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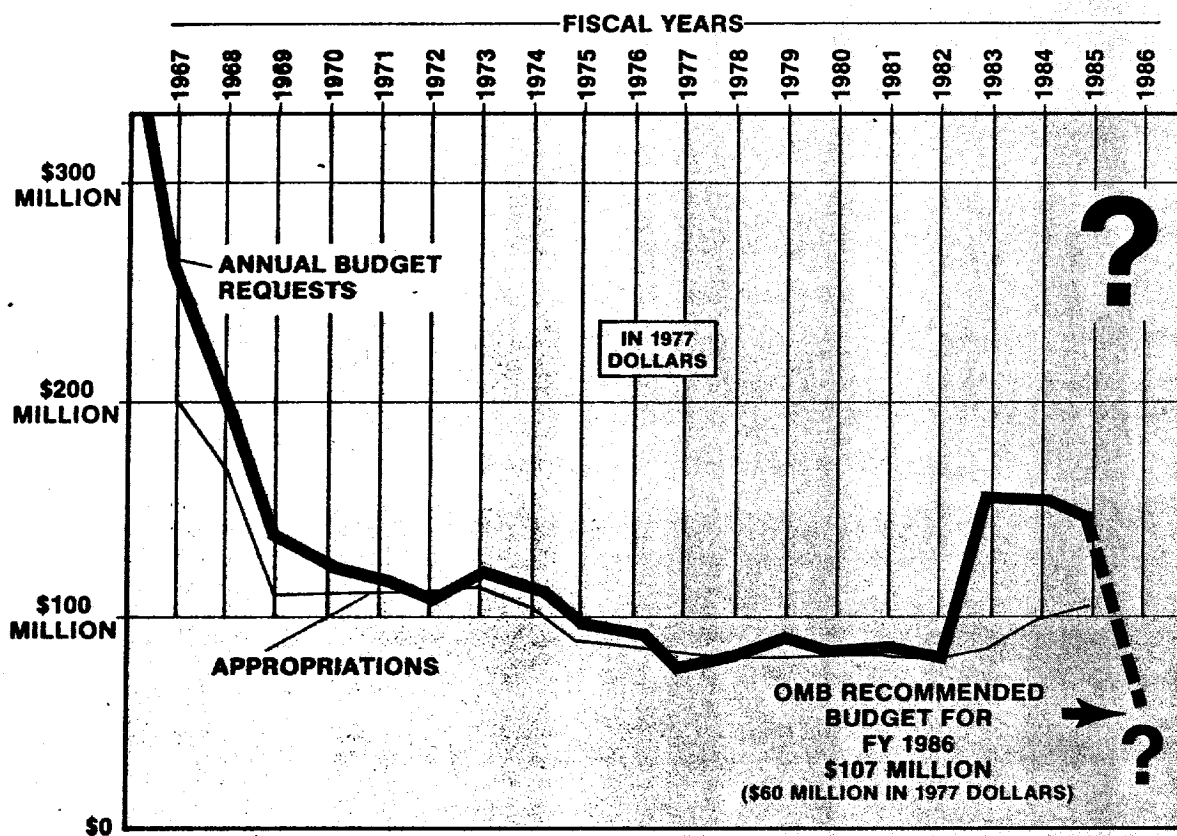
FEBRUARY 1985

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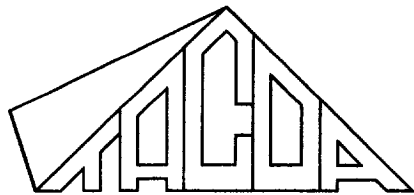
U.S. CIVIL DEFENSE BUDGET REQUESTS
1967-1985 (1986 RECOMMENDATION BY OMB)



**N-BOMB
"THREADS"**

**WAGING PEACE
FRENCH TURNABOUT**

The American Civil Defense Association



TRADEMARK — THE AMERICAN CIVIL DEFENSE ASSOCIATION

Journal of Civil Defense

The American Civil Defense Association

Presenting the Views of Industry, Technology,
Emergency Government and Concerned Citizenry

VOLUME XVIII — NUMBER 1

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CONTENTS

5 CAPITAL COMMENTARY, by Jerry Strobe — Schultz-Gromyko talks.

6 THE NEUTRON BOMB — A STEP TOWARD PEACE?, by Kevin Kilpatrick — N-Bomb characteristics.

9 SEMINAR CANDID PHOTOS; BIOLOGICAL WARFARE CHART CORRECTION.

10 SPOTLIGHT — View of U.S. from Zurich; DEMEX 85; EMERGENCY 85; NCCEM needs help; new Spanish CD magazine; Concerned Women; Swiss survival; new ASSEP requirements; German "superbunker".

12 MEDICAL CASE LOAD AFTER NUCLEAR ATTACK, by John F. Devaney — Hiroshima statistics.

16 SPECIAL REVIEW: WAGING NUCLEAR PEACE, by Robert Ehrlich (review by Conrad V. Chester).

17 NEW EMERGENCY MAGAZINE; LETTER TO EDITOR.

18 "ACCIDENT" AT ST. LUCIE, by Kathy S. Gant and Martha V. Adler — Power plant exercise.

20 HIGH FRONTIER MATERIALS; THOR'S HAMMER.

21 REVIEWS: *Soviet Civil Defense Program*; *Grace Commission Report*; *I, Martha Adams*; *A Strategy For Peace Through Strength*; *Peace Through Strength* (Film); *The Politics of Sentiment*; *Thinking About the Unthinkable in the 1980s*.

24 IN FRANCE: NEW FOCUS ON CIVIL DEFENSE, by Robert Baffin — France sees the CD light.

28 TOO GOOD TO FILE — Charleton Heston; Committee on the Present Danger; Robert W. Poole; John G. Hubbell; Nancy Deale Greene; Hank Phillips.

30 UPCOMING; MARKETPLACE

31 LATELINE — THE MAZE OF "THREADS".

32 EDITORIAL — FOR THE GRASS ROOTS: A RESCUE ROLE, by Frank Williams.

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Authors are encouraged to submit manuscripts for consideration by the editorial committee for publication (the *Journal*, as a non-profit organization, pays no fees). Articles, preferably illustrated, should be 500 to 1,200 words in length, slanted to the non-technical reader, and oriented toward the civil defense field. Views expressed in contributions to the *Journal* are those of the authors and do not necessarily reflect *Journal* policy. Material may be reproduced if context is preserved, credit given, and copy sent to the *Journal of Civil Defense*.

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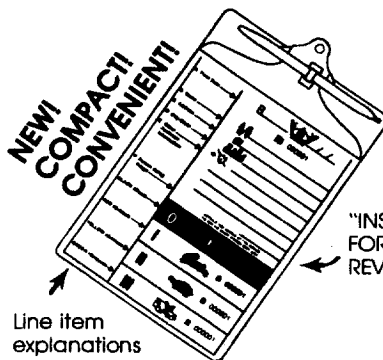
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- To bring about through these humanitarian endeavors (well established in other countries) a condition whereby rewarding nuclear targets in the United States become unrewarding nuclear targets, whereby aggressor attack upon the United States becomes clearly much too risky and dangerous for any aggressor, and whereby such nuclear attack and nuclear blackmail are effectively discouraged; and
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SCHULTZ, GROMYKO AND CIVIL DEFENSE

Civil defense has not fared well in Washington during the period between Ronald Reagan's landslide reelection and his inauguration for a second term. First, there has been the continuing evolution of the scandal at the Federal Emergency Management Agency where the responsibility for civil defense at the federal level is lodged. Then, there is the fiscal disaster facing the puny civil defense program managed by FEMA as the Reagan administration and the 99th Congress attempt to get the budget deficit under control. Also, we have the unfortunate tone of the publicity given to the report from the National Academy of Sciences on the theory of a nuclear winter. About the only good news for civil defenders has been the agreement in Geneva to resume the arms control negotiations.

The FEMA scandal has been well publicized by Representative Albert Gore, Jr. (D-TN), who began hearings on FEMA "mismanagement" during last year's campaign in which he was running for the Senate seat being vacated by Howard Baker. He won the election to the Senate but proceeded to hold hearings during the last days of the 98th Congress. Gore scheduled a day of hearings on December 12th at which three "panels" of witnesses were to testify. The first panel consisted of five middle-level FEMA employees and a former employee of the Triton Corporation, a FEMA contractor. The second panel was to consist of the corporate officers of Triton and IMR Corporation, another FEMA contractor. The last panel was to consist of seven senior FEMA officials led by its director, Louis O. Giuffrida. Giuffrida and his staff and the Triton and IMR officials boycotted the hearing even though they had been issued subpoenas to attend. Gore, who was the only subcommittee member to attend declared the no-shows in contempt of Congress after fruitless calls by his staff members. The citation is likely to be an empty gesture since the 98th Congress now has expired and Gore has been sworn in as a Senator.

At the December 12th hearing, Gore proceeded to question the panel of FEMA employees about contractual practices. The panelists recounted instances of front office pressures to favor certain contractors and retribution when billings were questioned. The former Triton employee even testified that her name had been forged to a time card. Such practices normally would not be known to FEMA Project Officers and their superiors as the documentation supporting billings is inspected only at the time of the final audit on the contract. However, charges of favoritism and collusion by Giuffrida and his immediate staff have resulted in the resignation of his close associate, former Executive Deputy Director Fred Vilella and the combing of contract documentation by the Justice Department, which is said to be in the process of presenting evidence to a grand jury. From the record of the Gore hearings, it seems likely that several of the contractor officials will be charged with criminal fraud but whether Giuffrida, Vilella, or any other member of the FEMA staff will be indicted is questionable.

Nonetheless, the well-publicized charges of waste and mismanagement are likely to dog the FEMA leadership in its dealings with the new Congress and possibly the White House itself. The President's staff is undergoing a major reshuffle and the most urgent task during December was to hammer out a budget submission to present to the new Congress that would represent an attempt to control the projected budget deficit. Early on, the staff sold Reagan on the concept of "freezing" all programs at the current year's level. That would have left the civil defense budget submission at \$181.4 million, which then might be whittled at by Representatives Ronald Dellums (D-CA) and Edward Boland (D-MA), if they retain their subcommittee chairmanships in the new Congress. But the President had promised during the campaign not to touch Social Security and to continue the military buildup. That meant that some programs would need to be cut back or abolished outright. According to *Newsweek*, budget director David Stockman proposed to eliminate the civil defense program entirely along with the Small Business Administration and several other small agencies. (FEMA would get responsibility for SBA's disaster loan program.)

The proposal to abolish civil defense did not fly but FEMA was instructed to limit its budget submission for next year to \$107 million, a reduction of over 40 percent. To gain an inkling of what this cutback means, understand that over \$70 million of this year's budget is allocated to matching funds for State and local salaries and expenses. This item is unlikely to be cut back. Hence, most of the substantive programs such as radef, planning, EOCs, and telecommunications must be reduced drastically or abolished. It would have been more honest to have eliminated the civil defense program entirely. Of course, the Congress has its own ideas on how to manage the deficit so it will be some time before the fate of civil defense is settled.

NUCLEAR WINTER USED AGAINST CIVIL DEFENSE

The report of the National Academy of Sciences on the prospect of a "nuclear winter" in the event of a nuclear war was reported in the media as supporting the theory being promoted by Carl Sagan and his fellow authors of the so-called TTAPS report. The report, which was authored by an ad hoc group that included most of the authors of the TTAPS document, continued to point out the basic lack of data, evidence, or knowledge to prove or disprove the theory. NAS President Frank Press, lamented at the Washington press conference that here we were 40 years into the nuclear age and still unable to settle such questions. Hence, the nuclear winter theory will continue to be used to stifle any civil defense initiative while an extensive government research effort is mounted to try to reduce the huge uncertainties in the calculations.

Secretary of State George Shultz met with Soviet Foreign Minister Andrei Gromyko in Geneva on January 7th and 8th and agreed to resume arms negotiations in the near future. The dates are expected to be settled in March. The "star" of the proceedings was the President's Strategic Defense Initiative (SDI), which has been credited with bringing the Soviets back to the negotiating table after they walked out more than a year ago in response to the initial deployment of Pershing II and cruise missiles in the NATO countries. Of course, the fact that the walk-out did not stop the NATO deployment also must have contributed to the Russian change of heart but they seem desperate to halt the SDI research. The agreement, reached after nearly 13 hours of secret discussions, anticipates that three interconnected sets of negotiations will be undertaken, probably in Geneva: the START talks on reducing strategic nuclear arms, the talks on controlling medium-range missiles in Europe, and a new conference on "preventing an arms race in space." The joint communique issued after the January meeting said in part, "The objective of the negotiations will be to work out effective agreements aimed at preventing an arms race in space and terminating it on earth, at limiting and reducing nuclear arms, and at strengthening strategic stability. . . . The sides believe that ultimately the forthcoming negotiations, just as efforts in general to limit and reduce arms, should lead to the complete elimination of nuclear arms everywhere." This is a vision of the future that appeals to all civil defenders, since they above all others fully understand the catastrophe of nuclear war. In the meantime, civil defense needs all the help it can get. □



At TACDA's 1984 seminar in Daytona Beach, Neutron Bomb inventor Sam Cohen spoke on "Discriminate Weapons." Discriminate weapons are nuclear weapons which, as the subject implies, are highly selective in targetting. This has been made possible by amazing advances in missile accuracy — down from expected center-target misses of a half mile and more to ten yards and even less. A target can thus be engaged today with a weapon a small fraction of the yield that was necessary 10 or 15 years ago. Result: a tremendous savings in weapons cost **and a tremendous reduction in collateral damages and casualties.**

The neutron bomb is also a discriminate weapon because it brackets invading enemy troops, allows properly sheltered civilians in the area to go unscathed and reduces — or even eliminates — highly objectionable property damages.

Dramatized as "inhumane" by the propaganda of aggressors whose plans for invasion they block, these weapons are on the contrary as humane as weapons of war can be (weapons, after all, are **meant** to kill and destroy) in that civilian populations and their property are largely spared.

A relevant 1977 **Journal of Civil Defense** article is reprinted below in answer to repeated requests for N-bomb information. The article is as valid as it was seven and a half years ago.

THE NEUTRON BOMB

— A STEP TOWARD PEACE?

— Kevin Kilpatrick

What is the controversial neutron bomb? And what are its implications? Will it make war more horrible? Or could it, as Edward Teller suggests, be a weapon for peace?

Thousands in Hiroshima's 1945 nuclear bomb attack were radiation casualties. Yet, the 15-kiloton weapon was an air burst and produced no fallout. What maimed or killed victims were the neutrons and gamma rays of "prompt" radiation. That radiation was over almost immediately.

So, in a sense, the Hiroshima weapon was in part a crude "neutron bomb."

With the development of much larger nuclear weapons we lost sight of this prompt radiation capability because, as the weapon size increases, its range of total destruction grows much faster than its prompt radiation range. The former completely swallows up the latter, so that if one is within the prompt radiation radius of a nuclear explosion he is so deep into the total destruction area that the blast effect is almost certain to kill him instantly.

(See Figure 1.) There is therefore little use worrying about prompt radiation effects with megaton-size weapons.

The smaller size MIRV weapons (where several nuclear weapons ride on one missile) bring us back to a situation similar to Hiroshima. With this there are special considerations for close-in shielding. Damp earth and concrete are effective, and especially certain metallic mortars now being introduced for industrial applications.

The "tactical" nuclear weapons, much smaller than the MIRV-size

"I propose that we announce a policy according to which we shall rigorously refrain from a first-use of nuclear weapons of any kind, including the neutron bomb, except within territory invaded by enemy forces."

— Edward Teller

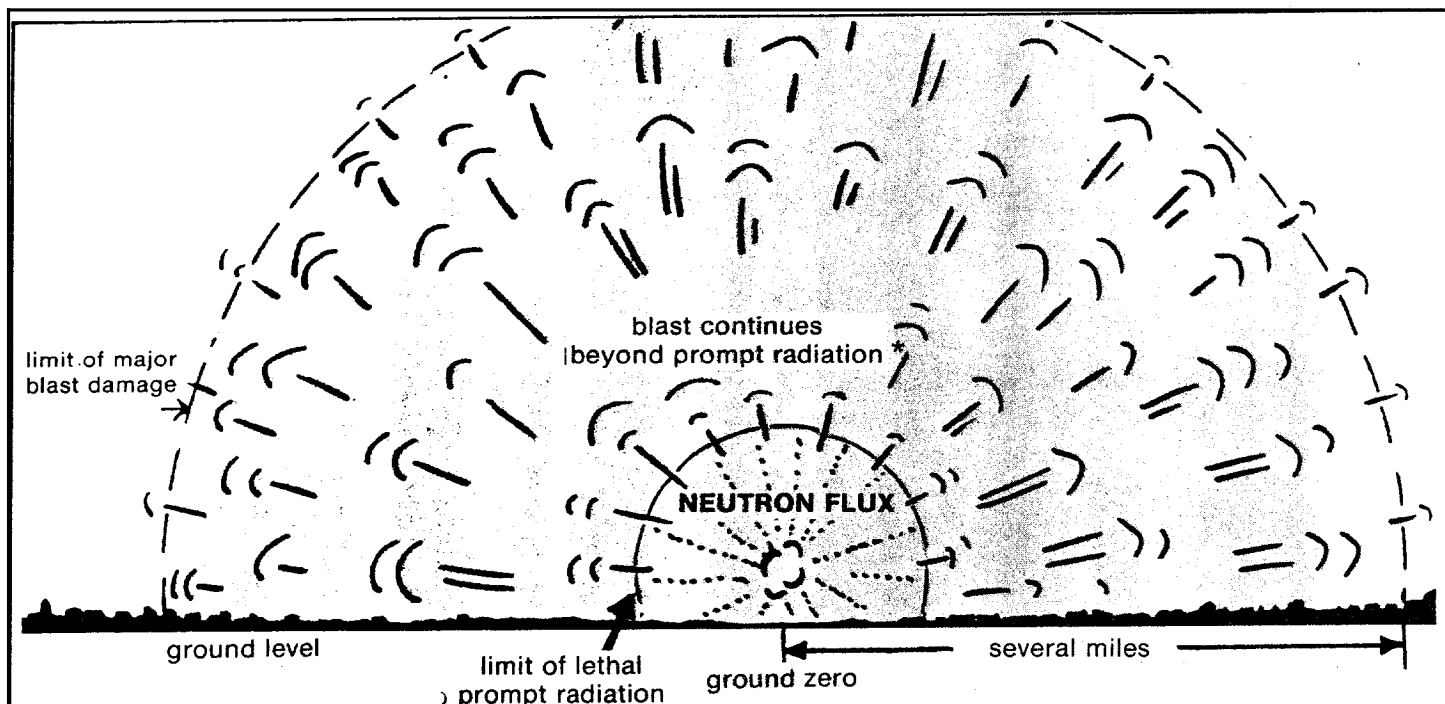


Figure 1: Schematic illustration of damage and radiation parameters of a typical nuclear weapon in the megaton range.

*PROMPT radiation means radiation emitted instantaneously at the time the bomb explodes. This in contrast to the fallout radiation which reaches its maximum intensity on the ground about one hour after the explosion and lasts for days if not weeks.

weapons, give the "neutron flux" of prompt radiation a significant role.

The neutron bomb is a weapon which leads to a greatly increased neutron flux. Neutrons of high energy are as indicated by shielding requirements more penetrating than gamma rays. And the neutron bomb

is in fact a mini-H-bomb. Both the fission trigger and the fusion bang produce neutrons. It is claimed that a neutron bomb — because of secret research and development — increases its prompt radiation pattern (neutron flux + gamma rays) by a factor of ten over what a "normal"

bomb would produce. (See Figure 2.)

That's saying a lot. It means that the "prompt" radioactive role of the neutron bomb is the *predominant* one. The role of blast is still significant but minor. And that role can be further deemphasized by exploding the neutron bomb at somewhat

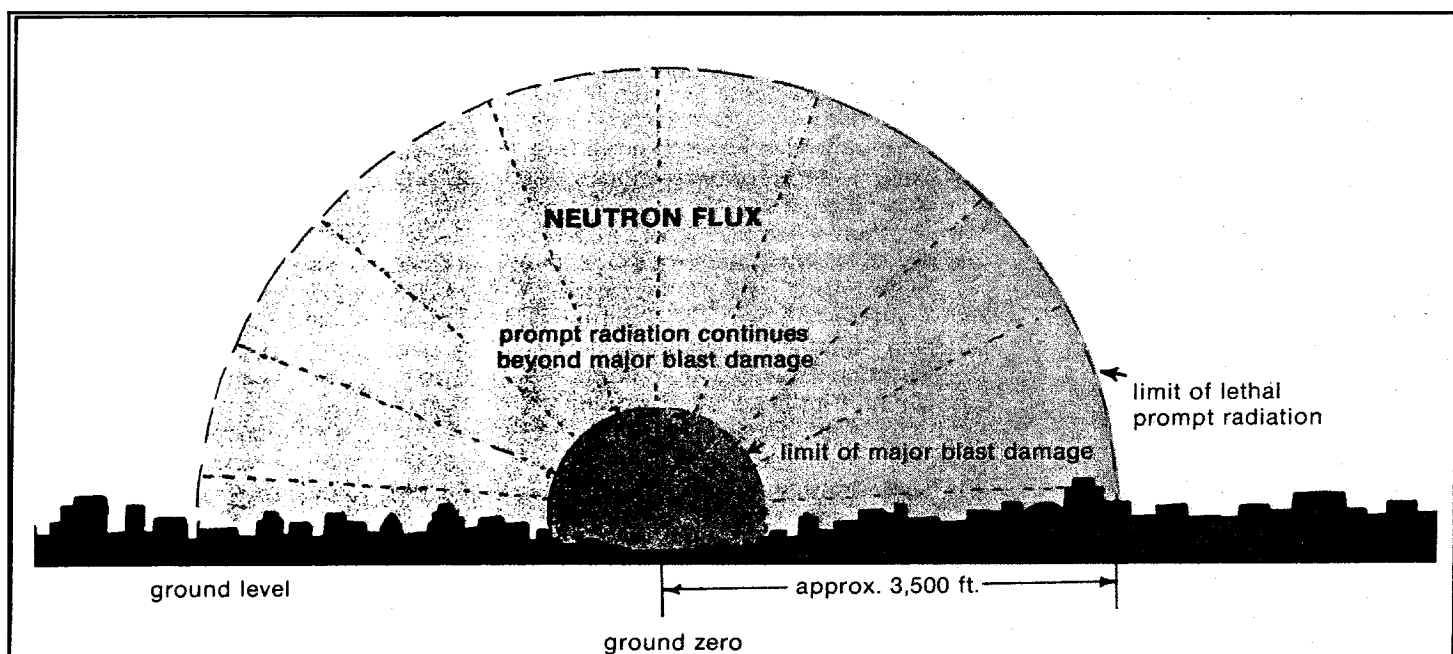


Figure 2: Illustration of typical neutron bomb explosion at optimum altitude (300-400 feet)

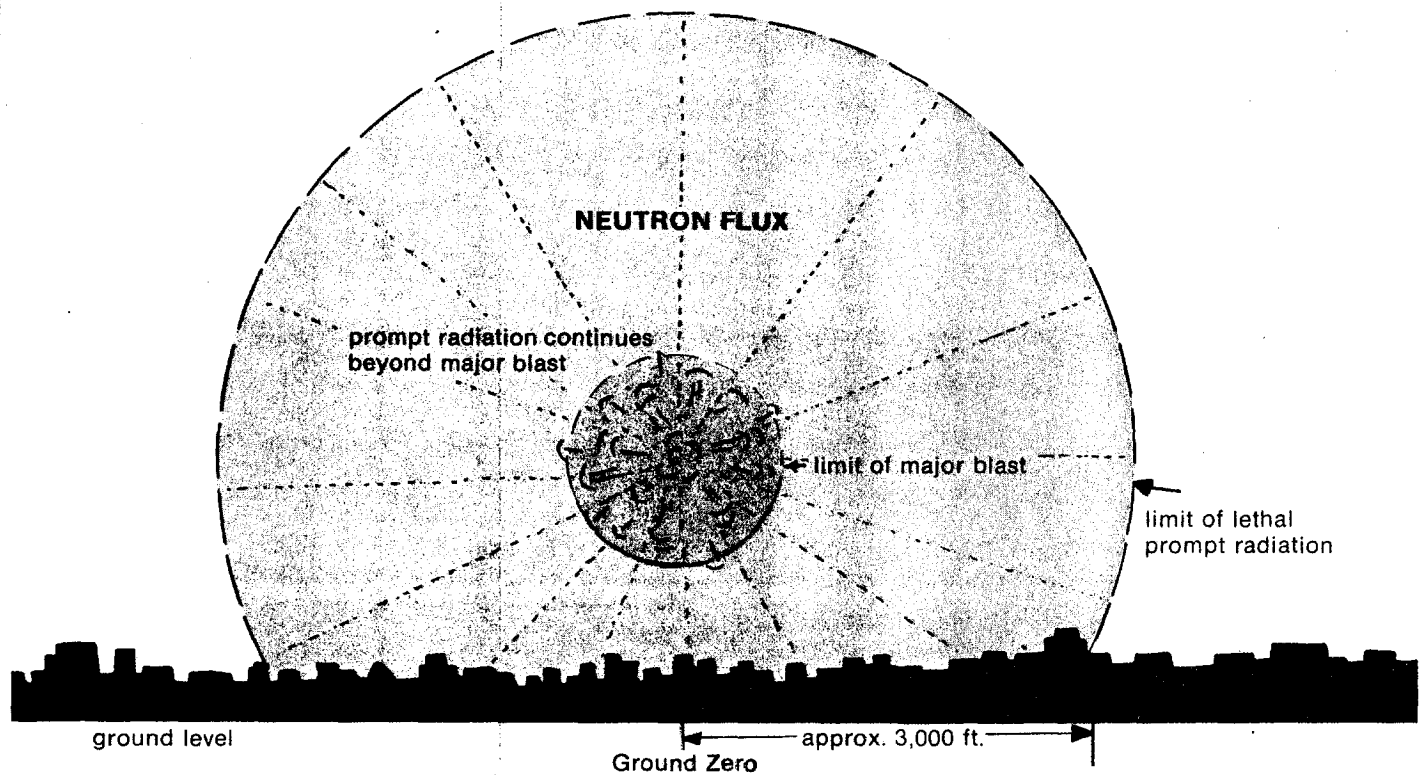


Figure 3: Illustration of typical neutron bomb explosion at approximate altitude of 2,000 feet. Note that major blast damage area does not reach ground and that 500 of the 3,500 ft. in radiation range are lost at ground level.

higher altitudes. (See Figure 3.)

An example given in *Science News* (July 23, 1977) gives us some figures: "A one-kiloton blast would completely destroy buildings in the immediate area, say out to a radius of 200 yards. The point is that its enhanced flux of neutrons would spread much further, killing unprotected people to a radius of perhaps three-quarters of a mile."

The neutron bomb is indeed a formidable weapon. Critics and admirers have every right to whistle. Here is at last the (relatively) clean weapon we have talked about for years. Very little damage to property. No significant fallout and very little induced radiation. A tremendous amount of instant super-penetrating radiation.

What comes from all this, and what has been mentioned by perceptive commentators, is that the neutron bomb is an ideal weapon of

defense against an invading army. Edward Teller explores this possibility in a published opinion:

"I propose that we announce a policy according to which we shall rigorously refrain from a first-use of nuclear weapons of any kind, including the neutron bomb, except within territory invaded by enemy forces. On the other hand, we should be prepared for the immediate use of the appropriate measures to repel massive enemy forces from the invaded territory. The optimal weapon to implement this purpose may well be an advance version of the neutron bomb. The unintentional, 'collateral' damage which leaves the battlefield in shambles and which hits foe and friend alike, is minimized by use of such weapons."

The restriction of the use of the neutron bomb — and perhaps other weapons — to the repelling of in-

vasion imitates the strategy of Swiss and Swedish "armed neutrality." They too, without anything like a neutron bomb of course, have coupled a pledge not to engage in military operations beyond their borders with a promise to annihilate any foreign legions who dare to cross their own boundaries. Their seasoned military forces and their determined civilian populations are geared irrevocably to that concept.

In the war-oriented environment of Europe, where border violations have frequently occurred, this policy has resulted in a pious respect for Swiss and Swedish frontiers, no invasions, and a century and a half of peace for both countries.

The "Teller Peace Plan" has persuasive roots. It could turn the fears of a new awesome weapon into the dawn of a promise of "no war."

Could we chance that? □

In the next issue of the *Journal of Civil Defense* N-bomb inventor Sam Cohen writes on another nuclear-oriented defense technique: "Nuclear Barrier Defense." In it Cohen describes an in-depth border defense concept based on the use of "discriminate weapons".

CORRECTION

Oak Ridge National
Laboratory

Editor, *Journal of Civil Defense*:

Dear Walter:

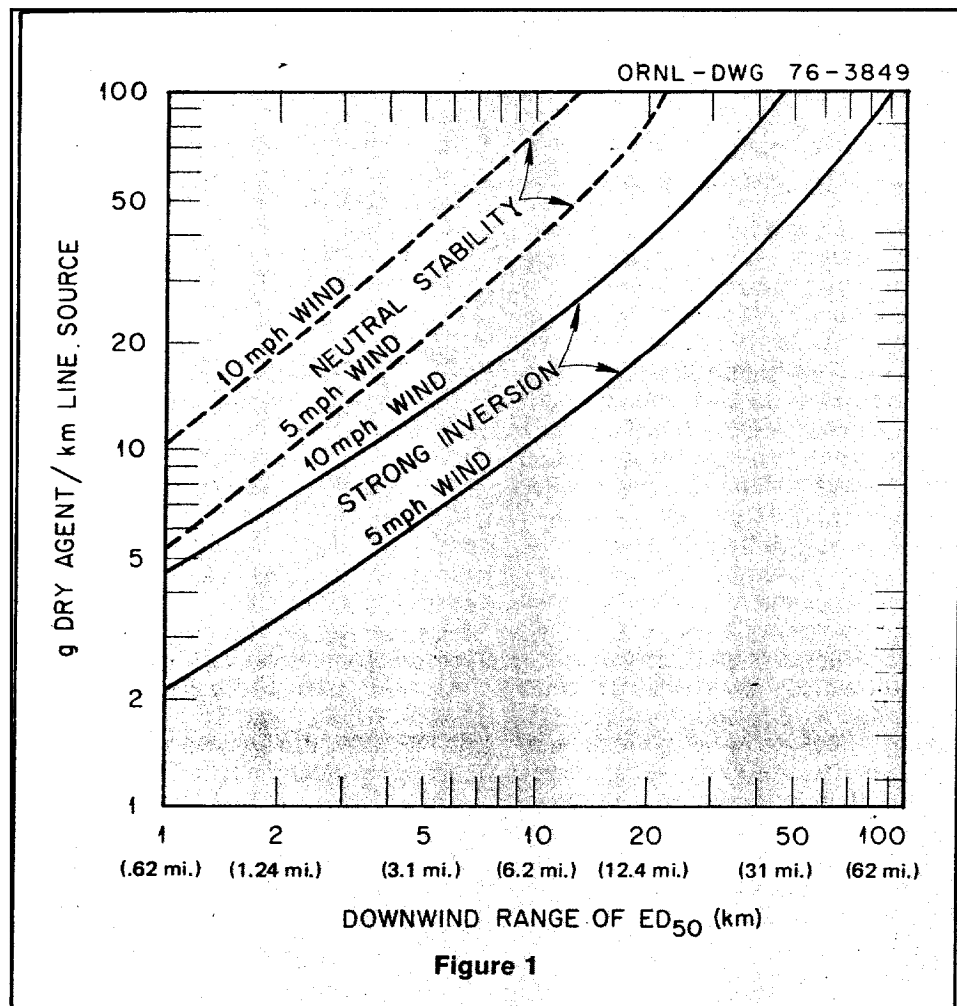
[Re: article "Civil Defense Implications of Biological Weapons — 1984" in December issue of *Journal*.]

On page 8, Figure 1 has incorrect conversion numbers added to the vertical axis. Grams of dry agent per Km of line source have been expressed as equivalents in miles, which is totally incorrect. The figures on the horizontal axis could have been converted from Km to miles, and probably was what you intended. . . .

Conrad V. Chester

Our apologies to Dr. Chester and to our readers. Corrected version of Figure 1 appears at right. Credit line was also erroneously omitted. It notes that the article is:

Based on work performed at the Oak Ridge National Laboratory operated for the U.S. Dept. of Energy under Contract No. DE-AC05-84OR21400 with Martin Marietta Energy Systems, Inc.
— Ed.



1984 SEMINAR CANDID SHOTS



(AT LEFT) Scientist-Engineer (and Nobel Laureate) Eugene Wigner, dean of civil defense scholars, cuts a cake at an impromptu celebration of his 82nd birthday. With him are TACDA Secretary-Treasurer Janice Tyliczka and Dr. Max Klinghoffer, new president of Doctors for Disaster Preparedness (DDP).

(AT RIGHT) New TACDA president Charles Badley talks with DDP President-Elect Dr. Gerald Looney and TACDA vice-president Nancy Deale Greene.



(AT LEFT) Retiring TACDA president Frank Williams takes a break in seminar proceedings to attend a "Peace Through Strength" reception in the East Room of the White House. Here he and actor Charlton Heston converse (Mr. Heston has been invited to address the 1985 TACDA seminar in Los Angeles).

(AT RIGHT) Ernest Terrien presents (for ASPEP) \$1,000 check to TACDA executive director Walter Murphey for the civil defense monument fund. At left is Fred Houck of Crown Industries; next to him is Dr. Milan Bodi, Secretary-General of the International Civil Defense Organization.





AS OTHERS SEE US — A VIEW FROM ZURICH

What the United States has or has not in the way of civil defense is of course not a matter of opinion.

But opinions there are. One frequently expressed in French circles is that U.S. civil defense is about on a par with Soviet civil defense. Perhaps the French (and others) simply assume that as a superpower and a No. 1 target America must have sense enough to protect itself — come in out of the rain as it were.

Others — including the Soviets — are quite aware that the United States has to a deadly degree ignored protection for its people.

A report by *Aegis International*, published in Zurich, Switzerland, recently featured an article entitled "A survey of Civil Defense measures in the Western industrial Nations," by Terry O'Brian. It credits Finland, Israel, Norway, Sweden and Switzerland with A-1 programs. What it says about the U.S. is interesting — and accurate:

The U.S.A.

Despite an auspicious beginning as far back as the 50s when the Federal Civil Defense Act of 1950 was passed calling for a "system of civil defense for the protection of life and property in the United States from attack" and focussing on the building of nuclear-proof shelters, C.D. in the USA has been the victim of vacillating policies ever since. In the mid-50s, with the advent of thermonuclear weapons, the accent shifted to mass evacuation, to shift yet again when the effects of fallout became better known, and when warning times were reduced from hours to minutes, to encouraging citizens to build home fallout shelters. In 1961 (post-Berlin crisis) the accent changed to a national public fallout shelter system. Finally, in the late 60s and 1970s funding for C.D. declined sharply.

THE VICTIM OF VACILLATING POLICIES

As will be readily appreciated, C.D. in the States is in a state of transition — or perhaps it would be more accurate to say is still only girding its loins, and there is a long way to go

before this enhanced C.D. program, still in its infancy, shows any concrete results. However, as in other countries, the essential fact is that there has been an "agonizing reappraisal", at long last.

DEMEX 85 — APRIL 28 - MAY 1

Emergency Management Information Services of Indianapolis, Indiana (25 McLean Place, Zip: 46202) has scheduled its "DEMEX 85" (World Congress & Exposition for Disaster & Emergency Management) for April 28th to May 1st. It is to be held at the Indiana Convention & Exposition Center in Indianapolis. Information on the DEMEX 85 exposition may be obtained by calling 502-582-1672, and information on the DEMEX conference may be obtained by calling 800-428-8247.

EMERGENCY 85 — MAY 21-24

The Washington Convention Center in Washington D.C. will be the site of EMERGENCY 85 to be held May 21-24. In addition to international exhibits, EMERGENCY 85 will feature a mix of addresses, panels and workshops at its conference. Co-chairmen will be Dr. James W. Morentz, president of Research Alternatives and editor of *Hazard Monthly*, and Roy Popkin, veteran of the American National Red Cross. For further information call 301-424-2803 or write Morentz or Popkin at Research Alternatives, Inc., Suite 31, 966 Hungerford Drive, Rockville, MD 20850.

NCCEM ASKS FOR SUPPORT

The National Coordinating Council on Emergency Management (NCCEM) is undertaking a fundraising drive to bring objectives on line. TACDA members and Journal subscribers are encouraged to help out. NCCEM is the successor to the United States Civil Defense Council (USCDC) and is composed of local civil defense directors and associate members.

Donations may be sent to:

NCCEM
3126 Beltline Drive (Suite 101)
Columbia, S.C. 29204

SPAIN PUBLISHES NEW CD MAGAZINE

The first two issues of Spain's new civil defense magazine *Cuadernos de Protección Civil* appeared during the last half of 1984. Published by Spain's Dirección General de Protección Civil (Ministerio del Interior — Evaristo San Miguel, 8 — 28008 Madrid), the colorful new review is packed with 32 pages of civil defense news and analyses.

An article on Swiss civil defense appears in the first issue, and an article on British civil defense in the second. The second issue also contains a description and picture of the *Journal of Civil Defense*.



"CONCERNED WOMEN FOR AMERICA" FIGHTS FOR FAMILY AND COUNTRY

A new San Diego-based women's organization, 180,000 strong and growing, is now challenging the women's liberal movement, ERA, and attacks on traditional values. It is Concerned Women for America.

"Concerned Women for America (CWA) was born out of my heart's desire to strengthen the American family," says CWA president Beverly La Hays.

"ERA leaders are committed to the destruction of the traditional family. They will not take 'no' for an answer. They intend to rebuild..."

(CWA's address: P.O. Box 5100, San Diego, CA 92105. Information available upon request.)

MORE ON SWISS SURVIVAL

It may be that the *Journal of CIVIL DEFENSE* emphasizes Swiss civil defense a bit often. But among those countries which take civil defense seriously (and these include the Soviet Union, Sweden, China, Norway; Finland, Denmark and now two or three others closer to home) Switzerland rivals Sweden for the lead. *The Plain Truth*, circulation 7 million and distributed free, has a strongly religious color.

In its November/December 1984 issue *The Plain Truth* featured a story titled "One Nation's Plan to SURVIVE NUCLEAR WAR." It was by John Halford. Here are four excerpts:

Most people have heard the story of William Tell, the Swiss hero who was ordered to shoot, with a bow and arrow, an apple off his little son's head. But what is not so well known is that, according to the legend, Tell had another arrow hidden beneath his cloak. If he had missed and killed his son, he was ready to strike the other arrow through the heart of the man who had forced him to risk his son's life.

Switzerland today is like that. There is the Switzerland that everyone knows — mountains, alpine meadows scattered with wild flowers, pin-clean towns and villages, and healthy peace-loving people who enjoy one of the highest standards of living in the world. But look carefully, and you can sometimes see the outline of an "arrow hidden beneath the cloak." ...

The Swiss people, once among the most militant in Europe, have decided that they will never go to war, will never serve in other nations' armies, and never attack unless they themselves are attacked. But for that neutrality to be credible the Swiss have also decided that they must be heavily armed. This policy is called "armed neutrality." The Swiss are prepared to defend their declared state of neutrality.

If the Swiss are attacked, they are well equipped to defend themselves. Within hours, this most neutral nation can be on a war footing. It is no secret. The Swiss want the world to know that the cost of invading Switzerland would be high, and the invader would stand to lose more than he gained.

That's why Hitler avoided direct confrontation in World War II — he knew the loss of manpower and time were not worth it ...

The Swiss, always realists, know that because of Switzerland's small area whole-scale evacuation of the population to "safe zones" is impossible. Shelter must be provided where the people are: at home, at school or at work.

Thus since the late 1960s every new building in Switzerland must have provision for adequate shelter. The additional cost is shared between the builder and the government.

The backbone of the program is the basic home shelter. Every home or apartment must provide two and a half cubic meters of basement shelter space for each room of the building that is above ground. The shelter must have a gas filter, artificial ventilation and be built so it can withstand the pressure waves from an atomic blast ...

If threatened, the entire Swiss nation plans to move quickly and efficiently underground where they hope they will weather the worst of the storm.

ASPEP DEFINES NEW ELIGIBILITY REQUIREMENTS

ASPEP (American Society of Professional Emergency Planners), as many of us know, is the prestigious technical group composed of highly trained civil defense professionals. Its stiff requirement for membership was completion of the four phases of civil defense training.

With the discontinuation of these four phases by the Emergency Management Institute (Emmitsburg, MD) ASPEP was faced with the job of determining a new requirement for membership. This is defined as the 320-hour specialized emergency-planning training requirement.

Further information may be obtained by contacting ASPEP president Ernest J. Terrien, Zone "C" — Emergency Government, 7525 West Greenfield Ave., West Allis, WI 53214.

GERMAN "SUPER-BUNKER" READY FOR OCCUPANCY (BY GOVERNMENT OFFICIALS)

Traffic lights, food and medical stocks, ventilation and other necessities and comforts of life are featured in a new nuclear bunker near Bonn, West Germany.

According to Uli Schmetzer in the *Baltimore Sun* the 18-mile-long system of tunnels is ready to accommodate German officials and house them safely for up to two years. Cost \$1.7 billion. Transportation within the maze of tunnels is by electric car and bicycle. Unlike the German autobahns on the surface — which have no speed limits — traffic on the access routes within the bunker would be limited to a speed of 3.5 miles per hour.

News of the "top-secret" installation was leaked to the media, and "German citizens were shocked."

The installation, apparently patterned after the North American Air Defense Command under Cheyenne Mountain in Colorado, is located 1,000 feet inside a mountain 14 miles south of Bonn. Some of the tunnels were made over from tunnels used during World War II to assemble V-2 rockets.

World War II bunkers have also been adapted for the use of people as protection against nuclear attack in major cities such as Berlin, Munich, Hamburg, and Bremen.

Although German civil defense development cannot compare with that of Switzerland, it is impressively superior to that of the United States and on its way up. In Hamburg, for instance, there are 22 public shelters to serve the people. And there a railway station was converted into shelter at a cost of \$500 million.

The Ministry of the Interior points out that shelters have been built for over two million people, and qualifies this by admitting that this only takes care of 3.6 percent of the German population.

The German government also provides financial help to citizens who undertake to build private shelters, and \$27 million was allocated for such projects in 1984. It is estimated that one million private bunkers either have been built, are under construction, or are in the planning stages. Shelter companies in West Germany are not doing badly and are looking to a bright future.

And the German government "super-bunker" can be looked to as a stimulant to provide protection for the people that will imitate that provided for government.

Much is said about the fatalities and injuries resulting from the Hiroshima and Nagasaki nuclear weapons explosions, but beyond basic body counts there has been little definitive analysis reaching the lay reader. John F. Devaney, a career civil defense professional now working with the Washington, D.C. area office of the Center for Planning and Research, has taken this much-distorted subject and pinned salient factual information to it in the following exposé. In doing so he has performed an invaluable service for all of us.



John F. Devaney

MEDICAL CASE LOAD AFTER NUCLEAR ATTACK

— John F. Devaney

Among the objections raised against civil defense are unsupported assertions that the post-attack requirement for medical care would be so great that the medical profession could not cope with it and that civil defense could not do anything about it. These claims have gone unanswered chiefly because the available data have not been analyzed to find what the facts seem to be.

Some years ago, Wayne Davis and Donald Summers of Dikewood classified and sorted the raw data in some 35,000 case histories of the injured survivors of the initial effects of the nuclear weapons on Hiroshima and Nagasaki (97,000 in all). They produced tables which related type of treatment, recovery, survival, etc., to time of arrival for treatment. From these tables it was possible to derive time-phased estimates of the fractions of the injured who became ill, who recovered, and who died and thus of the fraction who required treatment day by day. These rates were then applied to the estimates of survival in the United States for several civil defense postures and compared to the estimated survival of physicians to find the case load.

Davis and Summers did not identify the specific cause of the injury or

illness. But this is a necessary consideration because the relative fraction of survivors suffering blast and thermal injury and radiation sickness can vary with the attack pattern and the civil defense posture. Therefore, for our purposes, cause of injury was related to time of arrival for treatment: 0-7 days, Blast and Thermal; 8-14 days, Blast, Thermal, and Radiation; and over 14 days, Radiation.

Arrival Time for Treatment in Japan. In Hiroshima and Nagasaki, one-third of the injured arrived for treatment in the first two days. Then the rate slowed until the end of the first week when 53 percent of the total injured had arrived. The rate then remained relatively constant (about one percent per day) until the end of the first month. Then one-quarter of the total arrived in the next 10 days. The number of new patients after 40 days was not significant.

Based on these arrival rates, 53 percent of the total injured suffered blast and thermal injury, 7 percent suffered blast, thermal, and radia-

tion injury, and 40 percent suffered radiation injury only.

Severity of Injury. Over one-half of the injuries were minor or moderate, one-quarter were severe, and less than one-fifth were life-threatening in all three categories of injury by cause. About 30 percent of those with life-threatening injury died. However, some 90 percent of those with life-threatening radiation sickness died, possibly because little was known about radiation sickness in Japan at that time. Overall, about 88 percent of the injured survived, 12 percent died.

Type of Treatment. About 27 percent of the injured in Japan were treated in hospitals, some 61 percent received minimal treatment, and 12 percent received no treatment at all. Apparently triage was being used because the fraction of those receiving hospital care increased with the severity of injury. Even so, some with minor injury received hospital treatment while others died without it. One-half of those who died received hospital care, one-half, moderate care. None

TABLE 1
JAPAN: CAUSE OF INJURY

Cause of Injury	Days to Treatment	Fraction In Period	Fraction thru Period
Blast and Thermal	0-1	0.33*	0.33**
	2-3	0.13	0.46
	4-7	0.07	0.53
Blast, Thermal & Radiation	8-14	0.07	0.60
Radiation	15-30	0.16	0.76
	31-40	0.24	1.00

*Fractions of total injured **Cumulative Fractions

NOTE: "Fractions of total injured" and "cumulative fractions" appearing in tables may be expressed in percentages simply by removing decimal points and zeroes that are to the left of digits (zeroes to right of digits remain).

TABLE 2
JAPAN: SEVERITY OF INJURY

Severity of Injury	Cause of Injury			All
	Blast & Thermal	Blast, Thermal & Radiation	Radiation	
Minor	0.03*	0.01*	0.04*	0.08*
Moderate	0.29	0.03	0.18	0.50
Severe	0.13	0.02	0.10	0.25
Life Threatening	0.03	0.01	0.01	0.05
Fatal	0.05	—	0.07	0.12
All	0.53	0.07	0.40	1.00

*Fractions of total injured

TABLE 3
JAPAN: TYPE OF TREATMENT

Severity of Injury	Type of Treatment			All
	Hospital	Minimal	None	
Minor	0.01*	0.06*	0.01*	0.08*
Moderate	0.11	0.32	0.07	0.50
Severe	0.08	0.15	0.02	0.25
Life Threatening	0.01	0.02	0.02	0.05
Fatal	0.06	0.06	—	0.12
All	0.27	0.61	0.12	1.00

*Fractions of total injured

TABLE 4
JAPAN: RECOVERY FROM INJURY

Day After Attack	Cause of Injury			Total
	Blast & Thermal	Blast, Thermal & Radiation	Radiation	
1	0.01*			0.01*
3	0.04			0.04
7	0.13			0.13
14	0.23	0.01*		0.24
30	0.32	0.01	0.01*	0.34
45	0.35	0.02	0.04	0.41
60	0.37	0.02	0.11	0.50
75	0.40	0.04	0.19	0.63
90	0.44	0.06	0.26	0.76
>90	0.48	0.07	0.33	0.88

*Cumulative fractions of total injured

TABLE 5
JAPAN: DEATH FROM INJURY

Day After Attack	Cause of Injury			Total
	Blast & Thermal	Blast, Thermal & Radiation	Radiation	
1				
3				
7	0.01*			0.01*
14	0.03			0.03
30	0.04		0.04*	0.08
45	0.05		0.06	0.11
60	0.05		0.06	0.11
75	0.05		0.07	0.12
90	0.05	—	0.07	0.12

*Cumulative fractions of total injured

of those who received no care were recorded as dying but this is most likely attributable to record keeping.

Recovery. According to the case histories, some of the injured recovered almost immediately while others were still suffering from radiation sickness months after the attack. Of those suffering blast and thermal injury, 2 percent had recovered by the second day, 25 percent in the first week, 60 percent in the first month, and 83 percent in three months. Of those suffering radiation sickness, 4 percent recovered by the end of the first month, 25 percent in two months, and about 70 percent in three months. As noted earlier on, 88 percent of the injured recovered.

Death From Injury. One-fifth of those who succumbed to blast and thermal injury died in the first week; all such fatalities occurred within 6 weeks. About one-half of those who succumbed to radiation sickness died in the first month (within two weeks after arriving for treatment); all had died within two and a half months after the attack. As noted earlier on, 12 percent of the injured died: 5 percent as a result of blast and thermal injury, 7 percent as a result of radiation sickness.

Requirement for Treatment. Some of the injured required immediate treatment while others did not appear for treatment until four or five weeks after the attack. As time passed, some of the injured recovered and some died. Thus, the number requiring treatment changed day by day. About one-third of the total required treatment on the day of the attack. This increased to 40 percent on the third day and declined back to one-third by the end of the second week. The requirement then remained steady until the end of the first month. It increased again to about one-half of the total injured in the next two weeks and then decreased to about one-eighth at the end of the third month. The maximum requirement (48 percent of the total injured) occurred at 45 days.

Estimated Injury in Attacks on the United States. In order to estimate the case load on physicians after an attack, it was first necessary to estimate the number of injured. For this we used data available from prior studies. One attack was used: about 5,000 megatons delivered and detonated on military and industrial

TABLE 6
JAPAN: REQUIREMENT FOR TREATMENT

Day After Attack	Arrived for Treatment	Recovered	Died	Net Requirement
1	0.33*	0.01*		0.32**
3	0.46	0.04		0.42
7	0.53	0.13	0.01*	0.39
14	0.60	0.24	0.03	0.33
30	0.76	0.34	0.08	0.34
45	1.00	0.41	0.11	0.48
60	1.00	0.50	0.11	0.39
75	1.00	0.63	0.12	0.25
90	1.00	0.76	0.12	0.12

*Cumulative fractions of total injured

**Fractions of total injured

targets (some ground bursts, some air bursts). It is noted that this likely "worst case" was chosen because the goal of civil defense is to minimize the maximum damage an enemy can do. Three civil defense postures were used:

Case A: existing capabilities.

Case B: with the proposed program deployed but without directed crisis relocation.

Case C: with the proposed program deployed and with relocation.

Estimates of the numbers of injured (in fractions of the total pre-attack population) are given below. Radiation injury has been divided into Initial and Residual because the dosage from initial radiation occurs almost immediately while that from residual radiation builds up.

Requirement for Treatment in the United States. In estimating

outside aid and rescue. But most of the U.S. would be accessible when the requirement for treatment is the maximum and there was practically no rescue in Japan.

About one-quarter of the injured would arrive for treatment in the first week in Cases A and B; 15 percent in Case C. Because of the preeminence of residual radiation as a cause of injury, 55 percent would arrive for treatment after 30 days in Case A, 47 percent in Case B, and 67 percent in Case C. When the recovery and death rates (from Japan) were applied, it was found that the fractions of the total injured requiring treatment would peak at 59 percent at D+60 for Case A, 55 percent between D+45 and D+60 for Case B, and 64 percent at D+60 for Case C.

D = Detonation Date

TABLE 7
U.S.: SURVIVAL OF INITIAL EFFECTS
(Attack B)

Injured	Case A	Case B	Case C
Blast and Thermal	0.033*	0.032*	0.014*
Blast, Thermal and Radiation	0.015	0.015	0.005
Initial Radiation	0.014	0.030	0.006
Residual Radiation	0.083	0.045	0.067
Total	0.145	0.122	0.092
Uninjured	0.241	0.463	0.695
Total Survival	0.386	0.585	0.787

*Fractions of total preattack population.

arrival for treatment, recovery, and death in the U.S., the rates for the Japanese events were applied separately to the estimate of injury, by cause, in the above table. There is no rational basis for using other rates; the whole history of nuclear war comes from Hiroshima and Nagasaki. Some hold that it would be worse after a major attack on the U.S. because fallout would prevent

Medical Case Load. Two assumptions were made in estimating the medical case load. First, it was assumed that physicians would act as prudently as the public and would be affected in the same proportions. Second, it was assumed that only those physicians not injured by blast and thermal effects and not to suffer radiation sickness would be available to treat patients. This second

assumption tends to overstate the case load in Cases A and B; it was not significant in Case C.

There are about 450,000 physicians in the United States. Of these, 108,000 would survive uninjured in Case A, 208,000 in Case B, and 313,000 in Case C. In estimating

U.S.: ALTERNATIVE POSTURES

Case

A: existing capabilities (no directed relocation)

B: with proposed program deployed but without directed relocation.

C: with proposed program deployed and with directed relocation.

SURVIVING PHYSICIANS

Case A 24%
Case B 46%
Case C 70%

(If a national shelter program were in place the anticipated physicians survival figure would be 90%. Editor's Note.)

case load, it was assumed that 12 percent of the injured would not be treated as happened in Japan. This might not be so in the U.S. but, again, there is no logical basis for a different assumption. Of course, this reduces the estimated case load somewhat.

Two periods are significant in considering medical case load. In the first week after the attack, the patients were suffering from mechanical injuries and burns. But when the number of patients reaches the maximum, most of the patients are suffering from radiation sickness. In Case A, the number of patients in the first week averaged 4.0 million: about 40 per available physician. In Case B, there were 3.8 million patients: 20 per physician. In Case C, there were 1.8 million patients: 6 per physician.

In all three Cases, the maximum case load occurred about two months after the attack. In Case A, there were about 15 million patients: 140 per physician. In Case B, there were about 12 million patients: 56 per physician. In Case C, there were about 10 million patients: 33 per physician.

Discussion. It seems obvious from these results that civil defense can substantially reduce the medical case load attributable to attack-caused illness and injury. It also seems likely that, given a moderate civil defense preparedness program

(continued on page 25)

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WAGING NUCLEAR PEACE:

The Technology and Politics of Nuclear Weapons

By Robert Ehrlich, Chairman, Physics Department, George Mason University.

Published by the State University of New York Press, Albany, New York, 1985, xii + 397 pp., copyright 1985

Paperback: \$12.95. Hardback: \$39.50.

— Reviewed by Conrad V. Chester, Oak Ridge National Laboratory

Dr. Robert Ehrlich is a relative newcomer to the strategic literature. He wrote *Waging Nuclear Peace* to provide a badly needed text for a course on nuclear issues which he is teaching at George Mason University. While this reviewer does not agree with every point in his text, this book appears to be the one of the more lucid, clear-headed discussions of nuclear defense issues that I have seen.

The book is divided into four major sections: "Introduction to the Issues", "Nuclear Arms and Nuclear War", "The Effects of Nuclear War", and "Policy Options and Objectives". Subsections (chapters) include "The Nuclear Debate", "Public Opinion and the Media", "Nuclear Weapons and Nuclear Strategy", "The Continuing Arms Race", "Limited Nuclear War", "Nuclear Weapons Effects", "Effects of Nuc-

and the Media", there are the questions: "Does public opinion matter?", "Why has the nuclear issue re-emerged?", "How well have the media handled the nuclear issue?", "How fairly are administration positions reported?", "What is the nature of the anti-nuclear movement?", "How does the Soviet Union manipulate public opinion?", "How important is Soviet public opinion?", "What are U.S. public attitudes toward nuclear arms control?" and finally, "Where do we go from here?"

Chapter 9 "Effectiveness of Civil Defense" is probably the most important chapter in the book to the readers of *The Journal of Civil Defense*. It includes the following issues: "Why is it difficult to examine civil defense objectively?", "Could a crisis re-location save many lives under favorable circumstances?", "Why could a crisis re-location

sections "Climatic Catastrophe", "Enemy Targeting Strategy", "Public Opinion", and "Societal Disintegration." Under "Climatic Catastrophe", Ehrlich concludes,

"It must be remembered, however, that there is considerable uncertainty in these predictions (of "nuclear winter") and that it is not possible to estimate the probability of a climatic catastrophe. Moreover, to the extent that the governments of the United States and Soviet Union believe predictions of climatic catastrophe, they may be moved to actions that mitigate against that possibility. Such actions might include a further move to smaller weapons, a change in targeting strategy (avoiding cities and nuclear reactors), or a mutual reduction in the size of the arsenals.

"The magnitude of the climatic effect termed 'nuclear winter' is a key issue of civil defense. Although a catastrophic temperature decline might make all but the most heroic civil defense efforts futile, the likelihood is that a temperature decline would be of less-than-catastrophic proportions, and that would make certain civil defense measures potentially very important, e.g., having large individual and national stored food reserves."

The "bottom line", literally, of his position on civil defense is summed up by the last paragraph in the chapter:

"While there are major obstacles to survival following a nuclear war, it is by no means clear that these obstacles are insurmountable. In the nuclear age the goal of preventing nuclear war must of course take priority over surviving one. Nevertheless, because a nuclear war could occur despite our best efforts at prevention, prudence requires that some attention be devoted to the

"HOW WOULD AN EXPANDED U.S. CIVIL DEFENSE EFFORT AFFECT THE PROSPECTS OF EVENTUAL RECOVERY?"

lear War on the United States and the Soviet Union", "Long-term, Worldwide Effects of Nuclear War", "Effectiveness of Civil Defense", "Arms Control and Disarmament", and "Nuclear Weapons Proliferation".

There are two appendices, "Physical Principles of Nuclear Energy", and "Radiation and Survival after a Nuclear War".

Each chapter has a number of sub-headings expressed as questions which are major issues collected under that chapter. For example, in Chapter 2, "Public Opinion

potentially be so effective?", "Over what fraction of the United States would survival in shelters be feasible?", "How likely is it that circumstances would be so favorable as to allow a crisis re-location to take place?", "How would an expanded U.S. civil defense effort affect the strategic balance?", "How would an expanded U.S. civil defense effort affect the prospects of eventual recovery?", "How effective are shelters?", and "Insurmountable obstacles to an effective civil defense."

This last section has the sub-

problem of survival."

While this indicates less of a ringing endorsement of civil defense than we advocates of a larger program would like, it is characteristic of Ehrlich's attempt at even-handedness in discussion of the issues. He expects to be condemned by both the left and right on this issue. A good example of a passage which may draw fire is in his first paragraph of the book:

"For some people the nuclear issue boils down to the simple question of whether it is anti-nuclear war or pro-nuclear war. The Dr. Strangelove stereotype has been invoked often in fiction. In reality, it is a straw man, useful for people who wish to avoid facing the really hard questions. Many people who have a deep emotional commitment to peace, which is good, find no need to think in a rational, analytical way about the frightful issue of nuclear war, which is bad."

The one issue on which this reviewer strongly disagrees with the author is that of the stability of ballistic missile defense systems. The author believes that an ABM program would destabilize the arms race as each side attempted to compensate for the other's defensive deployment with additional offensive deployment.

The author also believes that:

"There can be little question that ABM Systems could be highly destabilizing in a crisis even if both sides had them. A clever military briefer might persuade a political leader that a vulnerability had been discovered in the other side's ABM defense that would allow a reason-

able chance for disarming attack. Alternatively, one side might become worried that a real or perceived vulnerability in its own system had been discovered by the adversary, thus it might be tempted to strike first while it still had enough offensive forces to saturate the enemy's defenses".

This regrettable paragraph demonstrates the authors' disbelief in the extreme skepticism with which senior military and political decisionmakers collectively greet proposals for rash actions based on supposed intelligence or technical information, no matter how cleverly argued. The author also overlooks the consequences of his own observation that all ABM systems will

submarines) and thus provides a little extra deterrence to nuclear proliferation.

Ehrlich does not believe that we can get away from a strategy of Mutual Assured Destruction. However, he offers a ray of hope in his belief that with care we may avoid or deter a holocaust in a nuclear weapons-rich world. He sees an analogy to chemical weapons: when both sides have them, they don't get used. This hope applies to nations with rational leadership which is the likely case for the superpowers for the foreseeable future. Unfortunately, it may not apply to regimes under control of religious fanaticism.

"... THE GOAL OF PREVENTING NUCLEAR WAR MUST OF COURSE TAKE PRIORITY OVER SURVIVING ONE."

leak; any war is going to do unacceptable damage to both sides. He has discounted the possibility of the value of an ABM system in a world in which offensive forces are constrained by arms control agreements, and the deterrent value of the uncertainty an ABM system produces in the calculations of the effectiveness of an attack. The author also fails to mention the ability of an ABM system to cope with accidental or unauthorized launches of one to a few weapons and that stability this can provide in a severe crisis. These would include third party attacks launched anonymously (as for example from

In my opinion this book is a highly valuable contribution to a rational discussion of nuclear issues. While I don't agree with everything that is said, it is a tremendous improvement over the disinformation currently prevalent in the academic world on this subject. While it is not the long-sought text on nuclear survival which Eugene Wigner has strongly advocated for use in high schools, this book should result in significant improvement in the rationality of thought about nuclear policy in any course in which it is used. It is a refreshing antidote to the hysterical nonsense in "Fate of the Earth" and similar works. □

NATIONAL EMERGENCY TRAINING GUIDE PRINTS ISSUE NUMBER ONE

The *National Emergency Training Guide* (NETG) has just published its first issue — Fall 1984. According to an announcement accompanying this issue NETG will feature articles and items covering

- Search and Rescue (SAR)
- Emergency Preparedness (Survival Education)
- Integrated Emergency Management
- Emergency Response
- Disaster Research

Certainly, editors Skip Stoffel

and Rick Lavalla — and backer Gene Fear — give the publication the kind of pedigree the serious search and rescue operation is hunting for. SAR experts who top their expertise and experience are yet to be found.

NETG's first issue contains a valuable listing of offices, schools, publications and materials that support SAR activities — with descriptions and addresses.

The organized approach to saving lives could well be expanded to include other types of disaster (including nuclear attack).

Subscription price to NETG is \$50 per year (introductory offer now in effect is \$37.50). Address: 1819 Mark St., N.E., Olympic, WA 98506.

LETTER

BLOWER SOURCES

In the article "Civil Defense Implications of Biological Weapons — 1984" in your December issue you included sources for blowers. Please let your membership know that hand-cranked or motor-driven blowers are frequently available as part of used blacksmithing equipment at flea markets or farm auctions at reasonable prices (usually well under \$100). These could be incorporated into shelter plans.

Ken Scharabok
Dayton, OH

The world's safest energy — nuclear — strives to take all possible steps to contend with malfunctions. Last year's Florida exercise at St. Lucie Nuclear Power Plant tested local-state-federal response.

"ACCIDENT" AT ST. LUCIE

— Martha V. Adler
Kathy S. Gant
Oak Ridge National Laboratory

Is the nation better prepared to handle a serious peacetime radiological accident than it was in 1979 at Three Mile Island? The answer is a definite "yes!" The reasons are several — requirements for additional emergency planning around nuclear power plants, improved readiness on the part of utilities, and, from the federal government, a new federal plan to deal with all types of peacetime radiological accidents.

All the above factors were demonstrated in March, 1984, at what has been called "the Cecil B. DeMille of nuclear disaster drills." This emergency preparedness exercise involved the simulation of a major accident at the St. Lucie Nuclear Power Plant on the east coast of Florida. Florida Power and Light (FPL) which operates St. Lucie, the State of Florida, counties near the plant, and eleven federal agencies responded to the simulation as if it were a real accident. During the exercise, participants or "players" grappled with problems at the power reactor itself, difficulties

caused by the release of potentially damaging amounts of radioactive material, evacuation and then final resettlement of part of the local population. Events occurring over five days in the accident scenario were compressed into three calendar days allowing phases of both the emergency and the recovery from the accident to be included.

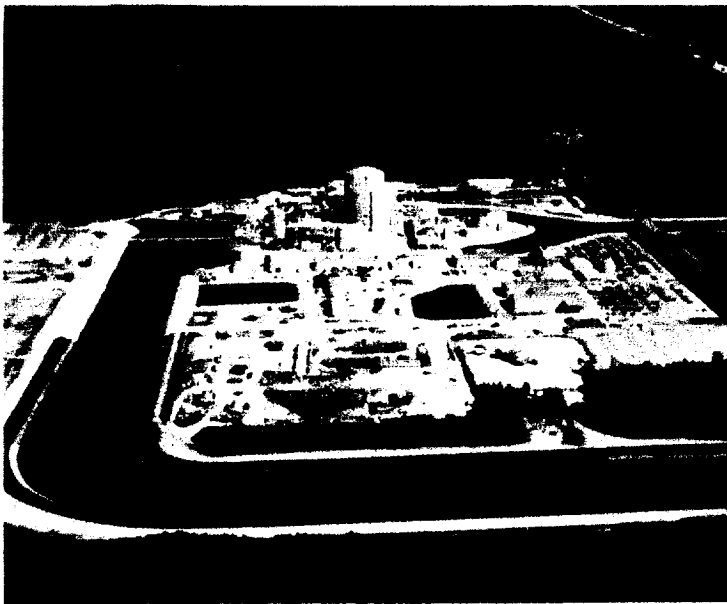
The exercise accomplished several objectives. It served as the annual compliance exercise for FPL to demonstrate its emergency preparedness. The Nuclear Regulatory Commission (NRC) assessed the emergency response at the plant site, while the Federal Emergency Management Agency (FEMA) judged the effectiveness of the emergency plans for the surrounding area. The federal agencies' principal objective was to test the draft Federal Radiological Emergency Response Plan² before it is published in its final version later this year. They also wanted to determine whether the federal response assistance was useful to the state and local governments. The exercise allowed federal

agencies to test their own agencies' response plans and to coordinate their response activities with their counterparts in other federal agencies and the state government.

The New Federal Plan

The federal agencies have been developing the Federal Radiological Emergency Response Plan, or FRERP, as it is known, for several years. The FRERP evolved from a federal response plan written after Three Mile Island for accidents at commercial nuclear power plants. The FRERP covers all types of peacetime accidents, including those at fixed nuclear facilities such as power plants, transportation accidents (including transportation of nuclear weapons), and others (such as re-entry of a nuclear-powered satellite). The FRERP lists each participating federal agency's responsibilities in support of the state and local government response and includes summaries of each agency's own plans for response.

A large section of the FRERP is devoted to the way in which the off-site radiological monitoring and assessment activities should be coordinated. A 1961 agreement, the Interagency Radiological Assistance Plan, is being replaced by the Federal Radiological Monitoring and Assessment Plan (FRMAP), included in the FRERP. The federal agencies involved are the Department of Energy (DOE), charged with coordinating the federal radiological monitoring during the emergency phase of the response, and the Environmental Protection Agency (EPA), which takes over the coordination role during the intermedi-



St. Lucie Nuclear Power Plant

Research sponsored by Martin Marietta Energy Systems, Inc. for the U.S. Department of Energy under Contract No. DE-AC05-84OR21400. The views expressed are those of the authors and do not necessarily represent those of the Department of Energy.

ate and long-term response. Other federal agencies included in FRMAP are the NRC, FEMA and the Departments of Health and Human Services, Commerce, Agriculture, Interior, and Defense.

Federal Responsibilities

As outlined in the FRERP, federal agencies have the following major responsibilities during a peacetime radiological accident:

- FEMA coordinates the non-technical federal assistance to state and local governments and promotes the coordination of the federal response at the scene of the accident.
- The NRC is responsible for monitoring its licensees (such as commercial nuclear power plants) to ensure that appropriate recommendations are being made with regard to protective actions.
- The National Oceanic and Atmospheric Administration (Department of Commerce) has the primary responsibility for providing information on weather to responding federal, state, and local organizations. The Department of Commerce also provides information on commercial fisheries.
- The Department of Defense (DOD) can provide manpower, telecommunications, monitoring and assessment capabilities, and logistics support. In the event of a nuclear weapons accident or an accident at a defense facility, the DOD would have a primary role, such as the NRC has for commercial power plant accidents or other incidents involving its licensees.
- The Department of Energy maintains the FRMAP and implements it during the initial phase of an accident. DOE would also have a primary role if the accident occurred at one of the DOE installations.
- The Department of Interior (DOI) is responsible for all response decisions affecting DOI-managed federal lands, facilities, and water resource projects. DOI provides advice and technical assistance, as requested, regarding hydrology, fish, and wildlife in the affected area.

- The Department of Transportation assists state and local jurisdictions when their technical or logistical civil transportation resources are inadequate for the emergency.
- The EPA, in addition to coordinating the post-emergency federal radiological monitoring activities, assists the state and local governments in monitoring the environment and water supply and making long-term assessments and protective action decisions. EPA also provides guidance on acceptable levels of radiation in the environment during the emergency.

A Federal Emergency Communications Coordinator can be appointed, if needed, to make sure that the essential communications requirements in the emergency area are met.

- The Department of Agriculture (USDA) assists state and local governments in protecting and assessing the damage to products. The USDA may procure food for emergency feeding programs; determine the meat, poultry, eggs, and products containing them are safe for human consumption; and provide technical information and advice for farmers.



Over 160 State and Federal personnel coordinated data collection and analysis at the Federal Radiological Monitoring and Assessment Center, and associated mobile laboratories.

- The Department of Health and Human Services assists with the assessment, preservation, and protection of human health, by testing food products for safety and insuring the availability of essential human services, such as medical treatment.
- The Department of Housing and Urban Development assists state and local governments with staff and other resources in planning for and providing emergency housing for homeless victims.
- The National Communications System coordinates and manages telecommunications support for FEMA and other federal agencies during radiological emergencies.

Implementation of the FRERP at St. Lucie

How was the guidance that appeared in the FRERP translated into a coordinated emergency response during the exercise at St. Lucie? Months of planning by all the agencies involved preceded the \$1 million exercise. Agencies developed and revised their own response plans to agree with the FRERP. Interagency committees handled the logistic requirements, conducted the exercise, and evaluated the activities of almost 1000 state, local, federal, and utility players. Of course, this type of detailed, advance planning is not possible for a real accident, but as a result of this exercise, the plans are now ready.

And, in a real accident, the personnel and equipment would be made available immediately, rather than having to be scheduled far in advance, as for an exercise.

As would be true in most nuclear power plant accidents, the activity on the first day of the exercise involved primarily the utility and state and local government personnel. Officials activated the emergency control centers of the utility, state, and counties and notified the federal agencies. As the hypothetical conditions in the plant deteriorated, the state and local authorities decided to evacuate some areas west of the plant. The federal agency personnel, who were already located near St. Lucie, waited long enough to simulate the trip to the plant site before they began to "play" or take part in the exercise. Advance parties from the federal agencies began arriving in mid-afternoon of the first day. By the second day, the total federal response was in place.

There were response activities being initiated in a number of locations. The nerve center was the FP&L Emergency Operations Facility (EOF). The Governor's authorized representative, senior state radiological health and emergency preparedness staff, senior NRC and FEMA officials, and a DOE liaison joined the utility personnel there. The emergency news center, also located at the EOF, was busy from

the early hours of the emergency as real reporters and actors pretending to be media representatives pressed officials for details of the "accident".

Approximately 30 miles south of the EOF is the state Field Emergency Operations Center. Representatives of the state agencies gathered there as they would to deal with any type of emergency in southern Florida, most commonly hurricanes. FEMA set up a Federal Response Center (FRC) in trailers adjacent to the state center. Federal agency personnel operated from the FRC, with frequent interaction with their state counterparts next door. Each of the counties affected by the accident also had its own Emergency Operations Center.

The Federal Radiological Monitoring and Assessment Center, established by DOE in a hangar at a small airport midway between the EOF and FRC, coordinated the radiation tracking, sampling, and analyzing done by federal and state agencies. DOE can set up, on a few hours notice, complete facilities to carry out this activity. Communications gear, office and health physics supplies, and photo and video processing laboratories are stored in air cargo containers ready to be transported to an accident site. A 90-kW electrical generator, which can use a variety of fuels, provides the operating power. During the exercise, two helicopters and a

small airplane tracked the hypothetical radioactive plume, measured ground deposition of radioactive materials, and provided aerial photography. The state, DOE, EPA, and NRC sent mobile laboratories to add to the analytical capabilities at the site.

CONCLUSIONS

The players and evaluators agreed, after the exercise, that all the effort had been worthwhile. At the local level, the exercise demonstrated that the population could be protected in the event of an actual accident. The Federal agencies worked together and with the state under the simulated emergency conditions. Of course, the participants found some areas that needed improvements and will make some modifications to their emergency plans. But, because of the development of a coordinated Federal plan and the experience at St. Lucie, the country is now better prepared to minimize the effects of a major nuclear accident. □

REFERENCES

1. "Nuke Disaster Drill Resumes", *News-Tribune*, Ft. Pierce, FL, September 8, 1983.
2. "Federal Radiological Emergency Response Plan (FRERP); Publication for Public Review, Comments, and as the Basis for a Large-Scale Field Exercise", *Federal Register*, Vol. 49, No. 19, Jan. 27, 1984, pp. 3578-3604.

MATERIALS AVAILABLE FROM HIGH FRONTIER

(The following items are *among* the materials available from High Frontier. For a more extensive list contact: Breanna Bly (202-737-4979), PR Dept., High Frontier, 1010 Vermont Ave., N.W., Suite 1000, Washington, D.C. 20005.)

"HIGH FRONTIER: A DEFENSE THAT DEFENDS" — a 26-min. discussion of space defense systems with Gen. Graham, Lorne Greene & Don DeFore. Available on video tape (VHS & BETA II). \$25 each.

"PEACE THROUGH STRENGTH" — 25½-min. (See page 22 for review and details.)

A STRATEGY FOR PEACE THROUGH STRENGTH (Book — see page 22 for review.)

HOW TO MAKE NUCLEAR WEAPONS OBSOLETE \$1.00 each
(The Orwell Press, 1984), by Robert Jastrow —
a 34 page pamphlet.

"HIGH FRONTIER": a 24-minute TV program Available upon Request
on video tape (VHS, BETA & ¾"), and 16mm film.

"HIGH FRONTIER": An 8-minute message ¾" TAPE \$30.00 each
available on video tape ½" TAPE \$20.00 each
(VHS, BETA & ¾"), and 16mm film. 16mm FILM \$80.00 each
Rent \$30.00/week

"THOR'S HAMMER" — ANOTHER IDAHO SUCCESS STORY

Bonneville County (Idaho Falls) in Idaho is one locality in these United States where civil defense is taken seriously. It's a fine example for the rest of us.

Under the direction of civil defense director Captain T. J. Wadsworth over 2,000 participated in a nuclear attack scenario. Electromagnetic Pulse (EMP) was a major factor in the exercise, and radio operators reported that their EMP suppressors were no handicap to operations.

In 1981 Bonneville County conducted another one of its nuclear attack exercises. It resulted in a feature story being published in the *Journal of Civil Defense*.

REVIEWS

SOVIET CIVIL DEFENSE PUBLIC INSTRUCTION AND TRAINING PROGRAMS, by Dr. Leon Goure, Science Applications, Inc. Prepared for Federal Emergency Management Agency, Washington, D.C. 20472. 99 pages. August, 1984. \$13. (Available from U.S. Dept. of Commerce, National Technical Information Service, Springfield, VA 22161 — Attn: Sales Dept., Report ADA-144834.)

—Reviewed by Max Klinghoffer, M.D.

Dr. Goure has again produced one of the most informative works on Soviet preparedness. This book might well be described as a "companion piece" for his March, 1984 book "The Soviet Civil Defense Medical Preparedness Program". It is interesting (though quite depressing) to contrast the Soviet state of preparedness with the deplorable lack of preparedness in the United States. This is especially true when the continuing inertia of Federal agencies gives us no hope for the protection of our population in the future.

Dr. Goure describes two major objectives of the Soviet Civil Defense program: First, to ensure that in an emergency the population will react in an organized fashion; and second, that the program will instill in the population duty to the regime, patriotism, and support of Soviet policies. There have been, in the past several years, eight compulsory civil defense instruction courses, covering three general groups of trainees: school children and students; working adults; and retirees. In the school system, courses are given in the second grade, fifth grade, and in the ninth and tenth grades. This school training is supplemented by additional instruction in camps and in paramilitary activities.

The courses cover problems concerning nuclear, chemical, and bacteriological weapons, as well as those of conventional warfare.

The Soviets acknowledge certain shortcomings in these courses; but, due largely to their compulsory nature, the population is being trained. There are from 75,000 to 100,000 instructors in schools, for civil defense instruction, most of whom

have additional duties. The number of instructors for the working population is likely to be at least 250,000; these, however, are part-time instructors, and are said not to be well-trained. But any instruction given carries a low price tag, since most instructors are not paid.

For the purpose of evacuation of target areas, almost all transportation is public, and therefore under control of the Government. There is little private transportation in the Soviet Union. The Soviets are realistic about the nuclear threat; but it is significant that they do not present to their population a "doomsday" scenario. (Contrast this with the far more pessimistic outlook which the Soviets are promulgating in the United States, largely through their manipulation of some of our medical organizations.)

In 1961 there was a major reorganization by the Soviets, and "Local Anti-Air Defense" became "Civil Defense." Responsibility for this function shifted from the Ministry of Internal Affairs to the Ministry of Defense. Civil Defense published a pamphlet entitled "Everyone Must Know and Be Able to Do This." The cost for each pamphlet is less than five cents in United States currency. (It has been alleged that the United States Government recently paid \$7,000.00 each for special airborne coffee makers. If this allegation is true, then simple arithmetic tells us that one such coffee maker would have paid for 140,000 such pamphlets, each designed to save the lives in an American family. It is conceivable that the information in such a pamphlet might even have canceled that tendency of some of the Brown University students to emulate the lemmings.)

In the Soviet Union, participation in Civil Defense is compulsory, and is considered a "patriotic duty." Further, it is mandated by the Constitution of the Soviet Union.

The Civil Defense courses include: Warning signals and responses. Location and uses of shelters, and building of shelters.

The use of gas masks and protective garb.

Blackout and fire protection; protection against radioactive dust. Protection of food and water sup-

plies.

Evacuation from high risk areas. First aid.

How to act to protect individuals in a contaminated area.

Decontamination.

Protection of livestock, food, water.

Rescue procedures in natural disaster or nuclear disaster.

In the Soviet Union, all physically fit males in institutions of higher learning must participate in military instruction, similar to ROTC, which includes training in civil defense. There is special training for medical students.

The Soviet attitude toward war is influenced by the experience of World War II, in which they suffered approximately twenty million killed, and another twenty million lost due to declining birth rates.

Apparently some Russians, at least, have retained a sense of humor, according to Dr. Goure. One anecdote: "In the event of nuclear war, wrap yourself in a sheet, and walk to the cemetery. Why walk? To prevent panic." (One wonders if the teller of this story is now amusing his companions in Siberia.)

The Soviets have set up a number of professional organizations to parallel such groups as Physicians For Social Responsibility. These are, of course, controlled by the Communist Party. A number of unsanctioned groups have been suppressed, and some of their members incarcerated. This, in contrast to the United States, where those who dedicate themselves to destroying our national defense are often honored, and receive grants from misguided foundations.

In a totalitarian state, with control over the population, civil defense training can be imposed upon the people. Yet Switzerland and Sweden have demonstrated that civil defense can also be effective in a democracy.

The news media can play an important role in civil defense training. In the Soviet Union, the media are under government control. In a nation such as the United States, the media could contribute a great deal to civil defense if they were regarded as a public service. Perhaps some of the more responsible pub-

lishers might consider a daily column on civil defense tips, instead of utilizing the newspapers and magazines as second-rate sex manuals.

Dr. Goure's latest book has a lesson for us, as well as a sharp warning. But will we heed this warning? Or will we repeat December 7, 1941, when the approach of enemy aircraft was interpreted as "just maneuvers"?

GRACE COMMISSION REPORT, by William R. Kennedy, Jr. and Robert W. Lee. Published by Green Hill Publishers, 722 Columbus St., Ottawa, IL 61350. 1984. 149 pages. \$1.95 (discounts for bulk orders).

— Reviewed by Walter Murphey.

It is sad to reflect that civil defense requirements in the United States have been squeezed out by welfare expenditures — something that didn't exist before FDR's depression antidotes. But that's what comes from overdoses of empathy.

And, as the *Grace Commission Report* points out, it's a lot worse than that. As most everyone now realizes, deficit spending and the national debt are about to get out of control.

Enter J. Peter Grace and his team of 200 volunteer corporate executives. The Lord and Congress willing (and there appears to be some doubt about the latter), hope lies in the fact that the public is now aroused by zooming federal deficits. Congress listens to the public. Grace and his fiscal team have outlined ways to curb and eliminate needless expenditures.

For taxpayers interested in becoming active in defending taxpayer interests we suggest they call "Citizens Against Waste" for free documentation. The toll-free number is 800-872-3328 (or 800-USA-DEBT). A good idea. A good book.

I, MARTHA ADAMS, by Pauline Glen Winslow. Published by St. Martins Press, 175 Fifth Ave., New York, N.Y. 10010. 340 pages. \$12.95.

— Reviewed by Edna Clarkson Hallman.

Let us first understand the importance of this realistic and engrossing fictional novel. I have often criticized myself for thinking too far into the future, but this book may be striking dangerously close to becoming our destiny.

Though "I, Martha Adams" is fictional, it contains many factual details in regard to Soviet military and political capabilities. It is ingenious in its plot and begins with the President informing his people that he has just surrendered the United States to the Soviet Union under the pressure of nuclear blackmail. His next statement is that we will now have peace in our time. It is shocking to read of the turbulence caused by the President's disclosure. The author has obviously made a detailed study of the USSR foreign policy and the mental conditioning of the American people.

As the Soviet take-over progresses, with the aid of Cuban occupation forces, Martha Adams finds papers belonging to her deceased engineer husband which relate to a missile system code named "Magnaninity." The system has been hidden but her husband's papers disclosed the location. The Russians are also aware of and looking for the weapon.

While "Magnaninity" seems, to my way of thinking, to have incredible capabilities, this is an age of heavy research into military systems of outrageous power.

The book is a thriller and although it is fiction, I found myself unable to lay it down until completing it.

A STRATEGY FOR PEACE THROUGH STRENGTH, Produced by the American Security Council Foundation for and with the Coalition for Peace Through Strength, 1984, 204 pp., \$4.95.

— Reviewed by Jack Richardson.

This book, in brief straight forward fashion, pinpoints eight principles which if vigorously pursued will provide this nation and its citizens "a strategy for peace through strength." These principles are:

1) To inspire, focus and unite the national will and determination

to achieve peace and freedom;

- 2) To achieve overall military and technological superiority over the Soviet Union;
- 3) To create a strategic defense and a civil defense which would protect the American people against nuclear war at least as well as the Soviet population is protected;
- 4) To accept no arms control agreement which in any way jeopardizes the security of the United States or its allies, or locks the U.S. into a position of military inferiority;
- 5) To reestablish effective security and intelligence capabilities;
- 6) To pursue positive non-military means to roll back the growth of communism;
- 7) To help our allies and other non-communist countries defend themselves against communist aggression; and
- 8) To maintain a strong economy and protect our overseas sources of energy and other vital raw materials.

If at this point in this review, you are a "doubting Thomas" about the need to implement such a strategy, which clearly calls for the development of a stronger *Civil Defense Program*, then I would invite you to read the sobering and factual information provided in this book on the Soviet strategy for dominance, organization for conflict, peace through violence, deception, peace offensive, economic war, and military power. The Russian Bear never sleeps — so wake up America!

We the majority have remained silent too long and have watched the loud minority dismantle a vital part of the strategy for peace through strength, the Civil Defense Program.

The results of the Opinion Research Corporation Omnibus Survey (pages 197-201), specific to the following statement, indicate that a majority of our citizens want a civil defense program:

"The United States should create a strategic defense and civil defense which would protect U.S. citizens against nuclear war at

least as well as the Soviets defend their citizens."

	No. of Respondents	Percent
Agree	851	84.8
Disagree	76	7.6
Not Sure	76	7.6

Can Federal, State and Local Emergency Management/Civil Defense staffs meet this significant challenge? For starters we could share this "strategy for peace through strength" with our elected officials who consider the funding priority for nuclear war preparedness to be a poor fourth after pot-holes, pot and pollution.

PEACE THROUGH STRENGTH (Film), produced by the American Security Council Foundation, Boston, VA 22713 (Phone: 703-547-1776). 25½ minutes in length. Full color. Videotape cassette (½" VHS, ¾" or ½" BETA): \$50. 16mm film: \$265. (Rental of 16mm film: \$35 per day.)

— Reviewed by Kevin Kilpatrick.

For a clear demonstration, a graphic and dramatic analysis, of the grand strategy of conquest that the West is faced with by all means see "Peace Through Strength." Even for those who have succumbed to the opiates of social hayrides and pork-barrel infusions it's an eye-opener.

Like Rip Van Winkle, America is emerging from a long slumber induced by apathy, prosperity, hedonism and disinformation. It is now waking up. "Peace Through Strength" will help speed the awakening. Like other films and publications from the American Security Council, "Peace Through Strength" is educational and stimulating. It's a perfect feature for civic clubs, church groups, schools, governing bodies, businesses, homes, bars and whatever across the land.

America's top defense strategists speak out in "Peace Through Strength." General Bennie Davis, Commander-in-Chief of the Strategic Air Command sounds a warning:

Through the whole negotiating session of SALT II, where the United States actually did not modernize its forces at all, we've seen the greatest buildup by the Soviet Union of nuclear weaponry in modern history . . . "Peace Through Strength" puts its major accent on the positive and on escape from the clutches of communism. President Ronald Reagan charts a future:

Let us now begin a major effort to secure the best — a crusade for freedom that will engage the faith and fortitude of the next generation. For the sake of peace and justice, let us move toward a world in which all people are at last free to determine their own destiny.

It can be said that the United States is no longer sitting on its hands. "Peace Through Strength" outlines the illness and helps to prescribe the cure that is now in motion.

THE POLITICS OF SENTIMENT, by Richard E. Sincere, Jr. Published by Ethics and Public Policy Center (1030 15th St., N.W., Washington, D.C. 20005). 1985. 176 pages. \$8.00.

— Reviewed by Walter Murphey.

The Politics of Sentiment examines carefully the question of boycotting South Africa because of its racial problems — of withdrawing capital and industry in order to bring the country to its knees and require that not-Whites, especially Blacks, be accepted as political and social equals, that "apartheid" be buried and forgotten.

This is called "disinvestment." On the surface it appears to be an attractive cudgel for those who would stamp out racial discrimination.

But, as Sincere points out, disinvestment is based on disinformation. It would have a boomerang effect and would abort a progressive movement now afoot, thanks to industrial development, to bring harmony among the races in South Africa. Black leaders detecting this rapprochement ask that disinvestment be discouraged as it will harm most of all those people it wants to help. One of these is Black leader Lucy Mvubelo, whose home was

recently fire-bombed by terrorists. She bravely writes the foreword for Sincere's study, and she asks that foreign investors not be swayed by the "uninformed" view and "short-sighted" actions. Blacks need the racial benefits that foreign investors bring. Analysts like Harvard political scientist Samuel P. Huntington wholeheartedly agree. Huntington points out that under the demands of industrialization apartheid is fast melting. Let it melt. It doesn't need the torch of revolution.

Important too are South Africa's strategic position astride sea routes and the world's largest deposits of gold, platinum, vanadium, manganese and chromium plus major reserves of diamonds, copper, nickel, iron, silver, uranium, phosphates, asbestos and zinc.

Just who would want to deprive the West of these items?

Sincere's book is a real eye-opener. It puts South Africa in its real place in the sun. And it establishes the author — with his first book — as an authoritative and lucid writer and a master of his subject. He has done South Africa, and those who thirst to understand her, a tremendous service.

THINKING ABOUT THE UNTHINKABLE IN THE 1980's, by Herman Kahn. Published by Simon and Schuster, Rockefeller Center, 1230 Avenue of the Americas, New York, N.Y. 10020.

— Reviewed by Don Hanks.

Herman Kahn wrote *Thinking About the Unthinkable* in 1962. That book insured his fame as a star among the analysts in the Nation's "think tanks." He undoubtedly influenced the evolution of military and civil defense policies among the nuclear powers.

Kahn died in 1983 after nearly finishing his new and final work, a sort of sequel aptly titled *Thinking About the Unthinkable in the 1980s*. His colleagues at the Hudson Institute completed it for him.

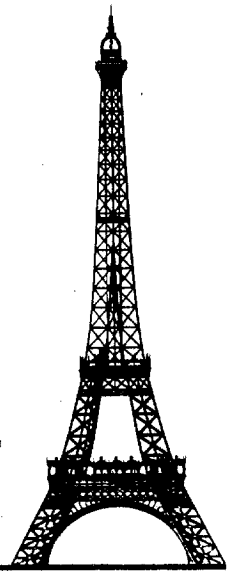
His goal was a safe world in this nuclear age. He dealt profoundly and practically with the issues

(Continued on page 31)

"It's a paradox — or demagoguery — to have for so long consecrated so much to the expenses of social security and other public assistance projects and to have allotted so little, practically nothing, to the most important security measure of all: that of the lives of our citizens — and to our greatest public assistance project: that of the survival of the nation." (Maurice Druon, of the Academie Française in his address of October 9, 1984 at the French Senate.)

IN FRANCE: NEW FOCUS ON CIVIL DEFENSE

— Robert Baffin



"Fifty million Frenchmen can't be wrong," the saying goes. Fifty million Frenchmen aren't now demanding civil defense, but if all goes as a new preparedness initiative portends they will soon be involved with it up to their elbows. Over two hundred parliamentarians from the French Senate and the French Chamber of Deputies are out to wake up their country to the fact that preparedness against the effects of nuclear war is an urgent current requirement — an absolute necessity if France is to be in a position to survive modern war, or to forestall it.

They have, together with leading regional and local politicians, founded the "Haut Comité pour la Défense Civile" (High Committee for Civil Defense). After auspicious beginnings, aided by the leadership of prominent national figures such as Senator Maurice Schumann and General Pierre Billotte, they staged last October 9th a "Civil Defense Day" in the Medicis Room of the French Senate at the Luxembourg Palace.

They give themselves 10 years to put a shelter system in place.

On October 9th seven subcommittees presented their reports on civil defense at the Luxembourg Palace. In addition, nine speakers addressed the gathering, one film ("Life in Shelter") was shown, one press conference was held, and a brief general discussion took place. The program lasted all day.

On a previous occasion Schumann (who is president of the Haut Comité) had said: "I am convinced, and I base this on daily contact with the people, that civil defense is one of the elements of national credibil-

ity and consequently one of the essential elements of deterrence."

France, with its compact population and military traffic requirements in emergency, in the opinion of the Haut Comité, must rely on in-place shelter. In its presentation to the Senate gathering the Haut Comité's subcommittee on evacuation had this to say:

Modern means of massive destruction — particularly their extensive range and their use by surprise — do not allow, in our country, planning for evacuation to "safe" areas. The employment of weapons of mass destruction over France or a neighboring country can place all parts of the country in danger, even those with low population densities.

In the event of a wartime operation it would not be possible to guarantee an adequate movement of the population to reception areas and sufficient supplies of food.

Furthermore, the evacuation could interfere with the important national defense missions. Uncertainties as to the timing and the duration of the evacuation would also make this operation singularly difficult.

In modern warfare evacuations on a big scale are ineffective, even dangerous, for our country. We must and we can avoid them if a shelter space is placed at the disposition of each inhabitant at his home or close to it.

Switzerland, which in matters of civil defense is a country of reference, has soundly rejected the idea of population evacuation in crisis. And we can say in this respect that our General Staff is likewise hostile to it due to the intense disorganization that such an evacuation would inflict on the rear echelons of our armies.

In order to protect a population

against the effects of chemical or nuclear armaments it must either be removed from the danger zones or placed in shelter. But evacuation is only practical if it can be organized and oriented toward reception housing and supplies of food, clothing and medicine.

As things now stand, what we call "Dispersal of the population" is an illusion, if not a fantasy, which would be accompanied by panic of an unprepared population.

The presentation of the committee on protective shelter was introduced by a statement from General Pierre Billotte, former Minister of Defense under President Charles de Gaulle. Billotte stated that the shelter subcommittee's report would "form the framework of what would henceforward be a coherent civil defense policy" in France. He didn't mince words:

Still missing is a political will to understand the problem, to expose it to the country and to debate it in a democratic manner.

We already know the answer of the bureaucracy: "We're surveying the sites . . ."

The bureaucracy has been surveying for ten years . . . In ten years Switzerland has taken care of more than half the needs of its population. We none. We keep on "surveying." That doesn't cost much, and it's a handy alibi to keep public opinion satisfied.

It's time to stop treating the French as children and to start treating them as responsible citizens.

Five other subcommittees reported to the assembly. These were:

- Subcommittee No. 1 on Warning and Information. This group

stressed the vital need for civil defense education at all scholastic levels.

(Subcommittee No. 2 on evacuation and Subcommittee No. 3 on shelter are described above.)

- Subcommittee No. 4 on protection against chemical and biological warfare.
- Subcommittee No. 5 on food and medical supplies.
- Subcommittee No. 6 on decontamination.
- Subcommittee No. 7 on planning for a general civil defense law.

This last committee presented a proposed civil defense law and cautioned that four criteria must accompany it. It must:

- Be effective (non-alarmist but objective).
- Be operational (i.e. completely realistic).
- Be organized (thoroughly synchronized and tested).
- Be supported (especially by the state, which must accept fully its responsibility).

Article I of Chapter IV (Costs) of the law specifies that the annual civil defense budget must be separate from the national defense budget and must be in the neighborhood of 3% of the latter. (If this proportion were to apply to the United States, i.e. this ratio between its defense budget and civil defense budget, the civil defense budget would soar to — yil — over \$7 billion!)

At the close of his moving address academician Maurice Druon outlined a practical method for overcoming these costs. And he concluded:

General de Gaulle put it this way: "In the final analysis the [civil defense] decision is a moral one." And because it is a moral decision it is a matter of deliberate will.

Ladies and gentlemen, parliamentarians, you who are at the same time the representatives of the vital interests of your people and the guardians, the protectors, of the highest interest of the nation — it's up to you.

The Haut Comité, with the support of French President François Mitterand, has made dramatic headway. France, which has been the only major power with a civil defense inferior to that of the United States, is about to leave the cellar in a big way.

Its initiative should be a fine lesson for other Western nations. □

MEDICAL CASE LOAD (continued from page 14)

TABLE 8
U.S.: ARRIVAL FOR TREATMENT
(Case C)
Cause of Injury

Days After Attack	Blast and Thermal	Blast Thermal Radiation	Initial Radiation	Residual Radiation	Total
0-1	0.10*				0.10**
2-3	0.03				0.13
4-7	0.02				0.15
8-14		0.06*			0.21
15-30			0.03*	0.09*	0.33
31-45			0.04	0.41	0.78
46-60				0.72	1.00
(Total)	0.15	0.06	0.07	0.78	

*Fractions of total injured

**Cumulative fractions

TABLE 9
U.S.: REQUIREMENT FOR TREATMENT
(Case C)

Day After Attack	Arrived for Treatment	Recovered	Died	Net Requirement
1	0.10**	0.01**		0.09*
3	0.13	0.01		0.12
7	0.15	0.04		0.11
14	0.21	0.07		0.14
30	0.33	0.10	0.01**	0.22
45	0.78	0.16	0.08	0.54
60	1.00	0.26	0.10	0.66
75	1.00	0.44	0.11	0.45
90	1.00	0.63	0.12	0.25

*Fraction of total injured

**Cumulative fractions

TABLE 10
U.S.: MEDICAL CASE LOAD
(Attack-caused Injury)

Day After Attack	Case A		Case B		Case C	
	Number Injured	Per Physician	Number Injured	Per Physician	Number Injured	Per Physician
1	4.0*	33	3.9*	15	1.8*	5
3	5.2	42	4.8	20	2.2	6
7	4.9	40	4.6	19	2.0	6
14	6.0	49	5.8	24	2.5	7
30	7.8	63	7.2	31	4.0	11
45	15.8	128	13.3	56	9.8	28
60	17.0	138	13.3	56	11.6	33
75	11.8	96	8.9	38	8.2	23
90	5.8	47	4.8	20	4.5	13

*Millions of people

and successful crisis relocation (Case C), the case load might well be within the capabilities of the medical profession. It is conceivable that physicians might cope with the case load without relocation (Case B). Most of those requiring medical care would suffer from radiation sickness and treatment of such patients does not require much effort on the part of the attending physician.

So it appears that, with civil de-

fense, a reasonable level of medical care could be given the survivors of a nuclear attack. Making that case is beyond our present scope. That needs to be done by physicians who understand radiation sickness and its treatment and who are experienced in disaster medicine. It is our hope that outlining the real dimensions of the problems will induce some of those so qualified to undertake the further study that is needed. □

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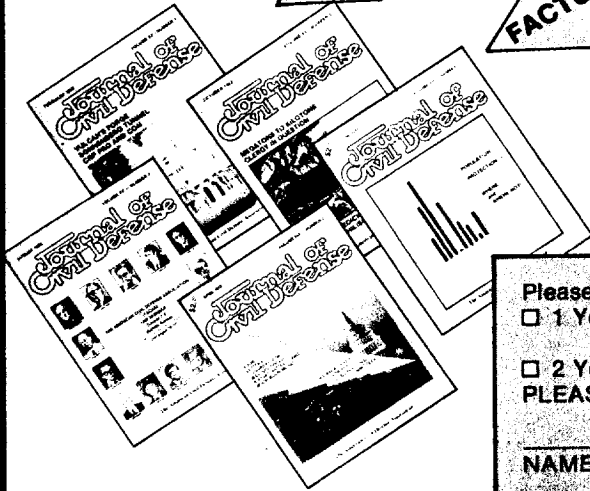
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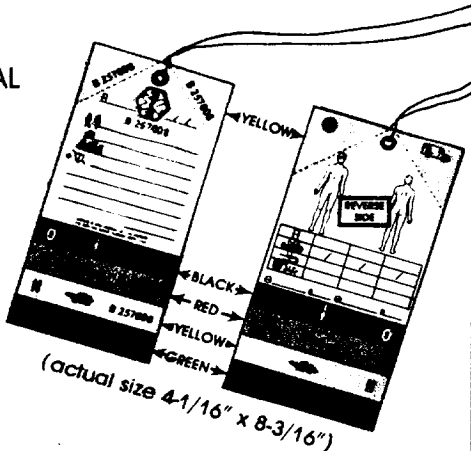
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TOO GOOD TO FILE

EMOTION AND "THE FREEZE"

A nuclear freeze cannot be bilateral and it cannot be verifiable. It is technically impossible, as any defense expert will tell you, to verify a freeze by technical means, by surveillance, as should be apparent to even a layman. The most sophisticated satellites, even presuming their efficiency improves, depend on several conditions. They can only survey in their orbit, they can only survey in daylight, and in clear weather. They cannot possibly tell you what's inside a building or under ground. There has never been any indication whatever that the Soviets have moved one millimeter from their categorical opposition to and rejection of on-site inspections. No it cannot be verified. And a bi-lateral agreement is therefore impossible. A nuclear freeze could only be unilateral . . .

[The people who argue for a freeze] use emotion. There was an actor on the West Coast — it wasn't Paul Newman — who was heard to say on a talk-show "No I haven't read any of the literature on the nuclear freeze — I don't have to, 'cause it's a gut issue" — Come on . . . I think the nuclear freeze, to the extent that it's still a live issue, remains a purely emotional and unreasonable position. I've debated Helen Caldicott, who is a remarkably emotional lady, and her sole presentation is a highly colored polemic. That's all it is — an apocalyptic vision . . .

— Charleton Heston in
New Guard

SOVIET CIVIL DEFENSE — A QUICK LOOK (AGAIN)

In January 1982, *Red Star*, the official publication of the Soviet Ministry of Defense, cited the virtues of civil defense in a front page editorial. In the Soviet view, "Civil defense plays an important role in strengthening the defensive capacity of the country." In July 1982, General V. Lavrinenkov, head of civil defense planning in the Ukraine, wrote in *Red Star* of the need for "further perfection of civil defense." And, in 1983, a new Soviet civil de-

fense handbook was published describing how underground shelters would adequately protect urban dwellers from nuclear attack . . .

According to a 1982 report prepared by the Federal Emergency Management Agency (FEMA), the Soviets have built at least 20,000 blast-resistant shelters to protect approximately 15 million people, or roughly 10 percent of the people in cities of 25,000 or more. The FY 1981 Department of Defense *Annual Report to the Congress* noted that "the Soviets will probably continue to emphasize the construction of urban blast sheltering. If the current pace of construction is continued, the number of people that can be sheltered will be roughly doubled in 1988."

The Soviets apparently plan to evacuate and disperse the general population to pre-assigned resettlement areas where they will be fed and either provided with a fallout shelter or put to work building one. According to Soviet civil defense

SOVIET FATALITIES (SAY SOVIETS): "BETWEEN THREE AND FOUR PERCENT"

manuals, this plan for the evacuation and dispersal of people is designed to limit casualties in the event of a nuclear exchange to between three and four percent of the population. Modest, feasible measures to protect machinery from nuclear effects greatly increase both the probability of industrial survival and U.S. retaliatory force requirements . . .

[FEMA and the CIA] estimate that the Soviet Union, given time to implement fully these civil defense measures, could limit casualties to around fifty million, about half of which would be fatalities. This compares to the approximately 20 million Soviet fatalities suffered in World War II.

There is no significant U.S. civil defense effort, and the Soviets recognize this. The potential impact of Soviet civil defense on our deterrent could be devastating. Calculations based on reasonable assumptions indicate that Soviet civil de-

fense programs could reduce Soviet casualties in the event of a major nuclear exchange to a small fraction of the level of U.S. fatalities.

— from *Can America Catch Up?*, a 71-page statement by the Committee on the Present Danger (December 1984).

DEFENSE = PEACE

If history teaches us anything, it is that a strong defense is the prerequisite to a lasting peace, the only credible deterrent against aggression. And a strong defense will enable us to reach sound arms control agreements. Arms control, negotiated from strength, can significantly reduce the levels of weapons threatening mankind and enhance confidence between potential adversaries.

— Ronald Reagan

THE BABY-BOOM GENERATION

The New Deal is dead at last. The drubbing dished out to poor Walter Mondale signals the end of an era. No longer will a national political party attempt to win the presidency by attempting to buy off every interest group in sight with promises of government assistance. The idea that government can — and should — solve all our problems has been decisively rejected.

If you want to understand the depth of this rejection, and get a glimpse of where this country is headed, pay careful attention to what the surveys reveal about the views of the baby-boom generation. Those born between 1946 and 1964 — 75 million people — constitute one-third of our population. And more than any other age group, they voted for Ronald Reagan in 1984. Why?

Republican pollster Lance Tarance sees the baby-boomers as welcoming, rather than fearing, economic growth and change. Many younger voters rejected Mondale in 1984 because they saw the Democrats supporting those opposed to change: "Unions, high wages, protectionism — all tied to

the part of the country that won't change. These people see the Democrats as locking the country in."

— Robert W. Poole, Jr.
(Editorial in *Reason*)

RISK REDUCTION

Early in 1981 seven Americans with distinguished careers in industrial and military management formed an unofficial panel to study U.S. strategic posture. The group was headed by Karl Bendetsen, who has long been associated with the Department of Defense. In January 1982 the panel urged a dramatic change in our existing strategic policy of mutual assured destruction, or MAD . . .

It is possible now, the panel advised President Reagan, to deploy a "terminal-stage defense" (missile-silo defense) for our presently undefended ICBM fields. Doing so would create serious doubt in a Soviet war planner's mind as to how many and which of his nuclear warheads would reach our missiles in their underground silos, doubt as to whether he could launch a first strike that could disarm us. That doubt is the linchpin of deterrence. The technology and hardware for such a defense are in hand, and deployment could be completed within three years.

At the same time, the panel said, we should proceed full speed with development of technologies that would enable us to destroy any enemy ICBMs shortly after they are

AWESOME TECHNICAL PROBLEMS

launched, and while they are en route to their targets.

To be sure, says Bendetsen, there are some awesome technological problems to solve in developing such a system. "But they are not as staggering as the unknowns faced in the Manhattan Project" [which produced the atomic bomb in four years]. "And," he adds, "we had better get moving." . . .

President Reagan had been pondering all this for months when, on March 23, 1983, he delivered his so-

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called Star Wars speech. "Would it not be better," he asked, "to save lives than to avenge them?" Once the threat posed by strategic nuclear missiles was eliminated, he observed, we might be able to talk realistically about arms control that would eliminate the weapons themselves.

. . . the program has impressive support, including that of Edward Teller, a principal architect of the H-bomb, who has been insisting for 20 years that an anti-missile defense must be deployed if we are to avoid nuclear blackmail.

— from "Reducing the Risk of Nuclear War," by John G. Hubbell in *Reader's Digest*.

THE UNTHINKABLE AND THE UNFORGIVEABLE

We must dare to think the unthinkable lest we be forced to suffer the unforgiveable. And that's what I

would like to say to all those who say there is no survival or that there is no point in living after. Only through Civil Defense and High Frontier can we prevent nuclear war.

— Nancy Deale Greene (concluding an address to Arizona for National Security).

LAW AND REASON

Participation in the ABM treaty is wrong in law and in reason: Wrong in law because it is counter to written law which guarantees our rights; wrong in reason because rights are conditions necessary for human survival.

— Hank Phillips

FREE TO JOURNAL READERS —
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UPCOMING

MARKETPLACE

- Feb 7-10 "Physicians and the Global Challenge: 1985 and Beyond." PSR Annual Meeting, Los Angeles. For information contact PSR national office (617/491-2754)
- Feb 8-10 1985 NATIONAL DISASTER MANAGEMENT CONFERENCE: Hyatt Orlando, Orlando, Florida. For information contact: REGISTRAR, 600 Courtland Street, Suite 420, Orlando, Florida 32804 (305/628-4800)
- Feb 19-21 Texas Department of Safety 24th Annual Emergency Management Conf., Hilton Inn, Austin, TX. Registration \$25. Contact: Div. of EM. Mgmt. PIO, P.O. Box 4087, Austin, TX 77733 (512/465-2138)
- Feb 24-27 NCCEM Mid-Year Conference, Stouffer's Hotel, Arlington, VA. Contact NCCEM, 3126 Beltline Blvd., Columbia, SC 29204 (803/765-9286)
- Feb 28-Mar 2 Young Americans for Freedom 12th Annual Conservative Political Action Conf., Sheraton-Washington Hotel, Washington DC. Contact CPAC '85, P.O. Box 37641, Washington, DC 20013 (703/450-5164)
- Apr 11-14 Stress & Behavioral Emergencies Conference, Univ. of Maryland Baltimore County Campus. Contact: Jeffrey T. Mitchell, Ph.D., Emer. Health Services Dept., Univ. of MD Baltimore County, Catonsville, MD 21228 (301/455-3223)
- Apr 28-May 1 DEMEX 85 World Congress & Exposition for Disaster & Emergency Management, Indiana Convention & Exposition Center, Indianapolis, IN. Contact: Patrick Carr, Andry Montgomery & Association Inc., 101 N. Seventh Street, Louisville, Kentucky 40202
- Apr 29-May 1 Texas Emergency Medicine Symposium, San Antonio Convention Center, San Antonio, TX. For information contact: Ruth Hargrove, Texas Chapter-ACEP, P.O. Box 610717, Dallas, TX 75261-0717
- May 8-9 1985 Industrial Emergency Preparedness Conference, Mobile, AL. Contact: Rose Young, Dir., Mobile County Civil Defense, 348 N. McGregor Ave., Mobile, AL 36608 (205/460-8025)
- May 21-24 Intelligencia 85 — Intl. Congress & Exhibition, Paris, France. Contact: Charles A. Pratt, SCS Exec. Dir., P.O. Box 2228, La Jolla, CA 92038 (619/459-3888)
- May 21-24 EMERGENCY 85, Washington, D.C. For information contact: Research Alternatives, Suite 31, 966 Hungerford Dr., Rockville, MD 20850 (301/424-2803)
- Jun 5-8 National Association for Ambulatory Care Conference, Hyatt Regency Embarcadero Center, San Francisco, CA. For information contact: NAFAC, 5151 Beltline Road, Suite 1017, Dallas, TX 75240
- Jun 6-8 Ohio EMS Combined Assembly, Hyatt Regency Hotel Columbus, Ohio. For information contact: Ohio EMS Combined Assembly, 1395 E. Dublin Granville Rd. Suite 310, Columbus, OH 43229
- Jun 10-14 Planning for Nuclear Emergencies, Harvard School of Public Health, Boston, MA. For information contact: Office of Continuing Education, Harvard School of Public Health, 677 Huntington Avenue, Boston, MA 02115 (617/732-1171)

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LIKE "THE DAY AFTER" AND "TESTAMENT" THE NUCLEAR WAR FILM "THREADS" over WTBS Cable Network on January 13th was designed to demoralize, to frighten, to defeat, to eliminate all hope - especially in the young and uninformed. An ad in Time hyped the hyperbole:

**WARNING! ON SUNDAY, JANUARY 13 AT 8PM
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"Threads" didn't quite do that, but the blood, the rot, the rats and the agony were there. Nowhere was there an indication that a serious civil defense would have eased problems dramatically, that space intercept of missiles would have knocked the Götterdämmerung in the head.

But perish the thought that something can be done about the problem (as is the case elsewhere). Let the blood flow. And it did.

THE FOLLOWING NIGHT, JANUARY 14TH, "ON THE 8TH DAY" appeared on WTBS as an hour-and-a-half discussion of the film and possibilities for Soviet-American rapprochement. Moderated by personable Father Ted Hesburgh, the panel included two friendly Russians (Gyorgi Arbatov and Roald Sagdeev) and was completed by Americans Carl Sagan and Noel Gayler. Among them they decided that nuclear weapons should be destroyed, and who would argue not? Edward Teller is quoted as saying that "disarmament is the noble goal." The question is how to accomplish that goal. The panel recommended joint projects in space, and again why not? Dr. Sagan admired the Soviet Haley's Comet mission and regretted that the U. S. was putting its money in defense.

What was not said is more important than what was said by the panel. By developing "Star Wars" research the Reagan team has done what any friendly discussion could not do: bring the recalcitrant Soviets back to bargaining tables. Diplomatic graveyards are full of "good guys" with hearts in the right place and minds on "cloud nine."

The hidden message is that real peace lies in real strategic defense.

REVIEWS

(Continued from page 23)

which he examined in terms of the morality of our policies.

He considered it immoral to refuse to defend ourselves with nuclear weapons if necessary.

He mildly deplored the ideology promoting diversion of defense budgets to social welfare programs and he saw the American rearmament effort as a result of laxity in previous administrations.

Ever a realist, Kahn attributed the warming climate for arms control to the universal fear of nuclear disaster.

He was totally pragmatic in a 16-page chapter on civil defense. He remembered civil defense as a national necessity in World War II. Now in the 1980s he recognized that

civil defense probably could not be as effective as in the 1940s. At the same time, he perceived it as a small force helping to keep the peace. In fact Russian and American refinements in weaponry, in their peculiar way, had helped avert war for 40 years between the major nations.

Civil defense, as he saw it, must exist — indeed, it must be re-established — to provide protection for lives and property — which, after all, is also the function of the military.

Observing that the antinuclear activists dismiss civil defense as useless in the worst-case scenarios, Kahn also noted that those most pessimistic about the probability or consequences of nuclear war are usually opposed to civil defense.

Kahn espoused planning for evacuations and relocations. He considered evacuation in a crisis to be not very difficult and in a footnote he quoted Walmer Strobe's observation that millions "evacuate" metropolitan areas every holiday weekend and tens of thousands desert their beaches ahead of hurricanes.

Kahn is well worth reading. He brings understanding to the complex issues. He has the gift of saying, better than most of us, what many of us believe. He convinces many of us that our views of civil defense are in the national interest. He would never "envy the dead". He believed survival is indeed possible and is likely for many millions no matter what happens.

EDITORIAL . . .

FOR THE GRASS ROOTS: A RESCUE ROLE

— Frank Williams

It takes over \$200 a year to furnish protection to a government official or key government or military staff expert in one of over 3,000 hardened survival facilities across the country.

That's understandable. In some special cases the cost is over ten times that amount. For the average American one-tenth that amount (or \$20) would do very well. But Congress and the bureaucracy have decided that somewhat less than \$1 per individual is enough. This, of course, makes him a hostage in the spirit of Mutual Assured Destruction (MAD). And "Crisis Relocation" — the fancy name for a limp plan harpooned by an army of critics — doesn't help all that much. As currently fielded it's a nickel-and-dime cop-out.

Obviously, the civil defense program needs vast improvements.

Now, however, the Office of Management and Budget (OMB) has decided that \$1 (79¢ really) is too much to spend on survival measures for John or Jane Doe. It proposes a CD budget of \$107 million, a sharp cut to 46¢ per individual.

What this will do to current allocations to state and local civil defense efforts is a matter of speculation. What it will do to affect the survival odds of the citizens can be ascertained with no trouble: it makes the hostage dilemma that much worse. It guarantees for America the potential slaughter of most of its people in the event of war. It makes nuclear blackmail practical and attractive.

This is not what Ronald Reagan had in mind when he first ran for President in 1980. His Republican Party platform was unambiguous about civil defense. Its pledge was:

To create a strategic and civil defense which would protect the American people against nuclear war at least as well as the Soviet population is protected.

What happened?

In his December 1984 *High Frontier Newsletter* General Daniel Graham points to congressional and bureaucratic "roadblocks" which impede proper funding for space defense. These same roadblocks sabotage civil defense, and with civil defense — where the drama is less intense and the apathy more prevalent — the conspiracy is more effective.

If we are to prevail against this conspiracy we must give President Reagan inspired help in convincing Congress and the bureaucracy that the American public — and those populations of America's allies — are worth protecting and saving, and that the survival of America's 235 million people depends in large part on proper funding for "strategic and civil defense."

We've got to do more than sit on our hands.

France is suddenly an example that could inspire us (see article on page 24). It's "High Committee on Civil Defense" — composed of over 200 French legislators plus regional and local political leaders — is up in arms about civil defense neglect of the French public by the French Government. The legislators point to constituents, who want action. The "High Committee" is demanding a whopping civil defense budget equal to 3% of the military budget. Applied to the United States this yardstick would mean a CD budget of over \$7 billion!

All this indicates that here in the U.S. a sharp step *upward* is needed. OMB's \$107 million civil defense budget proposal is a sharp step *downward*.

Funds to provide for the security and survival of Americans could come from money that Congress and the bureaucracy now spend to wet-nurse these same Americans (see review of the *Grace Commission Report* on page 22). Americans don't want to be wet-nursed. Senator Barry Goldwater put it this way:

The American people are adult — eager to hear the bold, blunt truth, weary of being kept in a state of perpetual adolescence like so many children, too young to be told the facts of life.

These American people have the choice now of requiring a substantial investment in a realistic, hard-core homeland defense or facing the fast-growing possibility of extinction — or slavery. Their survival is on line.

It's a matter for the grass roots, for the traditional American pioneer spirit, for a burning communication between the people and their leaders in Congress.

Are the American people up to it?

□

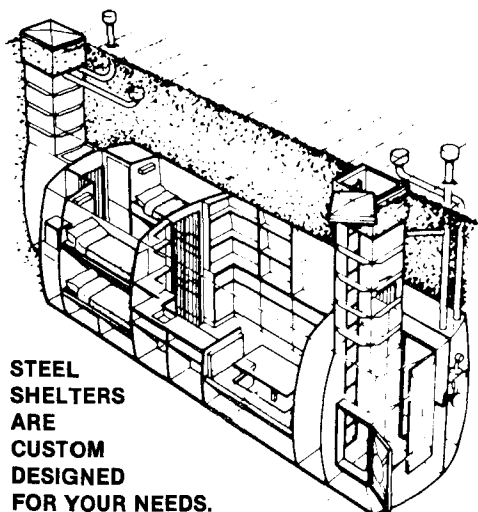
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IF THERE WERE A WAR GOING ON WITH RUSSIA TODAY, WOULD WE BE BUILDING NUCLEAR SHELTERS? OF COURSE!

Well, there is a war going on! The trouble is nobody in the U.S. wants to believe it. The Communists have admitted it boldly since 1917, but we don't believe them. The idea that "life would not be worth living after an atomic attack" is not widely shared by the Russian leaders. They want to make life not worth living for the victims of their first strikes, but they are careful to protect their civilian populations. The average Soviet Citizen's chances of survival is 14 times greater than YOURS!!



**STEEL
SHELTERS
ARE
CUSTOM
DESIGNED
FOR YOUR NEEDS.**

WHERE DO WE GO FROM HERE?

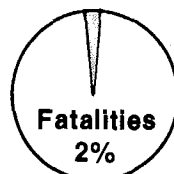
Well, you could wait until the U.S. Government builds you a shelter.

We have been waiting for 40 years — no sign of a shelter program yet — but they may start one of these days! **GOOD LUCK!!**

Or you could take the responsibility for the safety of your family and loved ones by building your own shelter, perhaps large enough for friends and neighbors, share the cost.

Remember, you only have about 16 minutes to find shelter. Once the attack begins, it's too late to do anything but get inside your shelter and close the Blast Door.

SEND THE CARD TODAY ►



WITH SHELTERS



WITHOUT SHELTERS

More bomb shelters urged



By Jeanne Marklin
TELLER: Says nuclear war is survivable

LOS ANGELES — Nuclear war would be survivable if USA citizens prepared for it by building underground shelters, a developer of the atomic bomb said Monday. "To survive a nuclear war is our duty," Edward Teller said. "If the Soviets know we are going to survive, they will never attack us." Teller, a key scientist in the Manhattan Project — which developed the atomic bomb during World War II — spoke at the opening of a three-day conference of the American Civil Defense Association.

USA TODAY

PAGE 3A, NOV. 5, 1985

☐ Send contract for following type of shelter:

☐ Rectangular: L____, W____, H____

☐ Cylindrical: Dia ____ L ____

☐ Send brochure (\$2.00)

☐ Send price list.

I need the following information:

Name: _____

Street: _____

City: _____

State _____ Zip _____

Phone: _____

Best time to call: _____

To help us serve you better, please answer these questions:

Number of people in shelter: _____

Location: City _____ Sub. _____ Rural _____

Depth buried: 4' _____, 6' _____, 8' _____ 10' _____

Need ventilation equip.? _____

Need food storage? _____

Need radiation detection? _____

Need Potassium Iodine tabs? _____

Other: _____

BOOKS: (Send cashier check or MO w/order)

1. THE EFFECTS OF NUCLEAR WEAPONS (\$25.00) _____

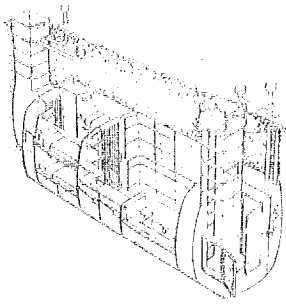
2. THE EFFECTS OF NUCLEAR WAR (\$15.00) _____

3. FIGHTING CHANCE (\$5.00) _____

4. NUCLEAR WAR SURVIVAL SKILLS (\$20.00) _____

For more information or to enter order, SEND THE CARD!

PLACE
22¢
STAMP
HERE



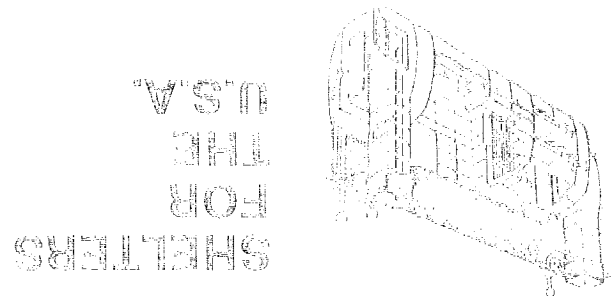
SECTIONAL VIEW OF A NUCLEAR SHELTER



STEEL SHELTER DIVISION

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KERRVILLE, TX 78029-1562

What is it that: Israel does — The
Soviet Union does — Switzerland
does — China does — Sweden does
— Norway does — Finland does —
and many other countries do that the
U.S. doesn't do??????



STEEL SHELTER DIVISION
P.O. BOX 1562
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NUCLEAR SHELTERS

Columnist George F. Will reported recently that "the Soviets have been rapidly increasing investment in dispersed and hardened shelters to protect many thousands of the Soviet elite in a nuclear war. The inescapable conclusion is that those who make and implement Soviet policy regard shelters as war-fighting assets, and regard nuclear war as survivable and winnable."

Journal of Civil Defense August 1985

Why install a shelter?

"The Soviet Union is now in a position to launch, win, and survive World War III . . . and with fewer casualties than it suffered in the last World War."
— Major General George Keegan Jr.

General Keegan, former chief of Intelligence for the U.S. Air Force and a respected authority on Soviet military affair says Americans are not being told the truth about the Soviet Union's military superiority and ongoing campaign to dominate the world. You say you don't want to talk about Nuclear Shelters, they are boring . . . until the day the Air Raid Sirens go off. What do you do then?

YOU WOULD SIMPLY DIE!