EDITORIAL ON CIVIL DEFENSE

The small, twin engine plane was having trouble getting clearance for a landing from air traffic control. Ordered to circle for the better part of an hour, the engine roar had a hypnotic effect on the passengers, lulling them into an uncommon mood of openness. One such passenger, an official of FEMA, the Federal Emergency Management Agency, talked about a recent meeting he attended working out evacuation ideas for large urban areas in the path of plumes from the TMIs of tomorrow. "Why don't you have the alert go off, and everyone just jump into their cars?" piped up one hopeful soul. But gridlock, the condition when all intersecting roads are filled with cars and motion halts, put an end to that one.

The talk was oddly reminiscent of similar debates heard twenty years earlier when the country was making up its mind about civil defense. In 1962, for example, the Federal Civil Defense Administration planned to build 6000 ersatz hospitals for the entire nation. In Massachusetts 60 were actually completed, despite the knowledge that they would at best give care to less than 1% of the injured, while a mere three bombs would destroy 60% of the state's population. The same group proposed to disperse $500,000,000 worth of medical supplies to 100 warehouses—presumably capable of surviving a holocaust—but did not take into consideration such mundane details as the shelf life of penicillin G.

The pittance of about two billion dollars spent on CD since 1951 went into, among other items, bunkers for government officials. The bunker in Maynard, Massachusetts, for example, will house a hundred or so bureaucrats for a month, and comes with isolated water, power, and "bomb proof" construction. However, such a bunker does nothing to meet the needs of the other 99% of the citizens of Massachusetts.

The key to CD, then, is Do-It-Yourself. At least this is what the British Home Office advocates in their booklet, *Protect and Survive*. In 31 pages you learn all you need to know about Armageddon. "If a death occurs," it suggests, "place the body in another room." The U.S. government has its own, if less heralded, do-it-yourselfer, *Nuclear War Survival Skills*, which advises one to stay within a shelter during a firestorm, but to close it tightly to prevent the entry of smoke or fallout. "Lack of oxygen," one is reassured, "is not a hazard to occupants . . ." And even commercial publishers are getting into the act, with one expert urging the reader to do one's own blood typing and crossmatches in the shelter to avoid "watching your patients die from lack of blood," but to stock a Heckler and Koch HK91 heavy assault rifle for shelter defense.

Perhaps no less venal is disaster planning for nuclear power plants. How does one evacuate New York City, for example? The plants at Indian Point are only 35 miles away. Within an afternoon a radioactive cloud could engulf 22 million people. The folks who run Con Edison have offered a plan much like the one of the nuclear war specialist who suggested that people prevent blindness from atomic flashes "by closing their eyes." The Con Ed plan limits itself to a ten mile radius about Indian Point as if the wind never blew further.

The problem that people face is not the inadequacy of disaster planning, nor even the enormity of the technology and the length of its reach, but the forgotten lesson that prevention makes all this planning unnecessary. If civil defense would save lives, decommissioning and disarmament would save countless more. The notion of a bunker is an obscenity that violates the most elementary notion of justice.

At the height of the Cuban missile crisis, passes were given to high government officials for rapid escape and entombment in bunkers. When Chief Justice Warren was given his, he asked his benefactor, "Where is the pass for Mrs. Warren?" The Chief Justice was told that only selected officials, not their families, had been reserved passes. "In that case," responsed the judge, "you won't need one for me." With that he handed the pass back.

—Henry David Abraham, M.D.

The Newsletter of Physicians for Social Responsibility, Inc. is issued quarterly to its members and the media for public educational purposes. It is edited by Henry David Abraham, M.D., who was assisted on this issue by E.J. Graff. Inquiries should be addressed to the PSR Office, P.O. Box 144, Watertown, Mass. 02172, 617/924-3468.

CRP

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analogies is highly questionable, since many important differences exist between a city being evacuated in the face of a hurricane and one being flattened by a nuclear bomb.

Furthermore, CRP makes the basic assumption that a warning time of one week is essential to effect any reasonable degree of evacuation and protection. This discounts any possibility of a surprise attack. The elimination of a presumptive attack scenario makes little sense even to traditional military planners.

CRP requires the evacuated families to shovel piles of dirt around the buildings to which they are assigned in order to make them "radiation safe"—but doesn't speak to how this might be accomplished during the winter months in a northern climate. Even in the national "model" areas (such as Plattsburgh, New York) where it has been rather fully developed, there is no real provision for the management of hospitalized patients in the target sites or for the redirection of essential services such as food supply.

Finally, evacuating U.S. counterforce and other target sites carries the distinct possibility of provoking the war it claims it will protect us from. How would an adversary interpret such an evacuation? Could this mean the U.S. was preparing to deploy its first strike weapons? If so, would not the Soviets feel the need to strike first? Such considerations are logical, lethal, and apparently disregarded by current civil defense planners.

—Irwin Redlener, M.D.

ANNOUNCEMENTS

• The national office of PSR has moved—just around the corner. Our mailing address remains P.O. Box 144, Watertown, MA 02172, but our street address is now 23 Main Street.

• We've changed our membership card. On the back of this Newsletter, you can see that we now ask people to join in one of three categories: student, sponsor, or family sponsor. Our old seven category format listed Associate Member at the end, and too often, non-physicians didn't find that final line—or didn't realize that we strongly encourage all those who support our goals to help support the organization.

PSR remains a physicians' organization. Doctors, dentists, and students of those professions are asked to identify themselves so that we know who is eligible to vote in national elections.

NUCLEAR POWER: EMERGENCY PLANNING

Readers of the PSR Newsletter are familiar with the extent and type of destruction that would accompany the explosion of a nuclear bomb. An accident at a nuclear power plant would not be an explosion, and would clearly be a different kind of event. What would its consequences be? How do government regulatory agencies propose to respond to that kind of nuclear emergency?

A Brief Description of the Accident

While the sequences of several possible catastrophic accidents can be described in detail, it is much harder to predict their public health consequences. The crucial event for most foreseeable accidents would be the release of highly radioactive steam produced by the heating of the coolant water, which would follow a fuel meltdown in the reactor core.

But what then? How the plume would affect the population nearby would depend on where and how quickly it moves. This would be completely subject to the day's weather conditions, such as wind direction and speed, vertical temperature gradient, and atmospheric turbulence, to name a few variables.

The plume would contain over 50 radionuclides with half-lives ranging from seconds to thousands of years. The radionuclides can be grouped as follows: 1) noble gases (kryptons and xenons); 2) iodines; 3) particulate fission products such as cesiums and strontiums, which can be further subclassified according to their chemical properties; and 4) transuranium nuclides such as plutonium.

There are several "exposure pathways" by which people can be affected by the plume. These are: 1) "cloudshine," direct gamma and beta radiation from the plume that would particularly affect those at short distances downwind; 2) "groundshine," radioactivity deposited by the plume, an important cause of early deaths due to its many short-lived and therefore intensely radioactive products; 3) inhalation, which could have long term effects over an area of more than a thousand square miles; and 4) ingestion of contaminated food and water.

Current Emergency Planning

The Nuclear Regulatory Commission (NRC) requires that nuclear utilities maintain plans for evacuating only their own site property in the event of a severe accident. Under consideration now are rules which would require states to submit plans to protect people within standard distances, or "Emergency Planning Zones" (EPZ) around nuclear facilities. Plans would have to be made to protect those within 10 miles from exposure to the plume, and to monitor the safety of food and water within 50 miles.

The proposed rules would apply only to reactors which have not yet been granted operating licenses. Existing reactors are exempted except when another reactor is being built at the same site.

According to a nuclear safety expert, physician Jan Beyea of the National Audubon Society, the 10 and 50 mile EPZs are simply inadequate to protect the public. Beyea has testified in siting hearings and other proceedings that in the event of a temperature inversion or overcast skies, which can occur up to 40% of the time at many reactor sites, plans to avoid cases of acute radiation sickness from plume exposure might be necessary more than 25 miles downwind. Furthermore, under other conditions, substantial numbers of long term effects (e.g., cancers and thyroid damages) could be experienced over hundreds of miles from the reactor site. In a report to the President's Council on Environmental Quality, one of the scenarios considered by Beyea would result in a *peak* incidence of thyroid nodules between 100 and 200 miles from the accident.

Even if workable emergency plans could be developed on paper, there is no guarantee that they would function in an actual emergency. Wind shifts, traffic congestion, and delays in communication between the utility and government officials and between officials and the public could seriously compromise evacuation efforts.

Ron Lanoue, in a public information packet designed to help citizens learn about the emergency planning process in their own area *(Evacuation Plans: The Achilles Heel of the Nuclear Industry)* cites numerous examples of serious logistical errors which have occurred in testing even the limited plans which exist for some sites.

Seabrook Mayor and Civil Defense Director Frank Palazzo, in a public meeting last year, asked of state emergency management officials, "What are we supposed to do, grab this piece of paper and run like hell?"

—Mitchel Kling and Jennifer Leaning Link, M.D.

The Emergency Planning Committee of PSR is preparing a pamphlet in which emergency planning and civil defense will be discussed in more detail. The pamphlet will be available later this summer.

INDIAN POINT: INVITATION TO DISASTER

The three Indian Point nuclear reactors, owned by the Consolidated Edison Company and the Power Authority of the State of New York and located 35 miles north of Times Square in New York City, have been required by the Nuclear Regulatory Commission (NRC) to develop an emergency response plan for a reactor accident. However, since their publication in January 1981, these plans have been rejected by the four counties within the 10 mile Emergency Planning Zone (EPZ).

Within 60 miles of Indian Point, there are 22 million people, 10% of the population of the U.S., and more than double that near any other reactor. Within 10 miles there are almost 300,000 people. In the Westchester County EPZ alone are four hospitals, sixteen nursing homes with 1600 patients (more than half in wheelchairs), Ossining Correctional Facility ("Sing Sing" prison), and numerous schools, camps and resort facilities.

Since the Plan limits evacuation planning to a radius of 10 miles from the facility, there is no allowance for the evacuation of people beyond this radius, nor is there any consideration of possible hazards to New York City. In fact, the Plan necessitates that people beyond 10 miles be prevented, if necessary by force, from evacuating themselves, in order to allow successful evacuation of those within 10 miles. Given the low credibility of the industry and the NRC, and given the potential for serious radiation exposure far beyond 10 miles, it is probable that many people outside the zone would flee in the event of an accident.

The failure to include New York City in the Plan must be considered a gerrymander that favors the utility at the expense of the public. Prevailing winds from Indian Point frequently blow down the Hudson River Valley directly toward New York. A wind speed of less than 2 mph would bring a concentrated radioactive plume to the city in less than 16 hours. According to a 1978 study for the Office of Civil Preparedness at the Department of Defense, the minimum time necessary to evacuate New York City has been estimated to be three to five days. Equally cavalier is the failure to plan for an accident that contaminates New York's water supply, most of which passes through a reservoir within the 10 mile zone.

The Plan also assumes that people will do as they are told. To evacuate the 30,000 or more people without cars in the 10 mile EPZs, for example, bus drivers from Southern Westchester are to drive into the contaminated

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