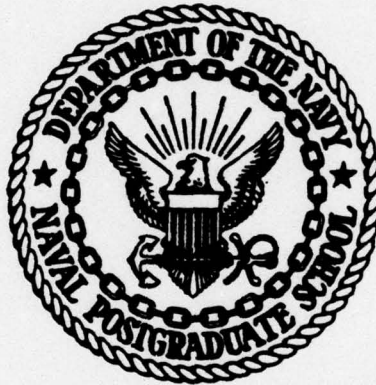
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Civil Defense in the United States

by

Theodore Eleftherios Tzavellas
Lieutenant, United States Navy
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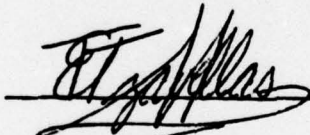
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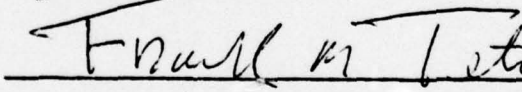
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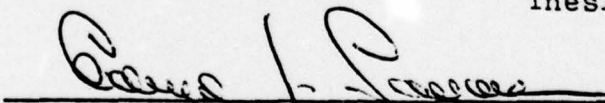
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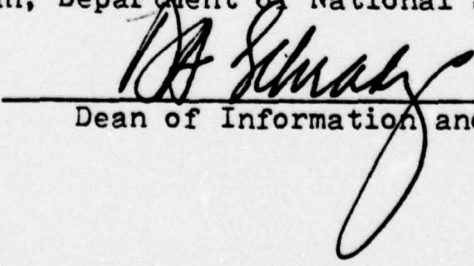


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ABSTRACT

This thesis analyzes Civil Defense within the context of its contribution to United States national political and military strategy; reviews its acceptance by and utility to the American populace; and promotes some recommendations and conclusions which may be useful to future discussions of the topic. Included in the thesis and interspersed throughout are references to the present level of Soviet Civil Defense preparedness and capabilities based on the most current and complete unclassified data available.

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I. INTRODUCTION

Within recent years there has been a resurgence of interest and discussion concerning nuclear war. These thoughts have centered on the subjects of the Soviet will to strike, the possibility of American strategic inferiority, about detente, about how the terror of nuclear war can be balanced the better to avoid the terror, and, lastly, about the role Civil Defense takes in pondering the unthinkable.

A. OBJECTIVE

The objective of this thesis is to analyze Civil Defense within the context of its contribution to national political and military strategy; to review its acceptance by and utility to the American populace; and to promote some recommendations and conclusions which may be useful to future discussions. Integral to this thesis and relevant to its objectives is the status of Civil Defense in the Soviet Union. As such, references to the present level of Soviet Civil Defense preparedness and capabilities will be acknowledged based on the most current and complete unclassified data available.

B. US CIVIL DEFENSE THEORY AND ITS DEVELOPMENT

The theory of United States Civil Defense has undergone several permutations since the basic Federal Civil Defense Act of 1950. The United States all but abandoned the idea of a strong, coherent passive defense against nuclear attack

after the strategic missile began to replace the aircraft. In the 1950's, when the United States still enjoyed unquestioned nuclear superiority and when bomber attacks whose approach could be detected hours before they could strike American cities were the only strategic threat, there were active plans for evacuation of the cities, but the speed and apparent invulnerability of the missile erased the margin of warning time which made them seem realistic.

Strategists reasoned that attempted evacuation with warning time measured in minutes rather than hours would create uncontrollable mass panics, adding to casualties instead of reducing them. Protection of urban populations against nuclear blast and fire were deemed as too expensive. By the early 1960's the emphasis was thus shifted to providing defense against radioactive fallout. Civil Defense teams surveyed urban structures and stocked them with survival supplies.

Active public interest in Civil Defense has been predictably inspired at times of acute international tension such as the Cuban missile crisis of 1962, but in this era of détente with the Soviet Union the possibility of nuclear attack is far down the list of potential disasters.

This thesis supports the conclusion that the necessity for a viable Civil Defense still exists. But in order to fully understand its role, however, one must attempt to understand United States nuclear strategy.

II. NUCLEAR STRATEGIES AND CIVIL DEFENSE

A. MUTUAL ASSURED DESTRUCTION

The concept of mutually assured destruction (MAD) prevails in United States nuclear strategy today. Secretary of Defense Harold Brown has frequently made statements indicating his belief in this strategy¹ as has Paul C. Warnke, chief United States SALT negotiator.²

This concept holds that an enemy will not strike if he knows that the retaliation would be devastating beyond words. As defined by Richard Pipes, its propositions are:

1. All out nuclear war is not a rational policy option, since no winner could possibly emerge from such a war.
2. Should the Soviet Union nevertheless launch a surprise attack on the United States, the latter would emerge with enough of a deterrent to devastate the Soviet Union in a second strike.

¹Question and Answer Session with Secretary of Defense Harold Brown, at National Press Club Luncheon, Washington, D.C., Wednesday, May 25, 1977; Statements by Secretary of Defense Harold Brown concerning Civil Defense --- following Seminar on Defense Issues, at the University of Rochester, Rochester, New York, April 13, 1977.

²Mr. Warnke's philosophy of nuclear strategy is commonly known and can be found in numerous of his works as those referenced in this thesis bibliography.

3. Since such a retaliatory attack would cost the Soviet Union millions of casualties and the destruction of all its major cities, a Soviet first strike is most unlikely.³

Commonly, the theory of MAD is joined with the assertion that missiles should be aimed at enemy population centers rather than at strictly military targets so that the warheads threaten to kill the maximum number of people. The greater the potential megadeaths, the greater the deterrence.

Mutual vulnerability is therefore a condition of strategic nuclear stability --- "if each side offered its vulnerable population and industry as hostage to the other, neither would dare to attack."⁴ United States policy has been to "avoid the development of --- major damage-limiting capabilities through active and passive defenses. Restraint, it was hoped, would demonstrate to the Soviets that the United States did not intend to threaten their capability for assured destruction, and that, accordingly, their basic security was not endangered ---."⁵ The 1972 treaty limiting antiballistic missile systems and the Interim Agreement relating to strategic offensive weapons were based primarily on this mutual vulnerability to retaliatory attack concept.

³Pipes, R., "Why the Soviet Union Thinks It Could Fight and Win a Nuclear War," Commentary, v. 64, July 1977.

⁴Report of Secretary of Defense Donald H. Rumsfeld to the Congress on the FY1978 Budget, FY 1979 Authorization Request and FY 1978-1982 Defense Programs, p. 63, Government Printing Office, 17 January 1977.

⁵Ibid., p. 78.

More recent indicators of the support which the doctrine of mutual assured destruction receives are the current presidential administration's attempts to incorporate the issue of Civil Defense into SALT negotiations. As revealed by President Carter in March, 1977, discussions with the Soviets were concluded whereby

we (the Soviet Union and the United States) agreed --- to study the means by which we could mutually agree on forgoing major efforts in civil defense. We feel that the Soviets have done a great deal on civil defense capability, but we would like for both of us to agree not to spend large sums of money on this effort.⁶

There are many aspects of this equation of mutually assured destruction that are challenged by other strategists. One of the glaring anomalies is that the Soviet Union has never accepted any limits, implied or otherwise, on the measures it takes for defense of its own population.

In World War II, the Soviet Union lost 20 million of its population of 170 million, about 12%;⁷ yet despite that the country emerged stronger politically and militarily than it had ever been. Such figures are virtually incomprehensible to most Americans. Since 1775 deaths from all the wars in which the United States has participated are estimated at 650,000⁸ --- fewer casualties than Russia suffered in the 900 day siege of Leningrad in World War II.⁹ Clearly, a country that since

⁶Presidential Documents: Jimmy Carter, 1977, "SALT Negotiations With the Soviet Union," 30 March 1977.

⁷The World Almanac, 1977 p. 330.

⁸Idem.

⁹Pavlov, D., Leningrad 1941, p. xiv, University of Chicago, 1965.

1914 has lost, as a result of two world wars, a civil war, famine and various purges, perhaps up to 60 million citizens¹⁰ tends to assess the rewards of civil defense in more realistic terms.

Growing out of this experience, Soviet Civil Defense is a pervasive compulsory national program with a direct line of command from the Ministry of Defense down to the local level. The population is treated as a valuable war asset and there are, by most estimates, elaborate plans to evacuate workers from industrial cities to rural areas where they would be safe from nuclear blast and fire, but near enough to commute back to rebuild and run damaged installations.

It should be noted that one of Lenin's most oft-quoted statements in the Soviet Union, that

The first production force of all mankind
is the worker, the toiler. If he survives,
we shall save and rebuild everything.

has obvious impact on the scenario envisaged by Soviet Civil Defense planners.

Even allowing for some inevitable overestimation in analysis, Soviet Civil Defense seems to be a formidable program whose main tasks, by the Soviets' own pronouncements, are to protect the population during war; to increase the stability of the functioning of the national economy in wartime; and to eliminate the consequences of an aggressor's attack

¹⁰The World Almanac, various

on peaceful cities and villages.¹¹ Clearly, the emphasis placed upon saving the population should lessen the United States' belief in the Soviets' adherence to the MAD strategy.

B. COUNTERFORCE

A second approach to nuclear strategy is that typified by a policy of counterforce. This theory has its foundation in the theories of the nineteenth century strategist, Carl von Clausewitz, who defined victory as the destruction of the enemy's battlefield positions. The counterforce theorists contend that war has not significantly changed since the last century; the battlefield has simply grown. War is still, as it was for Clausewitz, an extension of policy by other means.

Although counterforce strategy tends to be more complicated in its details than that of MAD, it is most easily comprehensible with its central idea that the key to security is the ability of United States weapons to survive a nuclear strike and to be capable of destroying the enemy's nuclear force. Opponents of the counterforce strategy argue that attempts by each side to attain the capability of annihilating each other's nuclear weapons would lead to a growing arms race and make launching a first strike extremely tempting for fear the other side would launch one first.¹²

¹¹Literaturnaya Gazeta (Literary Gazette) interview with General of the Army Aleksey Ivanovich Radziyevskiy dated 19 January 1977 as quoted from "Soviet Press, Selected Translations," n. 77-3 (March 1977), USAF Intelligence, Directorate of Soviet Affairs. (emphasis by thesis author)

¹²Hoeber, A.M. and F.P., "The Case Against the Case Against Counterforce," Strategic Review, v. III, p. 54, Fall 1975.

Despite such criticism at the time, James Schlesinger, while Secretary of Defense, incorporated counterforce strategy into United States nuclear policy when he initiated the tactic of "flexible response" whereby American war plans ranged from firing one missile to firing them all, at a variety of targets from economic centers to Soviet missile silos.

The basic premises of counterforce strategy --- the concept of selective targeting, limited nuclear war, and the prospects of surviving and even winning a nuclear war seem to have increasingly gained a dominant position within Soviet nuclear strategy since 1953 when Georgi Malenkov fell from grace in part by arguing that nuclear war would destroy civilization.

Soviet nuclear strategy seems to include in its initial targets not the enemy's cities but rather his military forces and command, control, and communications facilities. Its primary aim is not to destroy civilians nor to undermine the will to resist insomuch as it is to destroy the capability to do so. In the words of Grechko:

The Strategic Rocket forces, which constitute the basis of the military might of our armed forces, are designed to annihilate the means of the enemy's nuclear attack, large groupings of his armies, and his military bases; to destroy his military industries; (and) to disorganize the political and military administration of the aggressor as well as his rear and transport.¹³

¹³Grechko, A.A., Na strazhe mira i stroitel'stva Kommunizma (Guarding Peace and the Construction of Communism), p. 41, Moscow, 1971.

Assuming that the Soviet Union adheres to the belief that winning a nuclear war is possible, which indications seem to intimate, then Civil Defense becomes to them a factor of strategic significance. In the May 1974 issue of Military Knowledge (Voyennyye Znaniya), General of the Army Viktor Kulikov wrote:

Civil defense is of extreme importance in matters of preparing the nation for defense. In interaction with all the services of our armed forces and under single military command, it supports the vital activities of the state in modern warfare conditions.

III. SOVIET CIVIL DEFENSE

It is clear from the open literature that the Soviet Union has for more than a decade devoted substantial effort to planning for Civil Defense, making significant improvements in their capability to protect the populace from the effects of nuclear war. These improvements must have been considered both significant and successful, for on 16 February 1977 General A.T. Altunin, the Chief of Civil Defense, was promoted to General of the Army.

It appears that the mainstay of Russian Civil Defense are the rather detailed crisis evacuation plans which the Soviets have developed. These plans give the Soviets the ability to move the bulk of their urban population to surrounding rural areas, during three to five days of severe crisis, and to

develop a reasonable degree of fallout protection for evacuees and rural residents.¹⁴

Recent studies indicate that an evacuated population, with reasonable protection against fallout, has very low vulnerability against nuclear attack. Models including such factors as American weapons expected to survive a Soviet first strike and the portion of Soviet evacuation areas that could be subjected to blast or fallout levels high enough to overcome reasonable levels of protection, have shown that once Soviet cities are evacuated, and shelter developed in rural areas, it would be impossible for a United States retaliatory strike, however configured, to substantially or even significantly increase Soviet fatalities, regardless of any retargeting of American strategic offensive forces.¹⁵

The potential effectiveness of Soviet evacuation was assessed by the Joint Chiefs of Staff as follows:

Under optimum conditions, which include a period of warning --- and successful evacuation and other preparations, Soviet Civil Defense measures could probably --- reduce prompt casualties among the urban population to a small percent.¹⁶

As derived from the calculations of the most current analysis available to this author, "if the Soviet Union

¹⁴This conclusion is based upon analysis of open source Soviet literature conducted by this author and by such noted authorities as Leon Couré, Harriet Scott, and T.K. Jones. Their most recent works are referenced in the bibliography.

¹⁵Jones, T.K., Effect of Evacuation and Sheltering on Potential Fatalities From a Nuclear Exchange, Boeing Aerospace, 1977.

¹⁶Congressional Record, Proceedings and Debates of the 95th Congress, First Session, v. 123, n. 16, 28 January 1977.

evacuates and shelters their population per their established plans, its losses in a full-scale nuclear war with the United States would be about four percent, or ten million people, about half of their World War II losses" and that a "six-fold increase in the U.S. surviving arsenal would be required to raise Soviet losses to the twenty percent level."¹⁷ (TABLE I)

There are also other dimensions of Soviet Civil Defense effectiveness in addition to the ability to protect the general population by crisis evacuation. The Soviet Union does not regard Civil Defense to be exclusively for the protection of ordinary citizens. It is also intended to include protection of the political leadership and of the economic base, the latter including the industrial managers and skilled workers, which will help in re-establishing the political and economic system once the war is over. Soviet Civil Defense not only plans to limit casualties but also to administer the country under the stresses of nuclear war and its immediate aftermath.

The Soviets continue to add to their existing Civil Defense capabilities. Since 1974, they have improved and increased shelter designed to protect the general population in-place with significant blast protection in the event of a sudden outbreak of war or a rapidly escalating crisis that precludes sufficient time to evacuate the cities. Although the extent of this program is not precisely known, there is evidence which suggests that there is now a considerable

¹⁷Jones, T.K., op.cit., p. 3.

amount of shelter beneath apartments and elsewhere, with construction increasing at an accelerating rate.¹⁸

In summation, in the opinion expressed by the Joint Chiefs of Staff in Congressional testimony given in January 1977, under "optimum conditions," Soviet Civil Defense measures could probably:

1. assure survival of a large percentage of the leadership necessary to maintain control;
2. reduce prompt casualties among the urban population to a small percentage; and
3. give the Soviets a good chance of being able to distribute at least a subsistence level of supplies to the surviving population, although the economy as a whole would experience serious difficulties.

IV. UNITED STATES CIVIL DEFENSE

In light of the overwhelming evidence regarding Soviet Civil Defense capabilities, it would seem prudent that the United States should develop an enhanced Civil Defense to include a program of evacuation for two reasons:

1. to be able to respond in kind if the Soviet Union attempts to intimidate the American government in a time of crisis by evacuating the population from its cities; and

¹⁸ Interview with Mr. Don Hudson, Hazard Evaluation and Vulnerability Reduction Division --- DCPA dated 22 June 1977.

2. to reduce fatalities if an attack on United States cities appears imminent.

As Leon Goure states, "the credibility of deterrence in the nuclear age depends not only on a country's strategic offensive capability but also on its ability to convince itself, and especially its enemy that it can survive a nuclear war and, therefore, that it can rationally threaten to resort to war if this proves necessary."¹⁹

According to Herman Kahn, "any power that can evacuate a high percentage of its urban population to protection is in a much better position to bargain than one which cannot do this. There is an enormous difference in the bargaining ability of a country which can, for example, put its people in a place of safety in 24 to 48 hours, and one which cannot. An unprepared government will have a poor chance of forcing a prepared government to back down."²⁰

A. JUSTIFICATION FOR IMPROVED CIVIL DEFENSE

Given the present level of Civil Defense preparations, the United States is at a severe disadvantage. If, by some type of measures, casualties could be reduced to a third or fifth of what they would be under present circumstances, this could well save the whole national structure from collapse, and make the risks of an attack upon the United States far outweigh the probable gain.

¹⁹Goure, L., War Survival in Soviet Strategy, p. 6, University of Miami, 1976.

²⁰Kahn, H., On Thermonuclear War, p. 213, University Press, 1960.

Improved United States Civil Defense would redress in part the present assymetry in population vulnerability, with potential for a disparity in fatalities of up to ten to one should a nuclear war ever occur. Many feel that the possibility of such a large disparity in fatalities, should an extremely grave crisis arise, would not enhance prospects for equitably resolving the crisis by negotiations. Improved Civil Defense, by contrast, could contribute to equitable resolution of a grave crisis, in that the potential vulnerability of the two populations would be more nearly equal.

Unless the American government can be assured that nuclear war is unthinkable for the Soviet Union --- and all indications are otherwise --- it must be made survivable for the United States.

Within the framework of this goal, the Defense Civil Preparedness Agency (DCPA), reached these basic conclusions in the early 1970's:

1. An attack upon the United States would very likely be preceded by a period of international tension or crisis. This could constitute strategic warning and provide time for protective actions to be taken.
2. If an attack should occur, the primary enemy targets would probably be United States missile sites and other strategic military installations.
(TABLE II)
3. Blast and fire would endanger mainly people living or working in areas near military targets.

4. Extensive fallout shelters exist throughout the United States and more are being identified.

5. It may be feasible, when an international crisis threatens to result in a nuclear attack, for residents of high-risk areas to be temporarily relocated in small town and rural areas, where nuclear weapons would not be targeted, provided these people could be protected against radioactive fallout and provided with food, water, and medical care.

B. CURRENT CIVIL DEFENSE PROGRAM

The current-level United States Civil Defense program stresses protection of the population in case of nuclear attack upon the United States. A nationwide effort which began in the 1960's identified some 230 million fallout-protected spaces in larger existing structures, and planning from the mid-1960's to date has stressed use of such shelters to protect the population "inplace" --- that is, at or near to residences, schools, and places of work.

Crisis buildup actions ("surging") are currently relied upon to develop or to bring to readiness many of the elements that would be required for operations to protect the population in-place under attack conditions. Requirements for "surging" include stocking shelter spaces with food and water; marking buildings with shelter signs; training shelter managers, radiological defense officers, and radiological monitors; developing local readiness to conduct emergency operations;

and providing training and education for the public on survival actions. Reliance on crisis buildup actions has been necessitated increasingly since the latter 1960's due to program and budget decisions.

It is not possible to predict with precision how well the current Civil Defense system would function in an attack occurring after one week, one month, or one year of crisis buildup action. Many variables would affect the performance, one of the most important being the promptness with which national authorities decided that buildup actions should be undertaken, as well as the effectiveness of state and local officials in implementing such actions. However, DCPA estimates that if a large-scale attack occurred after an intense crisis of about one week, the current Civil Defense system would result in adding some twenty-five to thirty million survivors, that is, in total survival of about 105 to 110 million, based on protecting the population in-place.²¹

C. CRISIS RELOCATION PLANNING

A second option for population protection is much more recent. This concept, still being refined, plans for the contingency of Crisis Relocation Programming (CRP) --- defined as the evacuation of high-risk areas when a nuclear attack threatens, and the temporary relocation of the residents of those areas into small towns and rural sites, called "host areas," where nuclear blast and fire effects are not likely

²¹Jones, T.K., op.cit., p.32.

to occur. The basic rationale behind CRP is that it has a lifesaving potential of some 70 to 80 million additional lives for a total survival of nearly 180 million in a large-scale attack.²²(TABLE I)

The crisis relocation option includes state and local planning for:

1. Allocation of risk-area populations to appropriate host areas.
2. Host-area reception and care, including provision of fallout protection and preparation of standby emergency information materials for the public.
3. Logistical support for relocated people.
4. Risk-area operations including initial relocation of people, security measures to keep essential industry in operation in the risk areas, and furnishing of best-available blast protection for persons who would be in the risk areas in the event of attack. Workers in key industries which must operate during a crisis period would be relocated, with their families, to close-in host communities from which they could commute to work during the crisis period.

Crisis Relocation Planning has peacetime as well as war-time value. It can be used to protect people not only from nuclear blast and fire, but also from the effects of slowly

²²Ibid.

developing natural disasters, such as hurricanes and flood; certain types of peacetime accidents, such as those resulting in the release of harmful or lethal fumes or chemical agents into the atmosphere or nuclear power plant mishaps; and threats from terrorists who, using purloined fuel from nuclear power reactors, fashion a nuclear device in an extortion attempt involving the threat to detonate a nuclear device in an American city.

This crisis evacuation capability, when fully developed, is to provide an option or alternative to in-place protection. The latter will continue to be essential, however, because it is possible that the decision will not be made, during a crisis, to execute evacuation plans or --- if the decisions were finally made --- that time available before attack would permit only partial evacuation of risk areas.

The most critical requirement, therefore, is that the National Command Authorities determine that the United States is not only involved in a crisis which may escalate to nuclear attack, but that the potential severity of the crisis makes it essential that Civil Defense buildup actions be commenced, despite the economic costs and domestic and international impacts to be anticipated. Once this decision to evacuate the population is made, it is essential that there be time enough before the potential attack to generate the Civil Defense capabilities planned and that state and local authorities make highly effective use of the time available. This effectiveness is a function of the adequacy, extent, and status of planning.

DCPA's present estimate is that completing contingency planning for crisis evacuation will require some eight years. An initial, low confidence capability is expected to be attained within about three years.²³ This includes identifying host areas to accommodate evacuees from each risk area, as well as preparing preliminary, public information materials for crisis publication on "where to go and what to do" if evacuation is advised by national authorities. This preliminary planning will be followed by development of more detailed plans covering host-area operations to provide food, lodging, fallout protection, and other necessities for evacuees; as well as risk-area operations to keep essential industrial services in operation.

Special solutions for areas such as the Northeast urban corridor, the Great Lakes area, and California probably will require a minimum planning time of nothing less than five years,²⁴ due to the need for host-area shelter data to accommodate the large numbers of people affected. The larger cities in these most heavily urbanized parts of the United States contain about half of the population of all the country's risk areas²⁵ (TABLE III) and the potential total effectiveness of crisis evacuation will be affected substantially by the nature of the plans to be developed for them.

²³Interview with Mr. William Chipman, Deputy Assistant Director for Plans ---DCPA dated 20 June 1977.

²⁴Ibid.

²⁵The World Almanac, 1977.

V. CIVIL DEFENSE AND PUBLIC OPINION

It is relevant to ask whether one may realistically expect Civil Defense to be improved during a period of increased tension or even whether public opinion will support efforts to enhance Civil Defense. Civil Defense is the element of national security most closely related to the citizenry, for Civil Defense readiness must be developed where the people are, in jurisdictions throughout the country.

When aroused by international events, public opinion is extremely volatile. High points of public concern occurred in the late 1940's and early 1950's, during the 1961 Berlin crisis and during the Cuban crisis in 1962. The public's very understandable and sensible concerns during crisis periods center on such questions as, "What should I do?" or "Where is my shelter?".

During periods of low tension, in contrast, the public is passive. Attitude surveys over a period of two decades show that while people do not hold intense views on the subject of Civil Defense, they are nevertheless strongly, almost overwhelmingly, in favor of the program. Nearly 90 percent of the public favors Civil Defense; all kinds of Civil Defense --- fallout shelters, blast shelters, evacuation/relocation. Few government programs, if any, command such a broad base

of popular approval. Civil Defense, in fact, is an issue on which something akin to national consensus exists.²⁶

But it is also clear that the public regards Civil Defense as a primarily governmental responsibility, not an individual exercise. People associate Civil Defense with national defense, and have great faith in the Federal Government's judgements. Indeed, they believe that what needs to be done is being done.²⁷

The near-consensus attitude does not apply to a convinced and vocal minority of a few percent. Opposition sentiments are couched in a broader ideological conception of the world's strategic environment. Reinforcing philosophical attitudes are popular notions about nuclear war. Opposition is usually related to peace or war issues, completely independent of civil preparedness questions. Civil Defense is futile to some because it cannot promise to save all. Or the post-attack environment is believed to be too hostile for human survival. At the other end of the spectrum are those who fear that defense can be made too effective, or may appear so. This, it is feared, may make nuclear war "thinkable" --- to the decision makers and perhaps to the population at large.

It would appear that the question of what Civil Defense program the United States should have is an issue for decision makers. In normal times, the issue will be one of low saliency for most people, and little is likely to be heard save

²⁶Defense Civil Preparedness Agency Report 17, Civil Defense and the Public, by R. L. Garrett, revised December 1976 and American Institute of Public Opinion, Gallup Opinion Index -- Report Number 19, "Perceptions of Civil Defense," February 1977.

²⁷Ibid.

from from among that small percentage who are opposed in principal to the program. There is certainly little likelihood of popular clamor or public demand for Civil Defense --- barring a severe crisis. As President Kennedy observed in 1961, "Those matters have some rhythm; when the skies are clear, no one is interested. Suddenly, then, when the clouds come --- after all, we have no assurance that they will not come --- then everyone wants to find out why more has not been done."²⁸

Whatever decisions are made should be arrived at, it would appear, in the knowledge that the public believes that "the government is taking care of Civil Defense." This is similar to the situation in other defense related areas, where little is ordinarily heard from the public at large with respect to whether there should be a new weapon system developed for the inventory. It is not dissimilar to many issues at the local level, where, in the absence of evidence to the contrary, the public assumes that the local government is "taking care of" police and fire protection and other such municipal activities.

²⁸Kennedy, J. F., speech presented before Congress dated May 1961 excerpted from "In the Event of Catastrophe," broadcast on PBS 15 February 1977.

VI. CRITICISMS AND REBUTTALS OF CIVIL DEFENSE²⁹

Concern is sometimes expressed that a revived Civil Defense program will lead to alarm, anxiety, or despondency among the public at large. In fact, the Civil Defense program can be, has been, and undoubtedly should be conducted in an orderly, non-dramatic, and low-profile manner. A program much more ambitious than the current one can be conducted in as similar a manner. People have too many other concerns to become particularly aroused over occasional news of Civil Defense activity, and all evidence is that if they do notice such an item, they will approve, inasmuch as it is something they expect the government to be doing.³⁰

Unfortunately, some of the present governmental leaders who should be concerned about Civil Defense view it quite differently than what the general population does.

In response to a question concerning Soviet Civil Defense, following a seminar on defense issues at the University of Rochester on 13 April 1977, Secretary of Defense Harold Brown said, "I don't think there is any chance in the world that you could do that kind of a (Civil Defense) program in the

²⁹The criticisms presented are not characteristically attributable to any particular persons. They are, however, indicative of general arguments encountered by the thesis author and are presented as such.

³⁰American Institute of Public Opinion, op.cit.

United States and that says something good about the United States, in my opinion, and it says something bad about the Soviet Union that they can do it."

During the same session, while answering another question on United States Civil Defense structure since 1960, Harold Brown responded:

In this country, there was a substantial effort to get Civil Defense underway as a way of reducing the casualties should a thermonuclear war take place in the early 1960's. In every event, it turned out that the elaborate manuals that were written and distributed, the efforts to make shelter spaces, the possible plans for evacuation, came to very little. I believe that is because it is very difficult, and this is not saying something bad about our society, maybe it's saying something good about it, to produce the kind of discipline and control that would go with, I won't say a successful Civil Defense program because I'm not sure that any Civil Defense program of reasonable magnitude would be successful in allowing the country to recover from a thermonuclear attack, so I won't say producing a successful Civil Defense program or an effective one, but in producing a large scale one that the citizens actually subscribe to and train under and are prepared to use.

There is little likelihood of the dramatic, even the melodramatic, impacts upon society apprehended by those opposed to Civil Defense for the United States, sometimes extending to visions of "compulsory Civil Defense," or even of a "garrison state." A moderate but effective program does not have inherent in it potential for much drama, let alone melodrama.

Another criticism that has been advanced is that crisis relocation plans for the United States would be ineffective without a willingness to rehearse plans on a large scale, involving the public in practice evacuations. It has been suggested that without rehearsals, chaos or panic would ensue

at the time of implementation. In fact, experience in actual evacuations is to the contrary. The effectiveness of operations is a function of the competence of planning, and the degree to which plans, once developed, have been rehearsed in periodic exercises involving only key officials of government. What is important is to conduct exercises simulating implementation of evacuation plans, involving the local and state officials who would be responsible to make the plans work. Experience in disasters that have been studied intensively is that the population wants and seeks guidance from their governmental leaders in times of stress, and that the great majority will act in accordance with official instructions.³¹

There have been many major evacuations from such threats as hurricanes and floods, and these have been routinely successful despite the fact that there have been no rehearsals before the fact involving the public. Hurricane Audrey in 1957, for example, killed some 590 people in Cameron Parish, Louisiana.³² This stimulated hurricane evacuation planning, and when Hurricane Carla threatened the Gulf Coast in 1961, the plans were implemented and between half and three-quarters of a million people were moved inland from coastal areas in Louisiana and Texas.³³

³¹Defense Civil Preparedness Agency Report 17, op.cit., p. 17.

³²The World Almanac, 1958, p. 55.

³³The World Almanac, 1961, p. 122.

Yet another criticism of Civil Defense and Crisis Relocation Planning arises from an underlying belief that the impact of an attack on industry, food processing, and other economic assets would be so great that even if most of the population did survive the attack, the nation could not recover and regain the status of a twentieth century military and industrial society. This view is sometimes dramatized in observations to the effect that a Civil Defense system effective in adding survivors could result in an attacked nation having too many people, or in being "people-rich." However, both postattack recovery studies and post-World War II experience in Japan, West Germany, and the Soviet Union have shown that the skills, knowledge, and motivation of the surviving population are what is most important for recovery rather than industrial plant.³⁴ Because reconstructing the preattack economy would initially require large amounts of less-skilled labor before higher technology industries could be restored, postattack recovery must indeed be based on being "people-rich."

Lastly, the point is sometimes made that there is no need to enhance United States Civil Defense because deterrence, based on American assured retaliation capabilities, will not fail. The thought is sometimes added that should Soviet leadership appear not to understand the potential impact of American assured retaliation, all that would be necessary would be to disabuse them of such false perceptions, apparently

³⁴ Joint Committee on Defense Production, Ninety-Fourth Congress, Second Session, "Industrial Survival and Recovery After Nuclear Attack," 18 November 1976.

by more clearly explaining these capabilities to them. It is apparent that indeed it would be prudent to enhance United States Civil Defense because of the possibility that deterrence could fail, due for example to an irrational attack, a miscalculation, an accidental war, or a war of escalation. Deterrence is in essence the state of mind of Soviet leaders and it is not impossible that they could calculate (or perhaps miscalculate) that they could emerge from a nuclear exchange with not unacceptable losses, regardless of the clarity with which United States assured retaliation capabilities had been described to them.

The Joint Chiefs of Staff have noted that should deterrence fail, "to the extent escalation cannot be controlled, the United States objective is to maximize the resultant political, economic, and military power of the United States relative to the enemy in the post-war period."³⁵ If the objective of American offensive forces, should deterrence fail, is to retard Soviet ability to recover more rapidly than the United States, and to maximize American post-war power relative to the enemy it would make sense to improve Civil Defense, to enhance American survival --- thereby helping to maximize American post-war power and thus contributing to attaining the same objective as that set for American strategic offensive forces.

Some proponents of Civil Defense adhere to the concept that improved Civil Defense certainly can and perhaps should be

³⁵Congressional Record, Proceedings and Debates of the 95th Congress, First Session, v. 123, n. 17, 31 January 1977.

justified in its own right, without regard to the strategic balance. Civil Defense is thus seen largely as a hedge against the failure of deterrence and as decoupled from strategic considerations.

As defined in the Federal Civil Defense Act of 1950, Civil Defense embraces measures to reduce the impact of enemy attack upon the United States, including protection of both life and property. On 8 June 1977 the United States recommitted itself to this principle on an international level by adopting the Protocol Additional to the Geneva Conventions of 12 August 1949 Relating to the Protection of Victims of International Humanitarian Law Applicable in Armed Conflicts, held in Geneva. Upon consideration and approval of the government, as a signatory, the United States (as does each party) "shall, to the maximum extent feasible --- endeavour to remove the civilian population (meaning its own civilians) --- from the vicinity of military objectives ---"³⁶ The Federal Government has always had a constitutional duty to provide for the common defense and protect people from hostile threats. Moreover, Civil Defense should be provided because of the fundamental importance and value accorded to the individual under American moral and ethical values.

In May 1961, President Kennedy said that his administration had been "looking hard at exactly what Civil Defense can and

³⁶Diplomatic Conference on the Reaffirmation and Development of International Humanitarian Law Applicable in Armed Conflicts, Draft Additional Protocol I, Article 51 adopted by Committee III, 14 March 1975 quoted from memo CDDH/CR/RD/83 dated 1 March 1977.

cannot do. It cannot be obtained cheaply --- " but "Civil Defense can be readily justifiable --- as an insurance for the civilian population."³⁷

VII. RECOMMENDATIONS

A. INCREASED BUDGET

Within the context of President Kennedy's statement lies the gist of the first recommendation which this author views as necessary to developing a viable Civil Defense. Just as with any other insurance, the cost is fairly high. The scope of the protection which Civil Defense can offer makes the price seem exorbitant --- PONA II estimates the cost at 12 billion dollars or 50 dollars per person. But the return is also high. With a nation-wide evacuation plan and an updated fallout shelter program, 93 percent of all Americans could survive a nuclear attack. Today's Civil Defense budget is approximately 90 million dollars or about 50 cents per person. Although different studies have derived different estimates, all are beyond reach of this budget. Clearly an increase in funding is required.

B. PROTECTION OF INDUSTRY

Another aspect of American society whose survival in war can be greatly enhanced but which has been largely ignored by Civil Defense planning is the industrial plant of the United States. The current United States Civil Defense planning does

³⁷Kennedy, J. F., loc.cit.

not include provision for physical protection of key industrial equipment. The reason is that until very recently, it appeared that such protection would be prohibitively expensive. Estimates indicate that the cost of protecting all industry in the United States is 2 to 3 billion dollars, half the price of insurance against other hazards which industry maintains.³⁸

During 1976, Boeing Aerospace Company developed and tested techniques for protecting industry by actions that could be taken during several days of severe crisis. The essence of the Boeing work is that simple measures could dramatically enhance the survivability not of an entire plant but rather of the critical equipment within the plants. For example, covering large machine tools with polyethylene and then either sandbags or loose earth could provide protection against blast overpressures of from 40 to 80 pounds per square inch (5500 to 3750 feet from a typical one megaton Soviet weapon),³⁹ as well as against fire (which was the primary damage agent at Hiroshima and Nagasaki). Preservation of the equipment would permit resumption of production within several months, as protection from the elements was improvised and other arrangements made, for example, for provision of electric power and other inputs to production.

³⁸Jones, T. K., Industrial Survival and Recovery After Nuclear Attack, Boeing Aerospace Company, 1976.

³⁹Davis, L. E. and Schilling, W. R., "All You Ever Wanted to Know About MIRV and ICBM Calculations But Were Not Cleared to Ask," Journal of Conflict Resolution, v. 17, p. 214, June 1973.

In view of the importance of industry to post-attack recovery, Civil Defense planning should incorporate the necessary procedures for protection of industry. This can be accomplished by the following recommendations:

1. Local area industries designated as vital due to the need to continue operating during a crisis should take an active role in Crisis Relocation Planning, in order to provide for commuting by pre-assigned key workers.
2. Major corporations should work to adapt and apply the Boeing concepts and approaches for countering nuclear weapons effects. Preparation of a plan showing in specific detail how to protect the facility by actions to be taken during a crisis are necessary.

Additional research should be undertaken on strategies and approaches for industries where expedient (crisis) hardening techniques do not appear as promising as in the case of industries where machine tools are central to production. It does not, for example, appear that crisis hardening with earth or sandbags would be feasible for refineries, but there are other approaches which could substantially enhance prospects for post-attack recovery --- such as expedient production techniques for post-attack use, innovative storage measures, and drastically modified usage patterns.

For example, post-attack substitution possibilities might include greater reliance on diesel fuel which can be produced using simplified refining techniques. Also, certain long lead

time items could be hardened during a crisis or dispersed from risk areas. Innovative storage might include use and dispersal of tank trucks and railroad tank cars.

Similar preparations should be made for other industries such as steel and industrial chemicals. The proper combination of protective, recovery, and use-pattern measures would be different in each industry. The problems are many, but not insurmountable. The coordinated planning for protection and recovery of industry would yield rewards greatly in excess of costs should the need for their implementation ever arise.

C. CIVIL DEFENSE AND SALT

As indicated earlier in this thesis, President Carter has directed United States negotiators to include Civil Defense issues in future SALT agreements. This is perhaps unfortunate.

Arms limitations and disarmament are quite consistent with Civil Defense, for both attempt to reduce the level of destruction of wars. But while the United States may gain through symmetrical or parallel offensive weapon reduction, it would not be as likely to gain through symmetrical or parallel Civil Defense limitations. Indeed, the opposite is more likely to be true. There may be a sound basis for United States/ Soviet Union cooperation, but not control or limitation, in Civil Defense. Were the United States more effectively provided with Civil Defense capabilities, inspection requirements for future arms control agreements could be reduced and comprehensive arms control would be made more feasible and therefore more

likely --- for a well-defended country is not so vulnerable if an agreement is violated.

The administration's comments regarding Civil Defense raise the question of whether agreements can be negotiated with the Soviets to prevent their plans for Civil Defense from being a destabilizing factor in measuring the East/ West balance of power. If one is to believe the recent intelligence reports and, indeed, even President Carter's own admission, it is obvious that nothing short of a unilateral dismantling of Soviet Civil Defense would succeed in establishing a Civil Defense parity. Such an expectation must surely be included in the category of "wishful thinking."

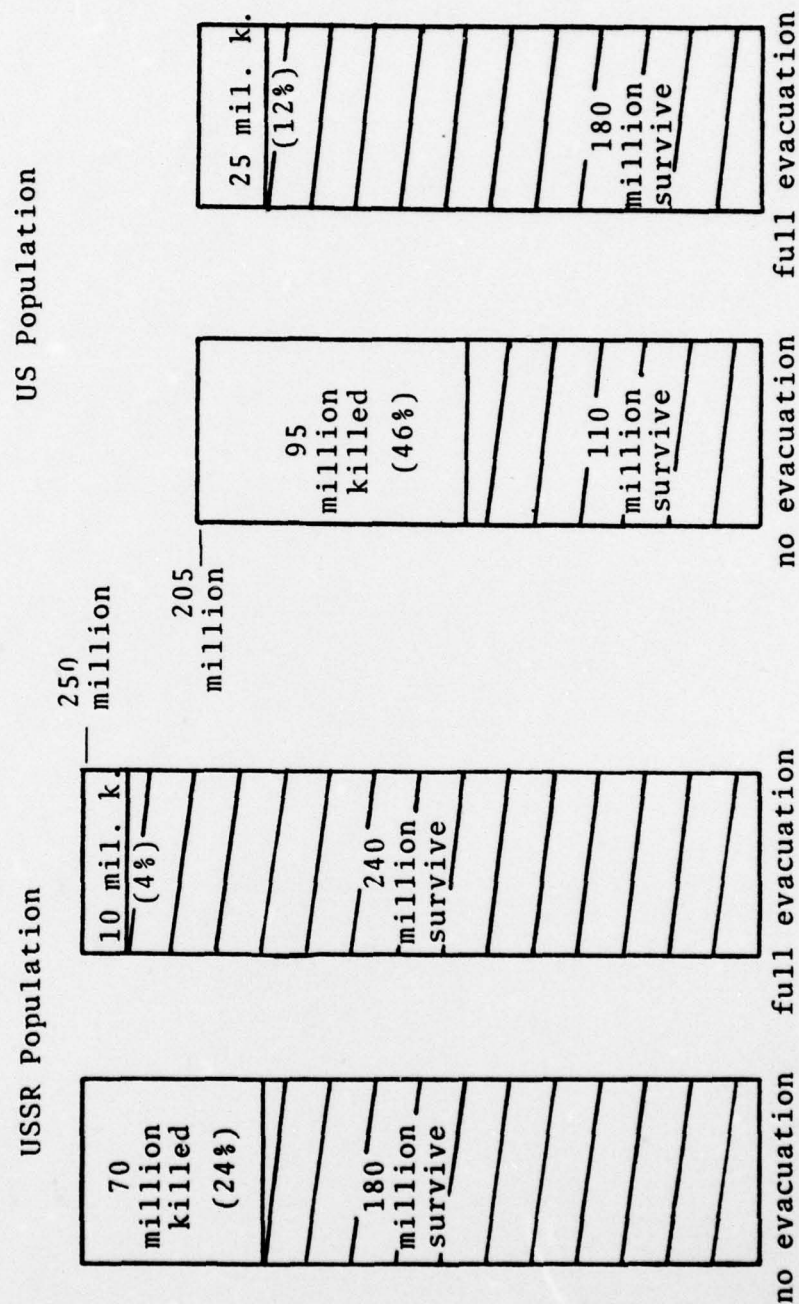
VIII. CONCLUSIONS

In summary, Civil Defense in the United States can play two roles: 1) as insurance; as one aspect of the government's responsibility to defend the people against disasters, whatever their cause; 2) as a strategic element; in severe crises a Civil Defense capability aids the resolve of decision-makers facing the pressure of aggressive, reckless, or foolish opponents, either from within or externally. This last may increase stability not only by increasing extended deterrence, but for psychological reasons. A leader who is able to measure what is at risk and perceive its limits may be less likely to panic, to lose control, to bluff unrealistically, or to let others unreasonably tempt or pressure him than one who visualizes nuclear war as the end of his society and cannot examine or discuss alternatives for fear of a catastrophic loss of will or morale.

The capabilities most appropriately added to the current posture, in an era of détente, are those provided by Civil Defense. Such capabilities can buy much more damage-limiting potential than comparable funds for offensive weapons. But, as this author believes, Civil Defense needs steady support from the Executive Office if it is to achieve even modest goals for protecting the population. If a substantially larger Civil Defense program than the current one were effectively supported by the Administration --- not as a response to new dangers, but rather as insurance and as a further rationalization of our strategic defense posture toward a more balanced and stable international situation --- then Civil Defense programs could provide, over a period of a few years, a reasonable degree of protection for the country.

It is clear that there are never absolute guarantees of security. One cannot properly judge a program by asking, "Is it guaranteed to work?". A more useful criterion is the standard implied in such questions as, "Under what circumstances does the program do useful things?"; "Are these circumstances sufficiently likely and are the results useful enough to justify the various costs and disutilities of the program?". Therefore, whether one argues for Civil Defense on purely prudential grounds, or on general military and foreign policy grounds, it is a subject necessary to consider, for it is one upon whose future the possible fate of the American people may depend.

TABLE I
ESTIMATED POPULATION SURVIVING A NUCLEAR ATTACK



PRIME U.S. MILITARY TARGETS

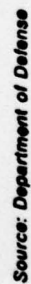
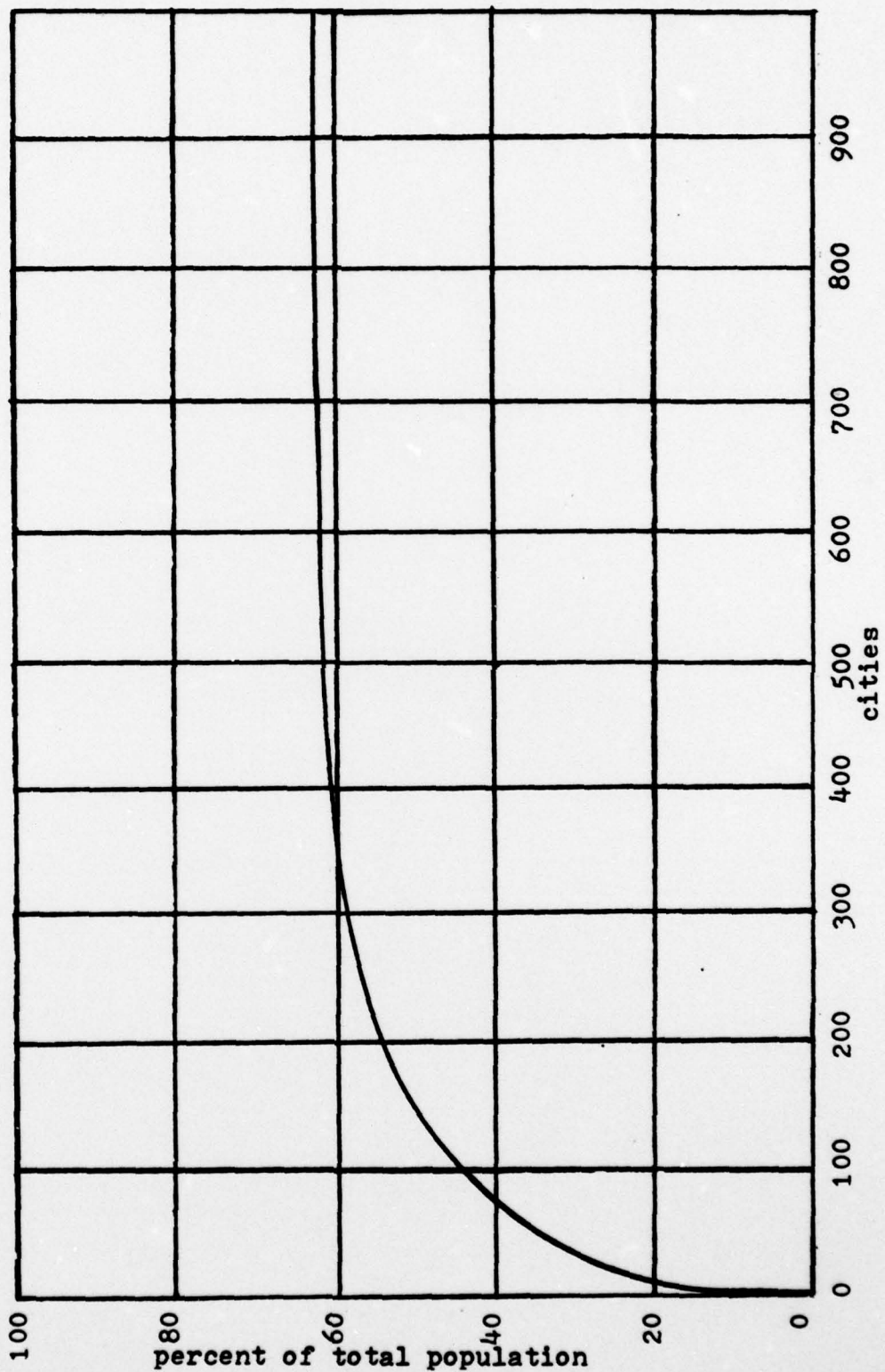


TABLE III
CUMULATIVE PERCENTAGE DISTRIBUTION OF POPULATION



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