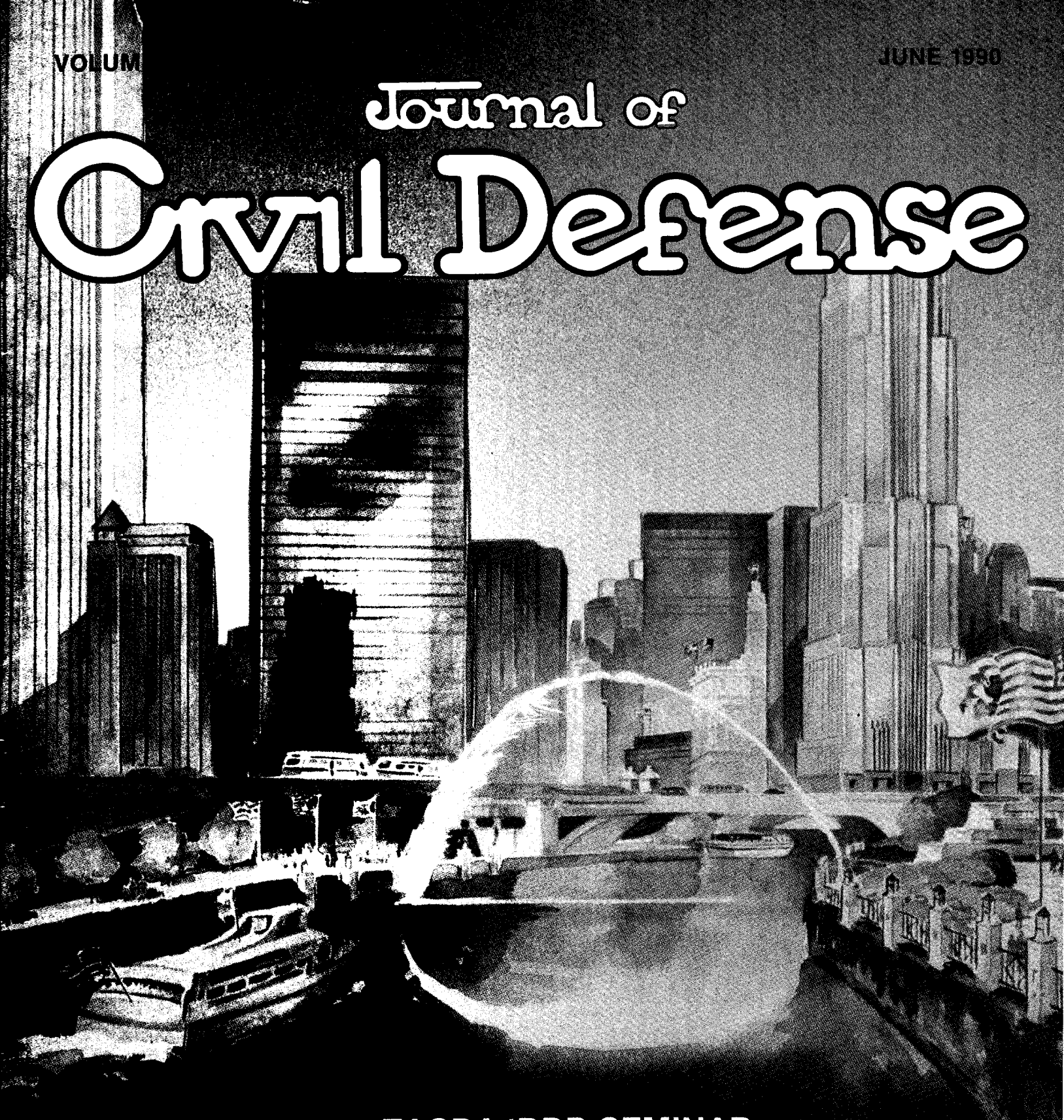
VOLUM

JUNE 1990

Journal of Civil Defense



1990 TACDA/DDP SEMINAR — *CHICAGO!*

WHAT PRICE SURVIVAL? (Editorial) — Back Cover

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 XXIII — NUMBER 3

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CONTENTS

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The *Journal of Civil Defense* presents authentic information relating to civil defense — to the survival of free government, the United States and peace in the nuclear age. Its aim is public education in this field and service as a forum.

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.*

CAPITAL COMMENTARY by Jerry Strope

FEMA: What now?

The White House staff finally appears to have gotten its act together with regard to replacing the leadership vacuum at the Federal Emergency Management Agency. After a whole series of purported nominees for director of the agency had come and gone for one reason or another, the *Washington Post* announced that Wallace B. Stickney was being readied for the appointment. Stickney is from New Hampshire and was one of former governor John Sununu's trusted aides there. Sununu is now George Bush's chief of staff.

Stickney was Sununu's environmental assistant who led the successful fight to get the Seabrook nuclear power plant approved and on line. He is now the head of the New Hampshire Department of Transportation, having been appointed to that post by John Sununu as Governor. It was over the matter of approving the off-site preparedness plan for the Seabrook plant that Governor Sununu had a falling out with FEMA Director Julius Becton. Becton departed soon after Sununu became White House chief of staff.

Having a close relationship with the President's chief of staff would be highly advantageous to the leadership of FEMA, an agency that has been subjected to a lot of criticism recently for its performance or lack thereof in major natural disasters. And, with euphoria over the alleged end of the Cold War still gripping the Congress, the agency's civil defense effort also may be in peril. FEMA will need a friend in the days to come. Still, at this writing, the Stickney appointment is hung up in the White House and has yet to be sent to the Senate for confirmation. Needless to say, the rumor mill is churning out various versions of trouble with the nomination.

There has been no trouble, however, with the nomination of a new deputy director for FEMA. The name of Jerry D. Jennings is now before the Senate for confirmation. Jennings is about 50 years old with a distinguished career in the federal government. After graduating from Eastern Michigan University at Ypsilanti and serving a stint in the Marine Corps, he joined the FBI. While with the FBI in New York City, he earned his masters degree in public administration. In 1973, he joined the staff of the National Security Council, where he remained for ten years. Arriving about the time of the Watergate scandal, Jennings served in the NSC under Presidents Ford, Carter, and Reagan. During this period the NSC was involved in three major studies of civil defense. Some of this activity may have rubbed off on Jerry Jennings.

In 1982, Jennings was tapped to become Executive Director of another White House agency, the Office of Science and Technology Policy, a post he held until 1986. This office is the President's science advisor and was deeply involved in President Reagan's decision to launch the Strategic Defense Initiative. All this is very good background experience to bring to the Federal Emergency Management Agency. Since 1986, Jennings has been deputy director of the Selective Service System. Since there is no current military draft, this agency has been largely concerned with being prepared to operate if war should erupt, an outlook that is similar to that of civil defense.

When Jennings is confirmed by the Senate, he will replace Bob Morris, the Reagan holdover who has been acting director of FEMA for over a year and a half. Will the confirmation hearing generate much controversy? It is hard to tell at this juncture. Critics of FEMA contend that the agency is a bureaucracy that barely functions. State and local bureaucrats are unhappy that FEMA's Office of Civil Defense insists on attention to attack preparedness. A recent article in the *San Francisco Examiner* describes FEMA employees as "caught in the middle of the powerful PSR and the persistent TACDA." The article claims further that PSR (Physicians for Social Responsibility) "wants Stickney to commit to steering the agency toward natural disaster preparedness before the Senate or be automatically rejected." Of course, the issue here is really the use of the funds provided to the States through the Federal Civil Defense Act, which mandates use for attack preparedness. Congress, in its wisdom, has never seen fit to provide federal funds for natural disaster preparedness and organizations such as the PSR haven't seen fit to fight for funding.

Whether all this comes out in the Jennings hearing is questionable. It is unusual for a deputy to be nominated before his chief and perhaps the big guns will wait for Stickney. Further, there is some evidence that the PSR and its fellow peace groups have "greened" and are now urging action to fight global warming. Dr. Alexander Leaf of the PSR has claimed that the effects of global warming are "analogous to those of nuclear war" and, having left civil defense for dead, is switching to an issue that can command greater media attention. Thus, the very people that gave us nuclear winter are now busy creating a global warming. FEMA is going to need a man like Jennings. □

The 1990 TACDA/DDP Seminar promises to outstrip all others in accenting the need for civil defense and the Strategic Defense Initiative as this decade's requirement for a defense balance that will assure peace (and survival should peace fail). The seminar site in Northbrook, Illinois — a close-in northern suburb of Chicago — was selected as a direct result of numerous requests. It has been pushed up two months early due to recommendations that the seminar be held prior to the opening of the school year.

TACDA:
The American Civil Defense Association

DDP:
Doctors for Disaster Preparedness

1990 TACDA/DDP SEMINAR:

CHICAGO!

Seminar Dates: August 10-13 **Seminar Site: Ramada Inn, Northbrook suburb of Chicago**

For the first time in seminar history TACDA and DDP take advantage of the Chicago area's legendary hospitality by scheduling their annual seminar there for mid-August.

"This year's seminar is a turning point for homeland defense efforts," says TACDA President Dr. Max Klinghoffer, "in that the nineties will offer a new opportunity to come to grips with the problem of U.S. unpreparedness. Our people have been cleverly conned into believing that there is no defense against missiles. Many are blissfully unaware of the latest

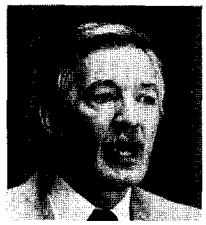
THEME: What Price Survival?

dangers of terrorism [see chart on page 10]. This tragic misconception is based on expert propaganda by those who take exactly the opposite course. The Soviets, China, and a few other nations, have for the past four decades wisely built up homeland defenses that give them credible protection. It is to the advantage of adversaries to convince us that it is useless for us to do the same thing. We need today to wake up to the fact that in accepting this deception we program ourselves for intimidation, war and a defeat that will end 'the American dream.' Our government must turn its attention from people pampering to people protection. That's the 'price of survival.' The nineties, with a new focus on political credibility, provides the West with its last opportunity for corrective action. We must grasp it with all our energy, with all our expertise, with all the persuasion we can muster."


Teller


Graham


Greene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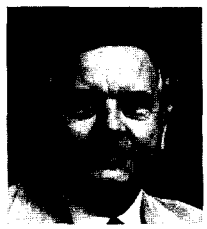
Chester


Nucci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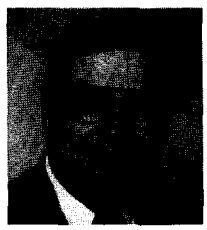
Blake

The 1990 seminar agenda will again feature outstanding national and international authorities in science, medicine and strategic defense. These will include:

Dr. Edward Teller, who first won acclaim as designer of America's H'bomb and who today continues his vital work in the field of active defense.

General Daniel O. Graham, Armed Services Intelligence veteran, director of High Frontier (America's vigorous private pro-SDI organization).

Charles Wiley of Accuracy In Media, war correspondent, writer, lecturer in the national security field — has reported from over 100 countries, and a number of communist jails.

Alexander Malyshkin, Senior Information Officer of the Soviet Embassy, whose writings have appeared in *USA Today* and elsewhere West and East.

Dr. John R. Christiansen and Dr. Reed H. Blake of Brigham Young University, who have made on-the-spot studies of civil defense in countries which boast credible programs (the latest: Israel).

REGISTRATION
TACDA/DDP 1990 SEMINAR, AUGUST 10-13

Registration — $169* (After Aug. 1: $190)
*Includes: 2 luncheons, 1 banquet, 2 receptions & coffee breaks

TO: TACDA/DDP Annual Seminar
P.O. Box 1057
Starke, FL 32091
(Phone: 904/964-5397)
(FAX: 904/964-9641)

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ROOM RESERVATION FORM

No deposit required. Give credit card information if arriving after 6 PM.

Mail reservation to:
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Attn: Reservations Department
2875 N. Milwaukee Ave.
Northbrook, IL 60062
Phone: (1-800/872-0680 or 708/298-2525)
FAX: (708-298-4615)

☐ Single or ☐ Double } $49
☐ Confirmation requested

Arrival date/time _____ No. of days _____

Name _____

Address _____

City _____ State _____ Zip _____

Phone (_____) _____

— TACDA/DDP SEMINAR PARTICIPANT —

TACDA/DDP SEMINAR AGENDA — August 10-13, 1990

Master of Ceremonies: Captain T. J. Wadsworth

Friday, August 10

8:30AM-12N	— High Frontier Symposium
1PM-3PM	— TACDA "Roundtable" (Discussion period, committee reports)
3PM-5PM	— DDP Business Meeting; DDP Board of Directors Meeting (TACDA committees to meet)
7PM	— Welcome Reception (Exhibit Hall)

Saturday, August 11

8AM-8:15AM	— Opening Ceremonies (Invocation, Pledge, etc.)
8:15AM-9AM	— Speaker to be announced
9AM-9:45AM	— Exhibitor Introductions
9:45AM-10:15AM	— COFFEE BREAK (Exhibit Hall)
10:15AM-11AM	— Dr. Stanley Zydlo — "The Emergency Room in Disaster"
11AM-11:45AM	— Michael A. Hawotte — "AIDS — The Next Decade"
11:45AM-1:30PM	— (Luncheon) Charles Wiley — "What Road? War? . . . Peace?"
1:30PM-2:30PM	— Shelter Panel — Dr. Conrad V. Chester, Edwin N. York, Paul Gauthier
2:30PM-3:15PM	— COFFEE BREAK (Exhibit Hall)
3:15PM-4PM	— Berry Williams — "Hurricane Hugo — What Happened?"
4PM-4:45PM	— Rosa Timmons — "Loma Prieta — A Quake to Remember"
7PM	— Reception (Exhibit Hall)
8PM	— (Banquet) General Daniel O. Graham — "SDI: Now More Important Than Ever"

Sunday, August 12

8AM-8:15AM	— Opening Ceremonies
8:15AM-9AM	— James C. Jones — "Behind the Hype: The Real Survivalist"
9AM-9:45AM	— Nancy D. Greene — "Strategic Deception"
9:45AM-10:15AM	— COFFEE BREAK (Exhibit Hall)
10:15AM-11AM	— Dr. John R. Christiansen/Dr. Reed H. Blake — "Israeli Civil Defense: A Way of Life"
11AM-11:45AM	— Dr. Giuseppe Satriano/Dr. Annamaria Nucci — "The Mediterranean — No. 1 Hot Spot"
11:45AM-1:30PM	— (Luncheon) Dr. Edward Teller — "Preparedness Payoff: Peace"
1:30PM-2:30PM	— Medical Panel — Dr. Max Klinghoffer, Dr. Gerald L. Looney, Dr. T. Kevin King
2:30PM-3:15PM	— COFFEE BREAK (Exhibit Hall)
3:15PM-4PM	— Philip C. Clarke — "Terrorism's Proliferating Missiles: Can We Stop Them?"
4PM-5:30PM	— Alexander Malyshkin/General Daniel O. Graham — "SDI: An Exchange of Views"
8PM	— Shelter Workshop — Dr. Conrad V. Chester — Intelligence Workshop — Nancy D. Greene

Monday, August 13

9AM-11AM	— TACDA Business Meeting; TACDA Board of Directors Meeting

Nancy D. Greene, publisher-editor of the intelligence newsletter *HUMINT,* strategic analyst, widow of Lorne Greene.

Philip C. Clarke, senior editor with America's Future, veteran foreign correspondent with Associated Press. 16 years as commentator for Mutual Broadcasting System, six years with *Newsweek* covering NATO and Soviet-American relations.

James C. Jones, a leading American survivalist, publishes Live Free newsletter, holds an annual survivalist encampment and is active internationally in the survivalist movement. A writer and commentator on survivalist issues.

(With the retirement of Robert H. Morris as FEMA Acting Director on May 18, the FEMA spokesman for the TACDA/DDP Seminar is now being "renegotiated." July newsletters *Triage* and *Alert* and the early-appearing August *Journal of Civil Defense* will announce the new selection — and new FEMA appointments.)

Dr. Gerald L. Looney, a prominent California emergency physician, a former liberal who now challenges the liberal philosophy. A writer and a speaker with wide experience.

Dr. T. Kevin King from Texas specializes in emergency medicine and is a leading architect of disaster response planning.

Edwin N. York, a staff researcher and scientist with Boeing Aerospace Company, is a specialist in testing shelter capabilities.

Paul Gauthier is president of Nuclear Defense Shelters and Equipment, a shelter construction engineer with headquarters in Lafayette, Louisiana.

Dr. Conrad V. Chester is chairman of the Emergency Technological Program at Oak Ridge National Laboratory and a foremost authority on shelter design.

Michael A. Hawotte is Manager of Consulting Services at Scientific Systems Services. His unique background in medicine and engineering has led him to specialize in research for major Biotech and Pharmaceutical companies. His current project: AIDS.

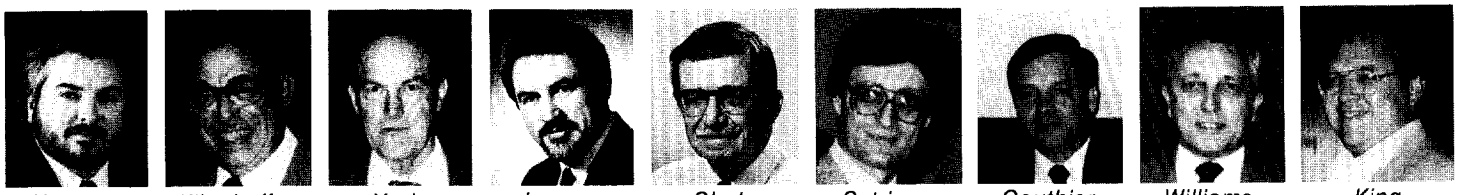
Dr. Giuseppe Satriano, president of Soccorso Amico in Salerno, Italy. He is the leading figure in Italian-American disaster medicine coordination and active in responding with his Soccorso Amico group to disasters. (Soccorso Amico includes divers, paratroopers, helicopters, motorcycles and other means of reaching disaster scenes promptly.)

Dr. Annamaria Nucci, American representative for Soccorso Amico, a New York psychiatrist, a lecturer and a writer. (Former concert pianist.)

Dr. Stanley Zydlo, an emergency physician specializing in rescue operations. A writer and speaker in demand for his practical approach to disaster problems, he places heavy emphasis on hospital disaster response planning.

Dr. Max Klinghoffer, author of *Triage Emergency Care Handbook,* has a long and impressive disaster medicine history. He was emergency physician for O'Hare International Airport Rescue for 17 years. (TACDA president).

Berry A. Williams, Jr., state coordinator for the National Flood Insurance Program NC Division of Emergency Mgmt., Chief of NC Individual Assistance Programs, member of Hazard Mitigation Team.



Hawotte *Klinghoffer* *York* *Looney* *Clarke* *Satriano* *Gauthier* *Williams* *King*

Throughout the 1990 seminar, questions will again be encouraged, and speakers are asked to devote part of their presentations to them.

This will be particularly true of the after-luncheon panel sessions. These will be composed of three or four specialists in their fields. The August 11th panel session will be devoted to shelter questions, while the August 12th panel session will concentrate on emergency medical questions.

•

Shelter and intelligence workshops will be held during the evening of August 12th beginning at 8PM.

•

Business and Board of Directors meetings will be held in conjunction with the seminar. The DDP meetings are scheduled for 3PM on Friday, August 10th, and the TACDA meetings will be held on the morning of August 13th (Monday).

Preceding the DDP meetings on Friday, August 10th a "Roundtable" TACDA meeting will be in session to hear committee reports and to explore new ideas.

A special exhibit room will house exhibitor displays of shelters, shelter equipment, emergency supplies and related items. Coffee calls and receptions will be held in the exhibit area, and a special hand-out table will provide seminar participants with pamphlets and other materials.

•

For further information contact TACDA/DDP at P.O. Box 1057, Starke, FL 32091 or phone 904/964-5397 (FAX: 904-964-9641).

HIGH FRONTIER SYMPOSIUM

Since 1987 the Washington-based High Frontier SDI-oriented organization has been holding a conference just preceding the TACDA/DDP Seminar.

This year, its symposium again is scheduled for 8:30AM to noon. For further details see announcement on upper half of page 9.

"EXCHANGE OF VIEWS" (ON SDI)

As a climax to the TACDA/DDP Seminar, Soviet Embassy Senior Information Officer Alexander Malyshkin and High Frontier Director General Daniel O. Graham will present an "Exchange of Views" on the Strategic Defense Initiative. Mr. Malyshkin has written opinions in *USA Today* and elsewhere and represents the Soviet view on curtailing U.S. SDI develop-

Progress Report

Sponsored by High Frontier

More Defense for Less . . .

Friday, August 10, 1990 8:30-12 noon

Ramada Inn — Chicago Suburb of Northbrook, Illinois

(Co-sponsored by TACDA in conjunction with TACDA Conference)

Session I: Capt. Scott Lofman ***Why is SDI so important in 1990?***

- The latest declassified intelligence data on Soviet military capabilities.
- A discussion on Third World ballistic missile threats.
- A live scenario of an accidental launch of a ballistic missile.
- Question and answer period.

Session II: Major Gen. Milnor Roberts

- *See the new animated film on the SSX.*
- SSX/Brilliant Pebbles.
- Updated information on Brilliant Pebbles.

Refreshments will be served.

Clip and return to High Frontier, 2800 Shirlington Road, Suite 405A, Arlington, VA 22206

High Frontier Progress Report

____ Yes, I will attend. Enclosed is my $25 registration fee.

____ Special student/senior citizen rate at $15.

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ment. General Graham has come out stronger in favor of increased emphasis on SDI and its deployment as soon as practical.

NORTHBROOK RAMADA INN: A "FIND"

The just-renovated Northbrook Ramada Inn in Northbrook — a suburb on Chicago's "north side" — not only offers superb conference facilities, but luxury rooms at the special seminar rate of $49 single or double.

Add to that complimentary shuttle service between the hotel and nearby O'Hare International Airport. (And to local shopping malls and theaters as well — the Ramada Inn is in close proximity to Chicago "night spots.")

And add to this the hotel's gourmet "Reflections" restaurant and a companion "Reflections" lounge.

Also, complimentary morning coffee in the hotel lounge. A fitness center that includes a game room and a large outdoor pool (see picture to right). Even wooded jogging trails across the street.

For those seminar participants coming in from the Chicago area — and the adventurers who drive in from distant points — there's plenty of free parking (650 spaces).

The friendly Ramada Inn staff is anxious to please, to solve all guest requirements.

•

As a backdrop to a seminar program which introduces new ideas and new vigor for the 1990's who could ask for more?

A room reservation form — with a convenient "800" number appears at the top right of page 7.

Chicago sightseeing includes:

- Downtown Chicago ("The Loop")
- Miles of Lake Michigan beaches
- Lincoln Park
- Cultural Centers
- Chicago University
- Northwestern University
- The Great American Amusement Park
- Many more — ask the Ramada staff

A corner of the refurbished Ramada Inn in the Chicago suburb of Northbrook.

THIRD WORLD WEAPONS PROGRESS = NEW THREAT

Modern weapons of war were not long ago confined to the world's military-industrial powers. Warnings that Third World nations were busy pushing technology efforts that would one day soon see them ready to make and use their own mass-casualty weapons. That day is almost here. The following table is adapted from one that appeared in *Army* recently and then in High Frontier's *Newswatch.* If it is disturbing, let us realize that the 1995 version will be moreso.

	BALLISTIC MISSILES				
	Short Range	Intermediate Range	Intercontinental Range	Biological/ Chemical Weapons	Nuclear Weapons
Argentina		●			●
Brazil	●	●		●	●
Cuba	●			●	
Egypt	●	●		●	
Ethiopia				●	
India	●	●	●	●	●
Iran	●	●		●	●
Iraq	●	●		●	●
Israel	●	●	●	●	●
No. Korea	●			●	●
So. Korea	●			●	●
Libya	●	●		●	
Pakistan	●			●	●
Romania	●	●		●	●
Saudi Arabia		●			
South Africa	●	●		●	●
Syria	●	●		●	
Taiwan	●	●		●	●
Vietnam				●	
So. Yeman	●			●	

● = under development

Note that while only two of the 20 nations listed are developing *intercontinental* missiles 18 of them show active interest in short range and / or intermediate range missiles. Eighteen of them have biological or chemical weapons (the chemical weapon is known as the "poor man's atomic bomb"). And 12 of them have nuclear weapons projects going.

Even Ethiopia, where persistent reports of mass starvation have appeared in the Western press, is working to produce "the poor man's atomic bomb."

What does this information indicate? Well, perhaps it's a promise that there's a bit more to missile attack than a confrontation of the two superpowers. Perhaps even if we seem to be scratching the big bear's back there are a few smaller wolves in sheep's clothing that are capable of pushing the button. Either through brush-fire actions or "adventurism."

A smart U.S.A. would not gamble. It would be sure that its defenses were developed and in place. That means *both* SDI and civil defense. That means getting out of the fog of peacenik euphoria and realistically assessing the situation. And taking action to be sure that our backyard foxholes are in place. Because that's where modern weapons are aimed. And that's where we'll win or lose — in America's backyards. Heady disinformation won't tell us that.

Good American common sense will.

HUNTLEY REPORT: BRIEFING ON INTERNATIONAL TERRORISM

A special briefing for nongovernmental organizations on March 22nd was covered for the *Journal* by Dr. Henry C. Huntley in Washington, D.C. Huntley quotes two speakers. The first, Regional Counter-terrorism Director Anthony Wayne, said in part:

> There has been a dropoff of incidents in the past year. Very probably, this is due to the withdrawal of Soviet troops from Afghanistan. And support of terrorists by the Eastern Bloc has also decreased. In addition there is internal dissension in the Abu Nidal group, and Libya has adopted a lower profile.
>
> Despite these favorable developments, the bombing of the French Airliner over Africa and that of Flight 103 over Scotland [December 1988] are reminders of the continuing possibilities of further such incidents. The motives for such actions are not always clear.
>
> The State Department believes that international terrorism can continue to exist only so long as there is overt or covert support by nations. Our first weapon is to make it difficult for such support to continue.

And Director for Terrorism-related Assistance, Frank Moss, said:

> In the past six years there have been six bombings of aircraft. Bombings have increased in contrast to hijackings due to more and more countries refusing to allow hijacked planes to take off from airports once they have landed.
>
> The bomb that destroyed [PanAm] Flight 103 was hidden in a small cassette player and resembled what could have been a part. Two actions are presently being undertaken to lessen future incidents. We are working on a treaty to make plastic explosives more readily identifiable so they can be traced. New detection equipment makes it more difficult to secrete such explosives aboard airliners.

"In the discussion period that followed," writes Dr. Huntley, "I asked about the 120 tons of plastic supposedly sold to Libya by Czechoslovakia and was told that the shelf life of this material was 20 years. Large amounts have been sent to Lebanon and Ireland, but much has been lost or wasted. One of the purposes of an International Conference to be held this year in Canada is to work out an agreement to tag such explosives so their movements

can be detected.

"I also raised the question of the possibility of a nuclear device being smuggled into the U.S. and being assembled and detonated. This possibility was discounted by the State Department as being too difficult, although a fuller explanation was not given. There appears to be more concern about poison gas that has been manufactured by Libya."

■

RED CROSS AIRS HOUR-LONG "EMERGENCY TEST" ON JUNE 7

On Thursday, June 7th, John Ritter will host an hour-long American Red Cross TV safety show at 9PM EST over the ABC network. Among the celebrities participating will be Harry Hamlin, Don Johnson, Betty White, Michael Landon, Joan Lunden, Tim and Daphne Reid, Richard Dean Anderson, Joe Montana and Julia Child.

Executive producer Herman Rush agrees with co-producer Susan Winston that simple safety precautions could have saved an "astonishing number of lives" over the past year if simple safety precautions had been observed.

Expert help was provided by FEMA, the American College of Emergency Physicians, the American Trauma Society, and the National Safety Council. Major categories covered will be: Home Safety, Recreational Safety, Safety In Public, and Natural Disasters.

■

KEY SURVIVAL EXERCISES ON NEAR HORIZON

Live Free, the Chicago-based survivalist organization, features "National Survival Week" at its training center in Harrisburg, Missouri June 25-29. Described as a "five-day high intensity, hands-on training program," it includes practical training in "shelter building, fire craft, map and compass, food foraging and preparation, camouflage, escape and evasion, and emergency medical skills. This training will be followed by home survival and combat survival courses.

For information contact Live Free, Box 1743, Harvey, IL 60426.

●

The second exercise has also become an annual survivalist event and is conducted by David Lobdell in North Carolina June 30-July 9. Lobdell features instruction in basic survival skills in a Blue Ridge Mountain setting. The Lobdell exercise is "an educational service project of Live Free."

For information contact: David Lobdell, P.O. Box 3132, West Palm Beach, FL 33402 — and after June 1 at 411 Old N.C. Highway 280, Pisgah Forest, N.C. 28768.

●

Cost of the Missouri exercise is $5 to $100 depending upon the length of stay and Live Free membership status. Cost for the North Carolina exercise is $20. Payments are expected in advance. Both exercises are listed in "Upcoming" on page 30 of the *Journal of Civil Defense.*

■

AIM ORLANDO CONFERENCE PROBES COMMUNISM COLLAPSE

An Accuracy In Media (AIM) conference held in Orlando, Florida March 30-31 impressed a full house with analyses of recent political changes in Eastern Europe. Held at the prestigious Peabody Hotel, the conference was titled: "The Collapse of Communism: Who helped? Who hindered? What's next?"

Among those who addressed the conference participants were:

Reed Irvine, founder and Board Chairman of Accuracy In Media;

Charles Wiley, war correspondent and popular speaker (he will address the 1990 TACDA/DDP Seminar — see story, pp 6-9);

Ernest Lefever, founder and president of the Ethics and Public Policy Center;

Zdzislaw Rurarz, former Polish ambassador to Japan, veteran of 26 years in the Polish foreign service, granted political asylum in the United States;

Dolf Droge, dramatic supporter of conservative causes (he spoke at the 1989 TACDA/DDP Seminar in Washington, D.C.); and

Edward Teller, renowned U.S. physicist who led the development of the U.S. H-Bomb (Dr. Teller will address the 1990 TACDA/DDP Seminar in Chicago on August 12th (see story, pp 6-9).

Accuracy In Media offices are located at 1275 K St., N.W. (Suite 1150), Washington, D.C. 20005.

NEWSWATCH ON SDI

High Frontier's April *Newswatch* newsletter reports that Vice President Dan Quayle backs SDI to the hilt, is working hard to get the Administration to strengthen its position on its development — and is succeeding.

Newswatch also quotes a recent speech by Secretary of Defense Dick Cheney to the Conservative Political Action Conference. Said Cheney:

> Let me make one thing clear. The President and I are determined to deploy strategic defenses, when they are ready. . . . The real roadblocks to SDI are political, not technical. . . . [thus] If the critics wish to engage us in a completely honest debate about missile defense, it must be on the question of whether or not we need it. For me, the answer is quite clearly yes. In fact, we need it now more than ever.
>
> As far as we can look into the future it is reasonable to assume that the Soviet Union is going to retain enormous nuclear capability. . . . They seem hardly allergic to the idea of their own defense, why should they object to our efforts?

Second class powers can become first class threats

A second major reason we need to continue SDI — and fund it properly — is the spread of nuclear, chemical, and biological weapons and the means to deliver them. It's a sobering thought. Second class powers can become first class threats. In fact, in a little over a decade, at least 15 developing nations will probably have ballistic missiles. . . .

Against this kind of threat, SDI could offer deterrence and population protection for the U.S. and our allies. Is Congress really willing to say to the American people that we will not spend your money to protect you from nations that are unstable, anti-democratic, and willing to use terrorism? . . .

■

NEW FEMA POSTERS AVAILABLE

In a recent announcement, Grant Peterson, director of FEMA's State and Local Programs and Support, offered two new civil defense posters for distribution and public display. These patriotic posters are meant to stimulate interest in disaster preparedness, are in color, and in fact do the intended job remarkably well.

For copies of the posters write to: FEMA, P.O. Box 70247, Washington, D.C. 20024.

The Journal of Civil Defense *welcomes input from a wide variety of sources in its effort to stimulate interest in a credible U.S. homeland defense. Recently* Journal *editor Walter Murphey suggested to Alexander Malyshkin, Senior Information Officer at the Soviet Embassy in Washington D.C. that information on Soviet civil defense from the Soviet Union could be of interest to* Journal *readers. The following article from the Novosti Press Agency is in response to this suggestion. Although the article indicates a turn toward emphasis on preparedness for natural disasters it appears to be logical to presume that the thorough preparations made over the years to protect Soviet citizens from the effects of modern warfare are still firmly in place. There are numerous publications which point to a type of all-out preparedness in the Soviet Union that could well serve as an incentive for an American civil defense that would improve dramatically anticipated nuclear attack survival rates. It's an old story. In his 1970 book* Soviet Civil Defense 1969-1970, *Leon Goure wrote in his summary:*

> *The ability to protect the population against attack and to assure essential industrial production in wartime continues to be perceived as a critical factor in national survival and victory in a nuclear war. For this reason, Soviet civil defense is said to be an essential element of Soviet defense capability.*

In the following article, written specifically for the Journal, *Soviet Colonel Dmitry Belsky includes Dr. Goure's point on Soviet wartime civil defense, but considers mainly new provisions for contending with peacetime disaster. An analysis of the anatomy of the extensive Soviet preparedness of the population for wartime homeland defense by Soviet writers would be of special interest. In thanking Mr. Malyshkin and the Novosti Press Agency for the following article the* Journal *invites comments on the admirable Soviet efforts to protect its population from wartime and terorrist attacks that contemplate the use of weapons of mass destruction from whatever source.* *(See "Third World Weapons Progress = New Threat," page 10.)*

USSR Overhauls Civil Defense

— Colonel Dmitry Belsky
Novosti Press Agency Defense Correspondent

Until recently, the greater part of the Soviet public thought civil defense (CD) was to come into operation in wartime only. Of course, in the past one of its functions was to deal with the effects of natural disasters, but CD forces, both local and centrally controlled, were basically trained to counter a hypothetical enemy.

The developments of the past few years have necessitated a major rethink of the tasks CD is to accomplish. The Chernobyl accident, the Armenian earthquake, the train explosion in Arzamas, and a number of other big accidents and man-made and natural disasters — all demonstrated that peacetime situations could be very similar to wartime conditions in terms of complexity and human tragedy. Then again, we are witnessing a thaw in world politics, with actual disarmament under way. So, whereas all calculations and preparations were previously made only for such a contingency as war, now civil defense can to a larger extent be regarded as a system of measures essentially intended to help people in distress. Now it is a question of its potential to cope with new tasks, the adequacy of its pattern, and its legal status.

Developments . . . have necessitated a major rethink

The country's leadership, too, saw the need for a new concept, witness the resolution on overhauling CD passed almost three years ago.

As part of the reform effort, forces are being trained to carry out peacetime missions, the command and control arrangement is being improved, the system of commanding personnel and citizens' training is being upgraded, and new patterns of

CD forces logistics support are being identified.

Furthermore, the new approach allows for specific regional features. USSR Chief of Civil Defense General V. Govorov says that no instructions concerning the strength of CD units will come from the USSR CD headquarters. This is the perrogative of those in charge of CD in constituent republics and regions. They have the power to decide on the number, mix and deployment of CD units. The USSR CD headquarters provides only rough recommendations as to their organizational structure and equipment.

Previously, the structure of all CD units was uniform everywhere. Now it is differentiated depending on particular geographical region. The southern seismic zone necessitates one structure, the Brest, Lvov and other regions where floods are frequent another, and the fire-prone Siberia and the region east of Lake Baikal still another. The units which will be stationed near chemically dangerous facilities and nuclear plants must have their own specialized forces provided with adequate means of protection, reconnaissance devices and the equipment necessary for decontamination of industrial facilities and the natural environment.

V. Kozhbakhteyev, Chief of Staff of the USSR Civil Defense, said the following about the activities of civil defense organizations today:

"The experience so far has shown that the efforts to undo the consequences of such accidents as Chernobyl and dealing with the effects of natural disasters such as the Armenian earthquake require readiness on the part of command and control bodies and the use of considerable funds and forces, the actions of which need to be coordinated, controlled and directed promptly and efficiently. To this end, special commissions taking orders directly from the corresponding local authorities are being set up at the councils of ministers of each union and autonomous republic, at the executive committees of territorial and regional Soviets of People's Deputies. For instance, prompt action by such a commission in the Gorky region enabled a quick clean-up after the train explosion at Arzamas."

Moves are afoot to set up local services relating to early warning, communications, radiation and chemical protection, public order maintenance, fire control, power supply, black-outs, emergencies, shelters, transport, and supplies.

Much of the non-military wing of civil defense is made up of nurses' units. In peacetime they provide first aid in the aftermath of industrial accidents, and earthquakes, fires, storms, and other natural disasters. As part of their daily routine, they assist health services with primary care, health-building, preventive and disease-control measures.

Previously the structure of all CD units was uniform everywhere. Now it is differentiated . . .

Dr. Leon Goure, whose 1970 book is quoted in the introduction to this article, says in 1990 — twenty years later:

It is true that after the natural and man-made disasters of recent years, especially the Armenian earthquake of December 1988, much more attention is paid in Soviet civil defense to dealing with peacetime disasters. . . .

For example, the instructions for the Soviet public issued last summer on "Civil Defense, Its Aims and Tasks" state:

The problem of protection of the population against enemy modern means of destruction can only be successfully solved by the joint efforts of the Armed Forces and Civil Defense. While the Armed Forces carry out active defense at the front against the immediate threat of attack (by missiles and aircraft), Civil Defense is responsible for protecting people, enterprises, collective and state farms in the rear area.

. . . The main task of USSR Civil Defense today consists in protecting the lives of people in cases of accidents, catastrophes and natural disasters and also in the event of use by the enemy of modern means of attack.

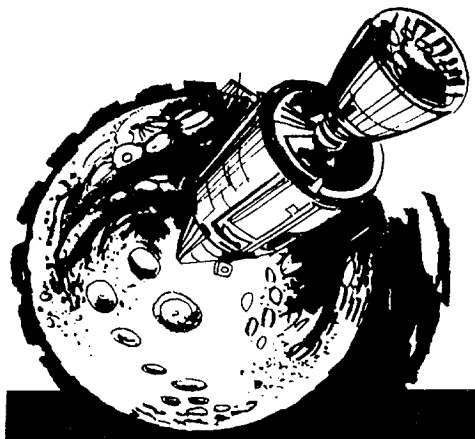
As far as I can tell from Soviet publications and from my observation in January 1990 in Moscow, the Soviet blast shelter construction program is still in operation and still being implemented. Of course, just as in the U.S. in the present atmosphere of reduced East-West tensions and, presumably, the end of the "Cold War," it becomes more difficult in the Soviet Union to promote a war-oriented Civil Defense Program.

One priority . . . is to provide a timely and reliable early warning

One priority of the civil defense forces is to provide a timely and reliable early warning of possible dangers. Measures are being taken to ensure that all urban residents and a considerable portion of rural dwellers are informed as soon as possible about disasters which have happened or are about to occur. To this end, regional early warning systems have been set up and are being improved.

Essentially, civil defense is intended to reduce the risk for people and the environment to a minimum. The CD system is part of the centralized social and defense measures effected at the time of peace and war to protect the populace and the national economy in the event of accidents, natural disasters, and modern warfare. □

Novosti Press Agency
March 12, 1990



What kind of shielding is needed to protect against fallout? Against blast? Against thermal radiation? Against initial nuclear radiation? Here in the third of five installments on "Nuclear Weapons Background" writer-scientist-researcher Carsten M. "Kit" Haaland pinpoints the protection that may be needed, and provides shelter builders with required criteria. In today's world, with thousands of nuclear missiles capable of devastating urban and rural areas in America, protection could spell the difference between life and death for men, women and children (and animals) across the nation. Required: planning.

PROTECTION: Choosing to *LIVE*!

— Carsten M. Haaland
Oak Ridge National Laboratory

Protection against initial nuclear radiation puts some special requirements on the design of a shelter, particularly if the enemy attacks with nuclear weapons of relatively small yield, of 100 kilotons or less. For these small yield weapons, the initial nuclear radiation can easily penetrate and be lethal in a shelter that provides protection against blast. As pointed out in a previous installment, there was a remarkable reduction in size of Soviet weapons in the early 80s correlated with an equally remarkable increase in the number of deliverable weapons, all due to acquiring the capability of MIRVing their ICBM warheads combined with greatly increased accuracy. It may be to their advantage to continue this trend. In the baseline attack used by the National Academy Press as shown in Figure 1 of first installment (February 1990), there are 3,200 weapons detonated with a yield between 50 and 150 kilotons yield. Even at modest overpressure of 10 to 20 psi, the initial nuclear radiation from a 50-kiloton weapon is lethal, and requires special attention for shelter design.

Protection against any kind of nuclear radiation is provided by placing certain materials between the source and the target. Protection against gamma radiation merely requires a certain mass of material and it doesn't matter too much what kind as long as the mass is there. Neutron radiation is a little more subtle. Large masses of certain kinds of matter, for example, steel, will be almost as transparent to neutrons of certain energies as glass is to visible light. Fortunately, concrete, earth (not dry sand), or any material with hydrogen in it, water, for example, will absorb neutrons and make a good shield. For this same reason, neutrons are destructive to humans because the body is composed of more than 50 percent water (about 63 percent of the atoms in the body are hydrogen), and the neutron energy is readily given up to hydrogen.

It is not sufficient to have only a

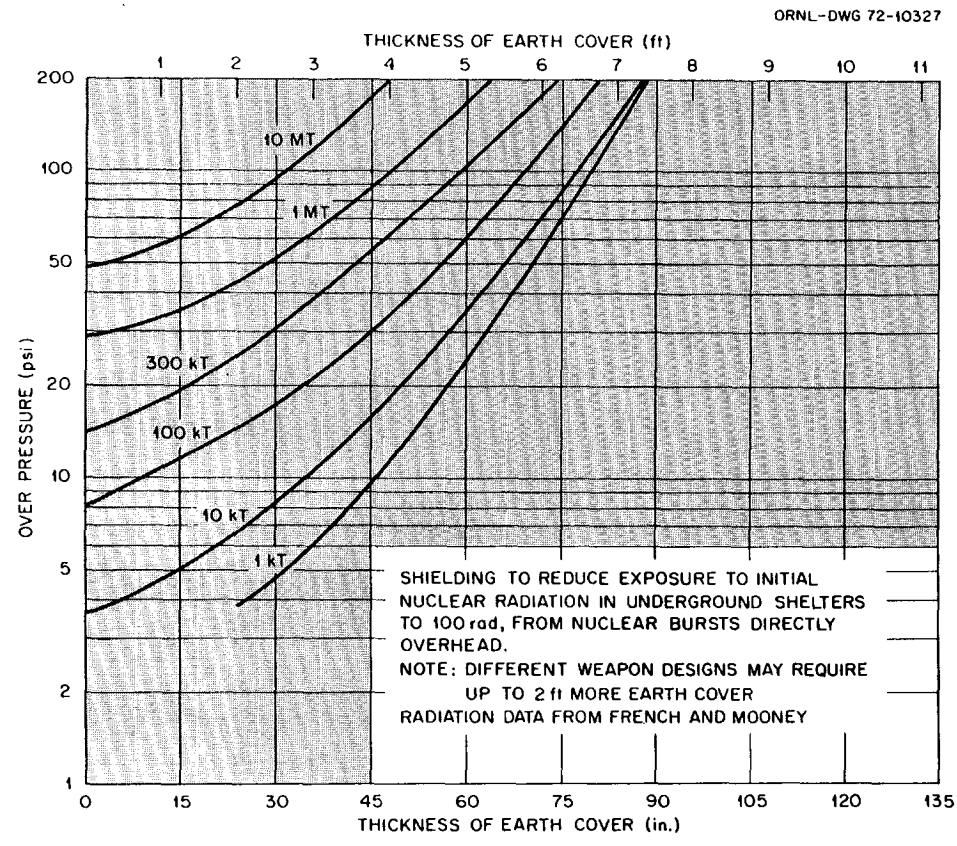


Figure 1.

barrier between the source and target for protection. Nuclear radiation is scattered and becomes diffuse. The radiation can come from different directions just as light comes from different parts of the sky. The shelter must surround the occupants for adequate protection.

A shelter located above ground doesn't have the benefit of the earth shielding around its sides. As much as two feet of additional earth cover may be required around the sides of the aboveground shelter. Underground shelters get natural protection from the earth around them against radiation from surface bursts. The protective shielding described here is for underground shelters.

The selection of the hardness for a shelter being planned is a difficult problem which is discussed elsewhere in CD studies, and will not be discussed here. The most important factors entering this selection are (1) the probability of being subjected to blast, and (2) the amount of money available for construction of the shelter.

When an underground shelter is designed to withstand a certain blast overpressure, there should be enough shielding above the shelter to protect against the worst initial nuclear radiation environment which may be encountered at that particular overpressure. For underground shelters the greatest hazard from initial nuclear radiation occurs when a nuclear weapon detonates directly overhead. This is the case that will be dealt with here.

The curves in Fig. 1 show how much earth shielding is required on the top of an underground shelter with a wood ceiling to protect the occupants from the worst radiation situation to be expected (Haaland, 1973, p. 6). If an underground shelter is designed to withstand a certain overpressure (indicated by the numbers on the side of Fig. 1) then the thickness of earth cover required to make the shelter safe from the associated initial nuclear radiation in the worst case (overhead explosion) can be obtained by reading the value along the bottom corresponding to the curve (weapon size) under consideration. If the shelter has a reinforced concrete ceiling eight inches thick, the required earth thickness above the concrete will be given by subtracting 12 inches from the numbers given by the graph. If concrete is to be used entirely instead of earth

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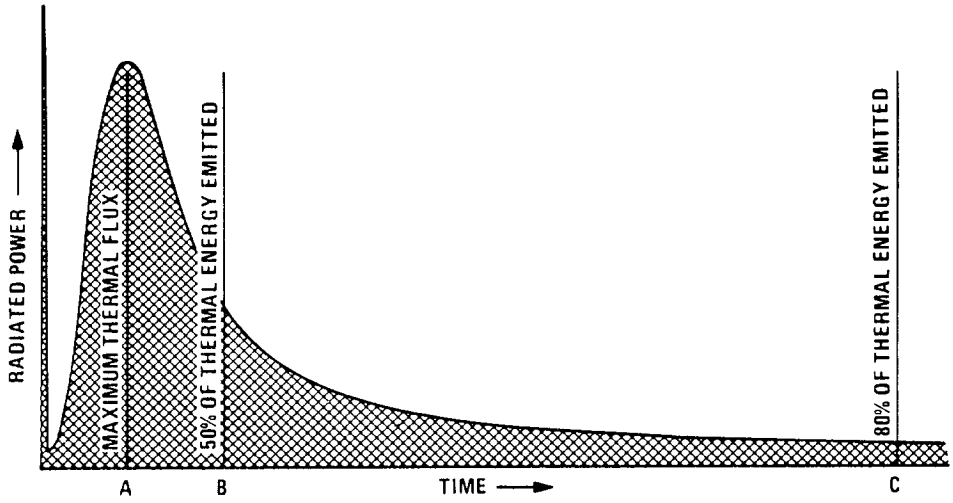
THERMAL RADIATION FROM NUCLEAR WEAPONS



YIELD (kt)	TIME A (sec)	TIME B (sec)	TIME C (sec)
10	0.11	0.24	1.1
50	0.23	0.49	2.3
100	0.32	0.66	3.2
500	0.64	1.35	6.4
1000	0.87	1.83	8.7
5000	1.77	3.71	17.7
10000	2.40	5.04	24.0
20000	3.26	6.84	32.6

Figure 2.

shielding, the necessary thickness can be obtained by multiplying the thickness of earth shielding by 2/3. The top of the graph shows the thickness of shielding in feet.

The shielding indicated by the curves in Fig. 1 reduces the dose to occupants to 100 rads. If better protection were desired, the shelter would have to be buried deeper. Each additional foot of earth above the shelter would reduce the radiation dose to occupants by eight to ten times.

An additional 40 percent of shielding thickness may be required to protect against weapons with modified radiation spectrums resulting from variations in weapon design. The neutron bomb is an example of such a modified weapon. Note that up to two feet of earth cover in addition to that shown along the bottom may be required to provide a margin of safety against such variations in weapon design.

There are six curves in Fig. 1, corresponding to weapon yields ranging from one kiloton to 10 megatons. Notice that for any given overpressure the smallest weapons require the greatest thickness of shielding from the overhead burst. The smaller weapon must be closer to the shelter in order to produce the same overpressure as a large weapon, consequently the nuclear radiation environment is worse for the smaller weapon for a given overpressure.

A shelter designed for protecting the occupants against a blast overpressure of 30 psi (pounds per square inch) should have a cover of at least 4.8 feet of earth over a wood ceiling, or 3.1 feet of solid concrete, or 3.8 feet of earth over an 8-inch-thick concrete ceiling, to protect against the initial nuclear radiation from 10-kiloton weapons. Against a 300-kiloton weapon detonated at a higher altitude and producing the same overpressure of 30 psi at the shelter, only half as much shielding cover is required as for the 10-kiloton weapon to provide the same protection against initial nuclear radiation.

The curves in Fig. 1 can also be used to indicate the degree of pro-

Table 1. Slant range in miles for radiant exposures from air bursts to fixed objects on the ground[a]

Yield (kt)	Time[b] (sec)	Radiant energy in calories per square centimeter					
		5	8	12	25	50	200
		Slant range in miles from fireball center					
10	1.1	1.4	1.1	0.9	0.6	0.4	0.2
50	2.3	2.8	2.3	2.0	1.3	1.0	0.5
100	3.2	3.8	3.1	2.6	1.8	1.4	0.8
200	4.3	4.9	4.1	3.5	2.5	1.9	1.1
600	7.0	7.5	6.4	5.3	4.0	3.1	2.1
1000	8.7	8.9	7.6	6.6	4.8	3.8	2.5
5000	17.7	14.8	12.7	11.2	9.1	7.2	4.5
10000	24.0	18.0	15.8	13.9	11.8	9.3	6.5
20000	32.6	22.0	19.8	17.4	15.3	12.6	9.2

[a] Air bursts less than 15,000 feet altitude, visibility 12 miles.
Data taken from Glasstone, 1977, p. 291.
[b] Time required for delivery of the radiant exposure. See TIME C in Fig. 2.

Table 2. Radiant exposures for ignition of various materials for low air bursts

Material	Yield in kilotons		
	35 (2 sec)[a]	1400 (10 sec)	20000 (33 sec)
	Radiant exposure (cal/cm²)		
CLOTHING FABRICS			
Cotton, dark blue, 8 oz/yd²	14	19	21
Cotton, khaki, 3 oz/yd²	14	21	28
Cotton, khaki, 8 oz/yd²	20	30	39
Cotton, olive, 8 oz/yd²	14	19	21
Cotton, white, 8 oz/yd²	32	48	85
Cotton corduroy, brown, 8 oz/yd²	11	16	22
Cotton, new denim, blue 10 oz/yd²	12	27	44
Cotton-nylon mixture, olive, 5 oz/yd²	12	28	53
DRAPERY FABRICS			
Cotton, dark colors, 13 oz/yd²	15	18	34
Rayon gabardine, black, 6 oz/yd²	9	20	26
Rayon twill lining, beige, 3 oz/yd²	13	20	28
OTHER FABRICS			
Cotton chenille bedspread, light blue	No data	11	15
Cotton muslin window shade, 8 oz/yd²	7	13	19
VARIOUS TINDER MATERIAL			
Beech tree leaves, dry	4	6	8
Cardboard carton, brown, 16 oz/yd²	16	20	40
Grass, dry	5-6	8-9	10-11
Newspapers, dry	5-6	7-8	12-15
Pine needles, brown (ponderosa)	10	16	21

[a] Duration of exposure in seconds (through TIME C in Fig. 2).

tection from initial nuclear radiation for shelters that have already been constructed. For example, let us consider an underground shelter with 45 inches earth cover over a wood ceiling, rated for 100 psi overpressure. In Fig. 1, find the vertical line that runs up from the number 45 along the bottom. Note where the curves corresponding to the different weapon sizes cross over this vertical line, and read the overpressure along the left side of the graph.

For example, the 1-kiloton curve crosses the 45-inch-thickness line at about 9-1/2 psi, indicating that the 1-kiloton weapon would have to be burst at a height such that the overpressure on the shelter directly below would be only 9-1/2 psi in order for the shielding on this shelter to provide adequate protection against initial nuclear radiation, that is, reduce the dose to 100 rad.

Continuing upwards on the 45-inch-thickness line, the 100-kiloton curve is crossed at an overpressure of 30 psi, indicating that 30 psi is the maximum overpressure for which this shelter would provide adequate protection against initial nuclear radiation from an overhead shot by a weapon of 100-kiloton yield.

Still going up on the 45-inch-thickness line, we pass the 1-megaton curve and come to the horizontal line representing 100 psi overpressure, the overpressure for which the shelter is rated. We can interpolate and estimate that the point of intersection of the 45-inch-thickness line and the 100-psi line falls between the 1-megaton and 10-megaton curves roughly at about 2 megatons. This tells us that this shelter will not provide adequate protection against initial nuclear radiation when the overpressure is 100 psi unless the weapon is 2 megatons or larger. Additional earth cover would be necessary to provide adequate protection from initial nuclear radiation when the overpressure is 100 psi resulting from weapons smaller than 2 megatons.

If a shelter is expected to be subjected to the initial nuclear radiation of more than one weapon within a period of a few days, then the shielding should be increased so the sum of the doses from the expected number of exposures is 100 rad or less to the occupants. Multiple exposures may be expected near military targets or critical industrial plants, but are unlikely for most U.S. urban and suburban areas.

The curves in Fig. 1 are based on rather simple calculations and may tend to provide more protection than needed in most nuclear attack situations. For large facilities that are to be protected against initial nuclear radiation it would be cost-effective to make sophisticated computer calculations that are specifically designed for the facility.

THERMAL RADIATION

About one-third of the energy of a nuclear detonation at low altitude,

where the fireball does not touch the ground, is released as thermal energy. This energy is heat and light such as might be emitted from a small sun that has erupted nearby for a short time.

The people of Hiroshima referred to the A-bomb detonation as "the giant spark" because it was so bright. But it also gave off so much heat that many people outside were roasted alive, their clothing ignited, and many buildings were set on fire both inside and outside.

If people are outside, in direct line-of-sight to the weapon, and the atmosphere is moderately clear (no dense fog, smoke, rain or snow), the thermal radiation from a nuclear detonation can kill more people than all the other weapon effects combined, because the heat waves are lethal out to a much greater distance than the other effects. Thermal radiation can also contribute greatly to the fire-damage to a city by igniting readily-combustible materials such as curtains, drapes, and upholstery inside buildings by shining through windows, and starting fires in dry leaves, newspapers, and certain kinds of shingles and wood siding outside of buildings.

On the other hand, if people were in shelters, no one would be injured by the thermal radiation. If, in addition, the city were constructed of aluminum, concrete, fiberglass, steel, stone and other noncombustible materials such that no combustible materials were irradiated, there would be *negligible damage from thermal radiation.* In such a city there would be no massive fires or firestorms following the blast damage, although there could be some secondary fires resulting from electrical short-circuits, broken gaslines, or ruptured petroleum facilities. Unfortunately, every American city has a certain distribution of combustible materials that could be ignited by the thermal radiation of a nuclear detonation, although the concentration is not as high as it was in Hiroshima, where many houses had sides constructed of bamboo and rice paper.

When the nuclear weapon is detonated, there is first a brilliant flash that lasts for about a tenth of a second, indicated by the first peak in Fig. 2, in which about one percent of the bomb's energy is radiated. This flash is not enough to cause damage to buildings, but it may seriously damage the eyes of anyone who happens to be looking straight at it.

The fireball then builds up to its highest visible temperature, to a surface temperature very much like that of our sun, at the same time that it is bursting out to reach its maximum size. Sometime during this process it reaches a second stage of maximum thermal flux, indicated by the letter "A" along the bottom of the graph in Fig. 2. It takes longer for larger weapons to reach this maximum thermal flux than for smaller weapons, as shown by the table below the graph. It takes a 10-kiloton weapon 0.11 seconds to reach TIME A, but it takes about 3.3 seconds for a 20,000 kiloton, or 20-megaton, weapon to reach this peak.

After the stage of peak thermal flux is passed, the fireball cools rapidly, and it may still be expanding somewhat. At TIME C on the graph in Fig. 2, most of the thermal energy has been radiated. Table 1 lists slant ranges from fireballs corresponding to a number of different yields at which the thermal energy exposures are 5, 8, 12, 25, and 50 calories per square centimeter. These radiant exposures are what an object would receive under the specified conditions if IT DOES NOT MOVE throughout the time from detonation to TIME C listed on the table in Fig. 2. The thermal radiation emitted after that time is delivered slowly over a period of many minutes and causes no damage.

If the fireball touches the ground, various factors, such as the dust thrown up by the fireball and the lower transmittance of radiation by the air near the ground, may reduce the amount of thermal energy reaching a target on the ground at a specified distance to one-half to three-fourths of that from an air burst of the same total yield (Glasstone, 1977, p. 281). For ground bursts the same distance-yield relationships in Table 1 may be used, but the thermal energy exposures, 5, 8, 12, 25, and 50 cal/cm^2, should be reduced by one-half to 2.5, 4, 6, 12.5, and 25 cal/cm^2.

For a 10-kiloton weapon, the significant thermal radiation is all over approximately 1.1 seconds after detonation. But for a 20-megaton weapon, there is still significant thermal radiation being emitted at 30 seconds after the detonation.

The rate at which thermal energy is delivered affects the amount of damage done to a surface. If the energy is being received at a rate faster than it can be carried away by processes of conduction and convection, the temperature of the material rises rapidly, leading to ignition for combustible materials, or

Table 3. Range in miles for overpressures from ground bursts on flat ground.

Yield (kt)	HOB[a] (ft)	Overpressure in pounds per square inch 100	30	10	7	4	0.5
		Range in miles from ground zero					
10	0	0.14	0.24	0.42	0.51	0.69	2.6
50	0	0.24	0.41	0.72	0.88	1.17	4.3
100	0	0.30	0.52	0.90	1.11	1.48	5.5
200	0	0.38	0.65	1.14	1.40	1.86	6.9
600	0	0.55	0.94	1.64	2.01	2.68	9.9
1000	0	0.65	1.12	1.94	2.39	3.18	12.2
5000	0	1.12	1.91	3.32	4.08	5.44	20.1
10000	0	1.41	2.41	4.18	5.14	6.66	25.3
20000	0	1.77	3.03	5.27	6.48	8.64	33.2
Shock velocity in miles per hour (feet per second in parentheses)							
		1990 (2920)	1260 (1850)	957 (1400)	900 (1320)	845 (1240)	770 (1132)
Blast wind velocity in miles per hour							
		1415	669	294	218	133	18
Dynamic pressure, psi							
		123	17	2	1	0.4	0
Reflected overpressure, psi							
		496	101	25	17	8.9	1.0

[a] HOB-Height of burst in feet.

Table 4. Range in miles on flat ground from ground zero for overpressures produced by air bursts at heights selected to maximize the range at which the overpressure is 10 psi.

Yield (kt)	HOB[a] (ft)	Overpressure in pounds per square inch					
		100	30	10	7	4	0.5
		Range in miles from ground zero					
10	1600	0[b]	0.09	0.60	0.72	0.99	5.3
50	2800	0	0.16	1.02	1.23	1.70	9.0
100	3500	0	0.20	1.28	1.55	2.14	11.3
200	4400	0	0.25	1.62	1.95	2.69	14.3
600	6300	0	0.37	2.33	2.82	3.88	20.6
1000	7500	0	0.44	2.77	3.34	4.60	24.4
5000	12800	0	0.74	4.73	5.72	7.87	41.8
10000	16200	0	0.94	5.96	7.20	9.92	52.6
20000	20400	0	1.18	7.51	9.07	12.49	66.3
Shock velocity in miles per hour (feet per second in parentheses)							
			1260 (1850)	957 (1400)	900 (1320)	845 (1240)	770 (1132)
Blast wind velocity in miles per hour							
			669	294	218	133	18
Dynamic pressure, psi			17	2	1	0.4	0
Reflected overpressure, psi			101	25	17	8.9	1.0

[a] *HOB-Height of burst in feet.*

[b] At this HOB the 100-psi overpressure contour does not reach the ground. The maximum overpressure at ground zero is about 36 psi.

burning for human skin. If the same amount of energy is delivered over a longer period of time, more of that energy can be safely carried away to other parts of the object, thus keeping the temperature from rising so fast on the affected surface.

Almost anyone can tolerate exposure to strong sunshine for eleven minutes, during which time the exposed surfaces could receive as much as 21 calories of radiant heat energy per square centimeter of skin surface. However, if that much energy, 21 cal/cm², were delivered in 1.1 seconds, as it would be from a 10-kiloton weapon at 3/4 mile slant range, the effect would be lethal, causing third-degree burns on all the exposed skin.

For this reason, a greater total amount of radiation is required to produce the same degree of damage from a large weapon than from a small weapon. For many materials, it requires two to five times more delivered thermal energy, depending on the conductivity of the material, to cause ignition by the thermal radiation from a 20-megaton weapon than from a 35-kiloton weapon (Glasstone, 1977, pages 287 and 299). Some of these ignition energies are listed for complete tables are given in *The* complete tables are given in *The Effects of Nuclear Weapons (JCD* Apr. 90).

As an example, new cotton blue-jeans (listed as "Cotton, new denim, blue" in Table 2) hanging on a line on a clear day would ignite spontaneously after being exposed to 44 calories per square centimeter delivered during the entire period of significant thermal radiation from a 20-megaton low air burst (fireball not touching ground). But it would only require 12 cal/cm² to ignite them if exposed to the entire period of significant thermal radiation from a 35-kiloton weapon. The different rate of thermal delivery accounts for the difference. The 20-megaton thermal radiation requires 33 seconds to deliver this energy at a 13-mile slant distance, while the 35-kiloton thermal radiation is delivered in two seconds at a 1.9-mile slant distance. The 20-megaton weapon delivers about 570 times more thermal energy than the 35-kiloton weapon, but the effectiveness of this radiation in burning objects is reduced by a factor of two to five times because of the longer time to deliver this energy.

Because of the relatively slow time of buildup and delivery of thermal radiation from large weapons, those over a megaton in yield, it is possible for a person outside at the time of detonation to save his or her life by quickly ducking into a dark place, such as a closet or culvert. Getting into a shadowed area may help but still may not provide enough cover because of scattered radiation. Pulling a garment over the face to prevent direct skin exposure may also save lives, but the person must be prepared to throw off the garment if it ignites. Exposure to thermal radiation from large weapons can be lethal at distances where initial nuclear radiation is negligible and where blast effects may be injurious but not lethal. Any fallout or blast shelter will provide complete protection to the occupants from thermal radiation.

For a low air burst, where the fireball doesn't touch the ground, and when the air is perfectly clear, the levels of thermal radiation decrease approximately with the square of the distance away from the burst, when the distances are large compared with the diameter of the fireball. The radiation levels at ten miles away from the burst will be four times lower than at five miles; and at twenty miles, which is four times farther away than the five mile location, the radiation levels will be 16 times lower. A slight haze in the air, such as might limit the visibility to 12 miles, as is the case for Table 1, will result in scattering of the radiation so that the radiant energy levels may not decrease as rapidly with distance. If there is a heavy reflective cloud layer throughout the area that is above the burst, this distance relationship would not apply, because the radiation would be reflected down from the clouds and add to the radiation at greater distances.

SHOCK AND BLAST WIND

Nearly all of the damage to buildings by nuclear explosions is done by the shock wave and the accompanying blast wind. These destructive elements are similar to those from conventional high explosives, except that the effects from nuclear weapons reach out to much greater distances, have much greater force, and take a longer time to happen.

The shock wave forms within the fireball within fractions of a second after detonation. For an air burst, the shock wave makes up the moderately thick shell of a bursting-out sphere, one that is blowing up rapidly in all

directions. For a ground burst, the shape of the shell is a hemisphere rather than a full sphere. The substance of the shell is highly compressed air that is also very hot, with the peak pressure and temperature existing right at the very front or outward part of the expanding shell. While the shock wave is inside the fireball, the peak pressure may be tens of thousands of pounds per square inch, the thickness of the shell of the sphere is on the order of inches to feet, and the speed of the outward expansion may be as much as a few miles per second.

The shock-wave sphere quickly breaks away from the fireball, still within only fractions of a second after detonation. As it expands outwards, the speed of the expansion slows down, the overpressure in the shell sharply reduces, and the thickness of the shell increases. The outward velocity is still almost twice the speed of sound (which is 1116 ft/sec at sea-level at 15 degrees Centigrade) when the peak overpressure has reduced to 50 psi. At 10 psi, the velocity is still about 1-1/4 times the speed of sound.

When the bottom part of the spherical shock wave from an air burst hits the ground, it bounces back up. If it hits the ground at an angle, it bounces up at an angle, somewhat like a rubber ball from a hard flat surface. Because the air is heated by the passage of the shock wave, and the shock wave travels faster in the heated air, the bounced, or reflected, part of the shock wave catches up with the advancing part of the spherical wave and reinforces it. This behavior will be modified if the ground is not flat, or if there are many large buildings in the area. The reinforced wall of compressed air, consisting of both the initial shock front and the bounced-up part, is called the Mach stem, after the German physicist Ernst Mach. On a flat surface, the shock front in the Mach stem is perfectly vertical. Because of the Mach stem effect, the overpressure from air bursts can reach out much farther than from a ground burst of the same yield.

An attacker seeking to destroy area targets such as cities would probably make use of this fact in order to use his weapons most effectively. He might select an overpressure that would guarantee the greatest overall damage to the city, which presents a variety of structures with varying resistance to blast damage. He would know that the greatest distance outward to which this overpressure would extend would be increased greatly by raising the altitude of the burst. But if the altitude of the burst is raised too much, the greatest distance outwards for this particular overpressure will decrease. There is a certain altitude for detonation of a weapon of a given yield that will maximize the distance to which a selected overpressure will reach. This certain altitude is called the optimum burst height for that overpressure.

Tables 3 and 4 show distances from ground zero at which the free-field peak overpressures reach 100, 30, 10, 7, 4, and 0.5 psi from weapons of various yields, ranging from 10 kilotons to 20 megatons. The free-field overpressures are those that would be measured in the shock front where there are no obstructions to the shock movement. Table 3 shows the ranges for overpressures from ground bursts. Table 4 shows the ranges for air bursts at optimum burst heights for 10 psi. Note that in going to air bursts to maximize the extent of the 10 psi overpressure, there is no overpressure on the ground greater than 36 psi, even directly below the burst, and the ranges for 30 psi are greatly reduced. However, the ranges for 10 psi from air bursts are increased by about 1.4 so that the area covered by 10 psi or more is twice that area for ground bursts for the same yield.

The shock wave destroys by suddenly applying an enormous force on the face of the object it encounters. If the object doesn't present a large frontal area, such as, for example, a telephone pole, the shock wave rapidly travels around it so the force is applied to all surfaces of the object, front and back. If the object can withstand the compressional forces, it will survive the shock wave, but it might be blown down by the blast wind that follows the shock. The blast wind produces what is called a dynamic overpressure. For 100-psi shock waves, the dynamic overpressure is greater than the peak shock overpressure. For 70-psi shock waves, the two overpressures are about equal, and for lower overpressure shock waves, the dynamic overpressures are less than the shock wave overpressure. The blast wind velocities and dynamic overpressures associated with the various peak shock overpressures are listed at the bottom in Tables 3 and 4.

If there is a frontal area presented by the object to the shock wave, the total force on the object can be tremendous. For example, a door three feet wide and seven feet high would be slammed with an instantaneous total force of 38 tons when hit head-on by a 10-psi shock wave, because of the reflected overpressure of 25 psi.

When the shock front hits a wall head-on, the air bounces back and piles up on itself, causing the pressure on the wall to be instantly doubled or more. If the free-field peak overpressure is 100 psi, the reflected overpressure on a wall perpendicular to the direction of motion of the shock front is almost five times the free-field peak overpressure, as shown in the bottom line of Table 3. As an example, a free-standing brick wall hit head-on by a 100-psi shock wave would be demolished by the 496 psi reflected overpressure, but if the wall were lined up in the direction of the shock movement, both sides of the wall would experience a 100-psi side-on peak overpressure as the shock front moved along, and the wall would probably remain standing. If the wall were oriented at different angles to the shock front, the reflected overpressure would vary between 100 psi and 498 psi, depending in a complex manner on the angle.

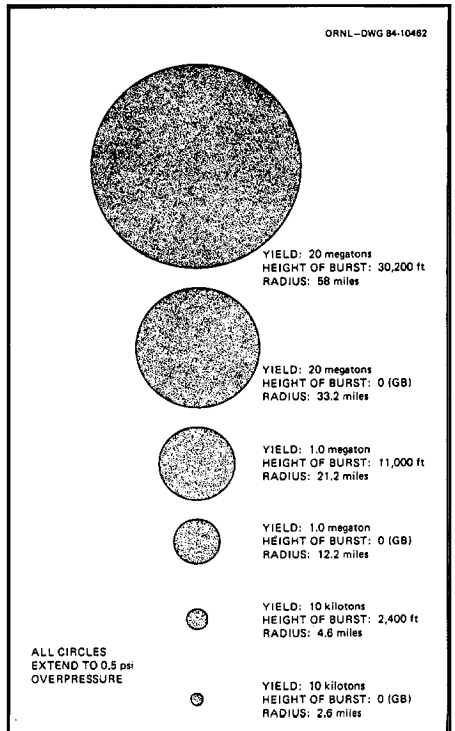


Figure 3. Areas covered by 0.5 overpressure for various yields and burst heights.

Because of the destructive effect of reflected overpressures, blast shelters should be located where there is little or no chance for a buildup of overpressure by reflected shock waves. Underground shelters on level ground fulfill this requirement.

The various overpressures in Tables 3 and 4 were chosen for the following reasons:

100 psi: Blast shelters can be built for people to withstand 100 psi at a reasonable cost (roughly about $350 per space, 1977 dollars, according to Sullivan, 1978, p. C-11) without specialized construction techniques. Shelters to protect from overpressures higher than about 100 psi would require special shock isolation to keep the shelter interior from violently shaking about and injuring the occupants. This shock isolation would raise the shelter costs significantly (Haaland, 1970).

30 psi: Overpressures around 30 psi are necessary to destroy machinery such as milling machines and lathes, where no special precautions have been taken to protect them.

10 psi: This overpressure guarantees total destruction of most buildings, including skyscrapers, brick apartments, and concrete-block structures. Some structures, such as bank vaults and specially reinforced buildings, may remain standing.

7 psi: This overpressure has been used as a lethality indicator indicating the range for conditions produced by combined weapon effects that would result in 50 percent lethality to the public under normal circumstances (most in buildings) under the assumptions that (1) the public is given adequate warning several minutes before the first nuclear detonation, (2) people are trained to take rudimentary protective measures, and (3) protective shelters are not available to them within the time remaining between warning and detonation (Haaland, 1977, p. 291). The combined weapon effects include initial nuclear radiation, thermal radiation, shock and blast wind, and subsequent fires.

4 psi: This overpressure has also been used as a lethality indicator, in this case indicating the range for conditions produced by the combination of weapon effects that would result in 50 percent lethality to the public under normal circumstances (most in buildings) under the assumptions that (1) the public has no warning whatsoever, and (2) people do not know how to take protective measures after the onset of the thermal flash. The area covered by the 4-psi contour is almost double the area covered by the 7-psi contour.

0.5 psi: Nearly all buildings except the flimsiest sheet metal structures will remain standing at this overpressure, but most windows in buildings will be broken. Some injuries could occur at this range from flying glass. Beyond this range there would be few injuries, if any, from the prompt effects of nuclear detonations. Areas covered by 0.5 psi overpressure for different yields and burst heights are shown in Fig. 3. Note the greatly increased area covered by an air burst optimized for 0.5 psi compared with the area covered by a ground burst of the same yield.

The reader is referred to *The Effects of Nuclear Weapons,* (Glasstone, 1977) for additional information. Chapter V, "Structural Damage From Air Blasts," contains 76 pages, including many informative graphs, tables, and photographs on this subject. □

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Looney and Nesbitt Represent TACDA and DDP at DRP 2000 Conference

Taking a two-day bite out of their busy schedules, Dr. Gerald L. Looney and Dr. William R. Nesbitt covered the "DRP 2000" industrial disaster conference in Los Angeles April 10-11. DRP 2000 (Disaster Recovery Preparedness for Defense Industry Decade) was planned and conducted by the Washington D.C.-based American Defense Preparedness Association as a means of stimulating interest in serious disaster preparedness by industry. On the agenda were industrial, educational and governmental leaders (one of them was Joseph A. Moreland of FEMA) who concentrated on the need, the requirements and the benefits of industrial preparedness for disaster. A special accent was placed by a number of speakers on the Loma Prieta earthquake of last October.

Drs. Looney and Nesbitt manned one of the many exhibit booths and distributed TACDA and DDP and METTAG literature to interested participants.

The final climax of the conference was a tour of the Earthquake mock-up facilities of Universal Studios. Here a live reproduction of a destructive earthquake is produced for visitors which duplicates actual earthquake shock. During the one-hour demonstration remarkably realistic earthquake disaster simulations of fire, flood, falling debris, explosions and wrecks are experienced by those in attendance and impress them with the value of deliberate preparedness.

TACDA and DDP — and the *Journal* and METTAG — owe a resounding vote of thanks to Dr. Looney and Dr. Nesbitt for manning an exhibit and representing them at the DRP 2000 conference. □

REVIEWS

SHOCK WAVES: CONSEQUENCES OF GLASNOST AND PERESTROIKA, edited by Bernard Rubin and Ladislav Bittman. Disinformation Documentation Center, College of Communication, Boston University, 640 Commonwealth Ave., Boston, MA. 02215. Vol. 2, No. 6, Fall, 1989, 171 pages. Single copies *gratis* from the center.

— Reviewed by James M. Ridgway, Ph.D.

Even if overtaken by events, this monograph is significant reading for people who want to know more about Russian affairs in general and the domestic problems facing Gorbachev in particular. Since publication of this work, the Berlin Wall has disappeared, the Ceausescus have been shot, and Lech Welesa and Vaclav Havel have addressed a joint session of the U.S. Congress.

Rubin says, ". . . Gorbachev has become something of a media-propelled hero in the West." The thrust of the study is to dispel this notion. It charges, in effect, that Gorbachev is "flying by the seat of his pants." He is great at criticizing the failures of past Russian leaders, but slow or ineffectual in improving the Russian economy. In reorganizing the Russian government Gorbachev has created his own political base at the expense of expert, or technical ability to govern. On paper Gorbachev has more power than Stalin ever had.

. . . Gorbachev is "flying by the seat of his pants."

Rubin hoists two warning flags in his remarks. ". . . Especially in the Soviet Union, the gambling in the international arena will be staked on military options. Authoritarian leaderships have always attempted to wrest destiny from war, unleashed savagely and suddenly." And again, "War is an enticing prospect for leaders who have to choose between self-sacrifice and national sacrifice."

Current events considered in Germany, William R. Keylor's chapter titled "France Faces Glasnost and Detente" is of particular interest. His point is that if Germany looks East, France gets nervous. If Germany looks West, Russia gets nervous. If the USSR and France become cordial, Germany worries.

The monograph has four major parts: 1. Impact on Great and Superpower Relations; 2. News About the Unfolding Situation; 3. Inside the USSR; and 4. Changes in the Old Empire. In addition to the writers already named in this review, chapters have been written by Hermann Frederick Eilts, Uri Ra'anan, Farhang Mehr, Igor Lukes, Milan Svic, and Walter D. Connor. These are all professors at Boston University with excellent academic and experiential credentials. What they have to say about the political, multinational ethnic, and religious situations in the USSR is well worth knowing.

The contemplation of a nuclear war is so horrible that most Americans believe it could not happen. No one should imply a nuclear attack would be anything less than all all-out disaster. It would assuredly prove catastrophic. But the point is there are ways to survive one. The Soviet realize this. The American public does not.

— Donald J. Mitchell

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FACT: Today the Soviets have fallout and blast shelters to protect 75% of their urban population. In the U.S., on the other hand, the strong anti-civil defense lobby has blocked efforts to take basic and effective defense measures to protect YOU!

FACT: Today the Soviets are spending 30 times more on civil defense than we are — and their wealth is less than half ours.

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TOO GOOD TO FILE

SDI: A U.S. SHIELD

Without strategic defense, America could well awaken one morning to find a burning, radioactive abyss where New York City once stood. With strategic defense, Americans can sleep soundly, secure in the knowledge they are protected from accidental, unauthorized or deliberate Third World ballistic missile attack. This is particularly true as more Third World nations acquire nuclear technology. [See chart, page 10.] It is also consistent with our arms control negotiations under way in Geneva.

Strategic defense complements deep reductions in nuclear weapons and will contribute to strategic stability. Any strategic arms agreement signed by the United States and Soviet Union likely will halve their respective strategic land-based nuclear forces. Contrary to the conventional wisdom of the liberal arms control community, strategic defenses enhance strategic arms reduction talks, provide assurance against potential cheating and strengthen treaty compliance.

SDI also will serve as protection against accidental, unauthorized ballistic missile launch or deliberate ballistic missile terrorist attack against the United States or its allies....

— Rep. Robert Dornan (R-CA) in *Defense News.*

■

AMERICANS *WANT* DEFENSE!

Another truly remarkable poll has been published (in *The New York Times,* 1/15/90) demonstrating a solid majority of Americans opposed cutbacks in the U.S. defense spending. What makes the finding so unusual is that it comes in the midst of an extraordinary propaganda campaign suggesting that the Cold War is over and the Soviet Union is no longer a threat. The poll, conducted in behalf of *The New York Times* and CBS News, showed that 13 percent of all adults believed "Federal spending on military and defense should be increased." 48 percent believed it should be kept the same. By contrast, only 36 percent favored a decrease in Federal spending on military and defense. Even among those who say the Cold War is over, 10 percent favored an increase and 43 percent believed spending should be kept the same. Among those who recognize that the Cold War is not over, 14 percent endorsed an increase in spending, and 52 percent believed it should be kept at present levels.

Another significant aspect of the survey came in response to the question, "Should the United States increase aid to Eastern European countries that are becoming more independent of the Soviet Union?" 33 percent said "should," 59 percent "should not."

This is further evidence for the argument that, instead of making preemptive concessions to the anti-national security lobby, President Bush should be rallying the American people to maintain an adequate national defense in the face of an unrelenting modernization and build-up of Soviet forces, particularly at the strategic level.

— *The Howard Phillips Issues and Strategy Bulletin.*

SETTING THE TELLER RECORD STRAIGHT

Dr. Edward Teller is one of the greatest physicists of our age. The Free World is deeply indebted to him for having developed the H-bomb, overcoming not only the daunting technological problems but also the political opposition of those whose ardor for America's nuclear superiority cooled after the defeat of Germany and Japan. Teller persisted because he knew that the Soviet Union had the means and the talent to develop the H-bomb. He did not want to see this awesome weapon in the hands of Josef Stalin while the United States was left with only the A-bomb. His fears were well justified. The Soviets actually developed the H-bomb before we did, but thanks to Teller, not by much. . . .

Even though Edward Teller should be basking in the accolades of those who know the tremendous debt owed to him by the Free World, the diehards of the left are still trying to denigrate or minimize his achievements. . . .

— *AIM Report.*

(Dr. Teller will be luncheon speaker at the TACDA/DDP Seminar in Chicago on August 12th.)

■

OPTION FOR THE WARY: SHELTER

Civil defense today is like sex in the 19th century — no one talks about it. Washington is mesmerized with treaty talk, and missile defense is years away. Yet the sad fact is that few nations in history have adopted such a "strategy" as that of the United States, purposely leaving its citizens as unprotected hostages to attack. Soviet rulers, however, continue to prepare their people to survive a nuclear war. The Soviets have massive civil defense construction and yearly training for every citizen. Even China, as poor as it is, has built passageways under most of its major cities. . . .

The "worst case" scenario of bombs on every U.S. city with a 50,000 population and every military base, with no civil defense or shelters as we have now, was analyzed in the London *Economist* in 1983. Such an attack would involve over 6,500 megatons of destructive power, equal to 525,000 Hiroshima-size bombs.

The direct effects estimated by the *New England Journal of Medicine* would be 140 million dead from bombs and the ensuing chaos. That would leave 100 million live Americans, equaling the nation's population in 1900.

A different scenario, according to civil defense officials, assuming surprise attack only on military bases and key industry and communications hubs, would leave two-thirds of Americans alive. But in each case millions more Americans could survive if there were a shelter program.

— Jon Basil Utley in the *American Legion Magazine.*

■

SOMETIMES: TOO MUCH HELP

When international disaster strikes, an outpouring of sympathy and help is a common response. Unfortunately, this help can often end up being a hindrance to disaster workers, especially when it is not the kind of help that is needed. At past disasters, for example, everything from uninvited rescue teams and search dogs to old clothes have arrived unsolicited, adding to the existing difficulties.

To prevent this situation, Emergency Preparedness Canada, External Affairs, and the Canadian International Development Agency (CIDA) are strongly urging people and organizations that the best way to help is to give donations through the Canadian Red Cross, through which the Government of Canada normally channels aid. . . .

— *Agency Insight* (Alberta, Canada)

■

NITZE: "SURPRISE ATTACK" TO BE EXPECTED

Former U.S. President Ronald Reagan's senior arms control advisor Paul Nitze told a private meeting on Capitol Hill . . . that with instability in the Soviet Union, "We cannot be sure into whose hands the 30,000 nuclear weapons in the U.S.S.R. will fall."

Nitze said while the changes in the Soviet Union are irreversible, the threats to U.S. security are not lessened. Contradicting the conventional wisdom on Capitol Hill, Nitze warned that the most likely form of nuclear attack on the United States would be a surprise attack. . . .

— *Defense News*

MORE ON "THE WALL"

President Ronald Reagan's address at the Brandenburg Gate on June 12, 1987 contained this challenge: "General Secretary Gorbachev, if you seek peace, if you seek prosperity for the Soviet Union and Eastern Europe, if you seek liberalization, come here to this gate! Mr. Gorbachev, open this gate! Mr. Gorbachev, tear down this wall!" . . .

"Just because our relationship with the Soviet Union is improving doesn't mean we have to begin denying the truth," Reagan continued. "That is what got us into such a weak position with the Soviet Union in the first place."

Exactly. It's a lesson well understood by Berliners who lived for so long in the shadow of the wall — and by the soldiers who still stand guard at this outpost of freedom in the West.

—from "In the Shadow of the Wall," by Philip C. Clarke in *The American Legion* (April 1990 issue).

[Note: Phil Clarke will speak at the 1990 TACDA/DDP Seminar. See story, pages 6-9.]

■

HUGO STATISTICS

. . . Hugo, the strongest storm in over a decade to hit the Caribbean and the North American mainland, left in its wake a path of human suffering and destruction. 16,500 dwellings destroyed, 140,000 damaged and at least 65 deaths.

. . . . The American Red Cross opened over 470 shelters and assisted more than 100,000 families. Thousands of American Red Cross volunteers assisted, with additional staffing aid coming from the Canadian Red Cross. . . .

"The Red Cross disaster operation for Hurricane Hugo is the most expensive operation in the 108-year history of the organization," said George Hutchens, ARC Vice President.

UPCOMING

Jun 11-15	**CIVIL DEFENSE SYSTEMS, PROGRAMS & POLICIES,** EMI, Emmitsburg, MD. Course provides an understanding of the history, mission and current status of U.S. CD. Shows how nuclear attack preparedness enhances & supports natural & technological preparedness, plus more. Contact: See box below.
Jun 11-15	**ENVIRONMENTAL RADIATION SURVEILLANCE,** Boston, MA. Course provides comprehensive review of basic principles/practices for working within radiation standards, designing surveillance programs, defining dose-effects, plus more. Contact: Sharon E. Block, Office of Continuing Education, Harvard School of Public Health, 677 Huntington Ave., Dept. B., Boston, MA 02115 (617/432-1171).
Jun 14-17	**13TH ANNUAL EDUCATIONAL CONFERENCE of the NATIONAL ASSN. OF EMTs,** Adam's Mark Hotel, Philadelphia, PA. Contact: NAEMT Conference, 9140 Ward Parkway, Kansas City, MO 64114 (816/444-3500).
Jun 18-22	**PLANNING FOR NUCLEAR EMERGENCIES,** Boston, MA. Detailed coverage of major aspects of nuclear emergency planning. Includes table top exercise. Contact: Sharon E. Block, Office of Cont. Ed., Harvard School of Public Health, 677 Huntington Ave., Dept. B., Boston, MA 02115 (617/432-1171).
Jun 25-27	**DISASTER PREPAREDNESS SEMINAR,** EMI, Emmitsburg, MD. Intro and overview of emer. mgmt., case studies, crisis mgmt., developing emer. plans, and more. Contact: See box below.
Jun 25-28	**FUNDAMENTALS FOR RADIOLOGICAL RESPONSE TEAMS,** Ventura, CA. Contact: California Specialized Training Institute (CSTI), P.O. Box 8104, San Luis Obispo, CA 93403-8104 (805/549-3343).
Jun 25-29	**NATIONAL SURVIVAL WEEK,** Live Free Natl. Training Center, Harrisburg, MO. High intensity, hands on training program in survival skills. Covers wilderness, home and combat survival. Certificates of completion. Live Free members: $25 individuals, $50 family; Nonmembers: $50 individuals, $100 family. Contact: Live Free, Box 1743, Harvey, IL 60426.
Jun 25-29	**2ND INTERNATIONAL CONFERENCE — WARTIME MEDICAL SERVICES,** Hospitals in War, Stockholm, Sweden. Contact: Wartime Medical Services, IFS Institute for Hospital Planning, Östermalmsgatan 33, S-11426 Stockholm, Sweden. Phone: (+46)8230435 FAX (+46)87918834. U.S. Contact: Ms. Krafthefer (312/245-5252).
Jun 26-27	**42ND CALIFORNIA AMBULANCE ASSN. CONVENTION & TRADE SHOW,** Radisson Palm Springs Resort, Palm Springs, CA. Contact: CAA Convention '90, 3814 Auburn Blvd., #70, Sacramento, CA 95821 (916/483-3852).
Jun 27	**SHELTER MANAGER COURSE,** Fremont, CA. Contact: California Specialized Training Institute (CSTI), P.O. Box 8104, San Luis Obispo, CA 93403-8104 (805/549-3343).
Jun 30-Jul 9	**NUCLEAR SURVIVAL SEMINAR & SHELTER WORKSHOP,** Blue Ridge Mts, NC (near Brevard). Fee $20 payable in advance. Required text: *Nuclear War Survival Skills* by Cresson C. Kearny. Contact: David Lobdell, 411 Old NC Hwy. 280, Pisgah Forest, NC 28768.
Jul 9-13	**EMERGENCY PLANNING COURSE,** California Specialized Training Institute (CSTI), P.O. Box 8104, San Luis Obispo, CA 93403-8104 (805/549-3343).
Jul 10-14	**MANAGEMENT & DISPOSAL OF RADIOACTIVE WASTES,** Boston, MA. Topics: mgmt./disposal of low-level & mixed wastes, solidification problems of low-level wastes, shallow land burial alternatives, and disposal problems. Fee: $900. Contact: Mary McPeak, Office of Cont. Ed., Harvard School of Public Health, 677 Huntington Ave., Boston, MA 02115 (617/432-3515).
Jul 11-15	**FLORIDA EMERGENCY MEDICAL SERVICES ADVISORY COUNCIL MEETING,** Orlando, FL. Contact: Dennis Divens, FL Health & Rehabilitative Services, 1317 Winewood Blvd., Tallahassee, FL 32399-0700 (904/487-1911).
Jul 13-15	**3RD ANNUAL PITTSBURGH FIRE RESCUE & EMS EXPO,** ExpoMart, Pittsburg, PA. Fire, HazMat, Emergency Medicine and Public Safety. Contact: Kelly Simon Productions, Inc., 521 Plymouth St., Suite 5, Greensburg, PA 15601 (412/837-7469).
Jul 16-20	**CIVIL DEFENSE SYSTEMS, PROGRAMS & POLICIES,** California Specialized Training Institute (CSTI), P.O. Box 8104, San Luis Obispo, CA 93403-8104 (805/549-3343).
Jul 19-21	**10TH ANNUAL NEW MEXICO STATEWIDE EMS CONFERENCE,** Celebrating a decade of progress, Albuquerque Convention Center, Albuquerque, NM. Contact: Jesus "Chuy" Lopez, NREMT-I, Public Health Div., Health & Environment Dept., Santa Fe, NM 87503 (505/827-2518).
Jul 19-22	**GREAT AMERICAN FIREHOUSE EXPO & MUSTER,** Inner Harbor, Baltimore, MD. Contact: Firehouse Expo '90, 210 Crossways Park Dr., Woodbury, NY 11797 (516/496-8000).
Jul 23-27	**ADVANCED WORKSHOP ON NUCLEAR EMERGENCY PLANNING,** Boston, MA. Provides personnel with current developments in the radiation emergency field. Topics include: Radiation standards, effects, protection, control and monitoring, more. Contact: See Jun 18-22 above.
Jul 23-Aug 3	**CHEMISTRY OF HAZARDOUS MATERIALS,** EMI, Emmitsburg, MD. Provides basic knowledge required to evaluate potential hazards. For emer. response personnel & mgmt. Contact: see box below.
Aug 10-13	**THE AMERICAN CIVIL DEFENSE ASSOCIATION/DOCTORS FOR DISASTER PREPAREDNESS ANNUAL SEMINAR** — "What Price Survival?" — Northbrook, IL (Chicago suburb). See story pages 6-9. Contact: TACDA, P.O. Box 1057, Starke, FL 32091 (904/964-5397).

Application to EMI is made by using General Admission Application Form (FEMA Form 75-5) which can be obtained from state or local emergency management offices. For more information contact: FEMA National Emergency Training Center, P.O. Box 70274, Washington, DC 20024.

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■ EDITORIAL

What Price Survival?

(Sequel to "Price of Liberty" in April 1990 issue of the *Journal of Civil Defense)*

Survival of what? Way of life? Life itself? Comforts, industry, homes, investments, a square meal? The price lies in realizing the threats involved, in calling credible protective measures into play to contend effectively with the dangers. The price is *preparedness.* A willingness to put it in place. To pay the price.

TACDA and the *Journal* are inclined to think in terms of modern war survival — taking positive measures to blunt and contend with those thousands of missiles now targeted upon us. The Strategic Defense Initiative (SDI) and civil defense are correctly cited as effective wartime defense measures — *if in place.* And these apply convincingly to the looming terrorist threat (see chart on page 10).

And with missile attack there's a dividend: It's *deterrence.* The temptation for an aggressor or a Third World terrorist organization to attack a nation prepared to shoot down its missiles and to shield its population is watered down — way down. It breeds an impressive amount of respect. It translates into peace. *Journal* readers know the story, know the examples of nations which have implemented a preparedness posture.

But, we are reminded, there's a good bit more to the question when applied, as it should be, to other dangers. Preparedness extends — or should extend — to the idea of mitigating recurrent disasters as well: hurricanes and tornadoes, earthquakes, floods, fire, transport accidents and various types of spills and leakages.

"Voices in the wilderness" . . . warn disaster-programmed people

For instance, had the Carolinas taken seriously the FEMA-recommended measures to contend with an inevitable HUGO — even the simple precautions like emergency water supplies, food, medicines, tools, communications and building sites off exposed beaches — problems would have been minimized to a surprising extent. Pointing fingers at "bureaucratic jackassess" would have been less of a senatorial privilege.

All this is a lesson for those millions exposed to hurricanes in the 1990s — in the Carolinas and elsewhere. And similar lessons apply to the October 17, 1989 earthquake in the San Francisco area. Only one out of five homeowners *in this known earthquake area* had bothered to take out earthquake insurance.

Human nature. How many of us have installed smoke detectors? How many of us really demonstrate that we are interested in living in a safe environment?

Take the automobile seat belt. It is now used extensively — not because people, realizing its merit (as they did), voluntarily began installing it and using it — *but because it became law* and because insurance companies now check on its use in investigating accidents.

As long as only "voices in the wilderness" — surviving civil defense buffs and survivalists — warn disaster-programmed people to take the measures that will save their necks when the chips are down very little in the way of preparedness will happen. And man will continue to pay with life and limb and property.

What then is the "price" of survival?

It is simply *responsible* government making it *law* that effective survival measures are in place when disaster strikes — as opposed to "irresponsible" government buying votes with demeaning handouts that only boomerang on the economy. People need to be inspired, not pampered. They need dynamic leadership, not coddling. They deserve leaders who will put teeth into preparedness legislation, who will live up to their constitutional responsibilities.

All this, and more, is why the 1990 TACDA/DDP Seminar in Chicago in August (see pages 6-9) has chosen for its 1990 theme: "What Price Survival?" □

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