

Under what is called the Science Based Stockpile Stewardship (SBSS) program, the Department of Energy will spend \$40 billion to construct nine new facilities having nuclear weapons design capabilities. At one site, the National Ignition Facility (NIF), scientists plan to bombard tritium and deuterium with laser beams in order to learn how to design more reliable, survivable and lethal nuclear weapons. Scientists also plan to conduct underground subcritical tests (that is, without a self-sustaining chain reaction) in the Nevada desert. While neither NIF nor subcritical tests will violate the letter of the CTBT, they are widely viewed as a violation of the spirit of the treaty because the results can be used to develop new nuclear weapons.

By contrast, the U.S. spends only \$2.2 billion to prevent nuclear war. Most activities are diplomatic: arms control and nonproliferation agreements, support for the International Atomic Energy Agency, and aid to former Soviet Republics to dismantle weapons and safeguard nuclear materials through the Cooperative Threat Reduction (CTR) Program. But these efforts are hampered by minuscule funding. The Congressionally mandated main line of "defense" against nuclear war still is the ballistic missile defense program which consumes over \$3 billion a year. Redirecting these funds would allow more aggressive implementation of CTR-related measures such as agreements to dismantle warheads (not just delivery systems) which, in turn, would produce a climate in which the U.S. could safely reduce its nuclear arsenal to 1000 warheads as a prelude to a START 3 agreement.

Instead of "hedging our bets" in case Russian democracy fails, the U.S. should honor its commitment to the "determined pursuit" of efforts to eliminate nuclear weapons.

The global proliferation of chemical and biological weapons (CBWs) has spurred the search for countermeasures within U.S. national security and foreign policy circles. CBWs are often called the "poor man's nuclear bomb," for like nuclear weapons they are indiscriminate weapons of mass destruction. But unlike nuclear weapons, they are relatively simple and inexpensive to build using widely available technology and materials.

Chemical weapons are inanimate poisonous substances that incapacitate, injure or kill through their toxic effects on the skin, eyes, lungs, blood, nerves or other organs. Examples include nerve, blister, choking and blood agents. Some chemical warfare agents can be lethal when vaporized and inhaled in amounts as small as a few milligrams. Many of the technologies and materials needed to produce chemical weapons also have legitimate civilian applications such as making plastics and processing foodstuffs. Virtually any nation with a petrochemical, pesticide or fertilizer industry has the potential to produce chemical weapons.

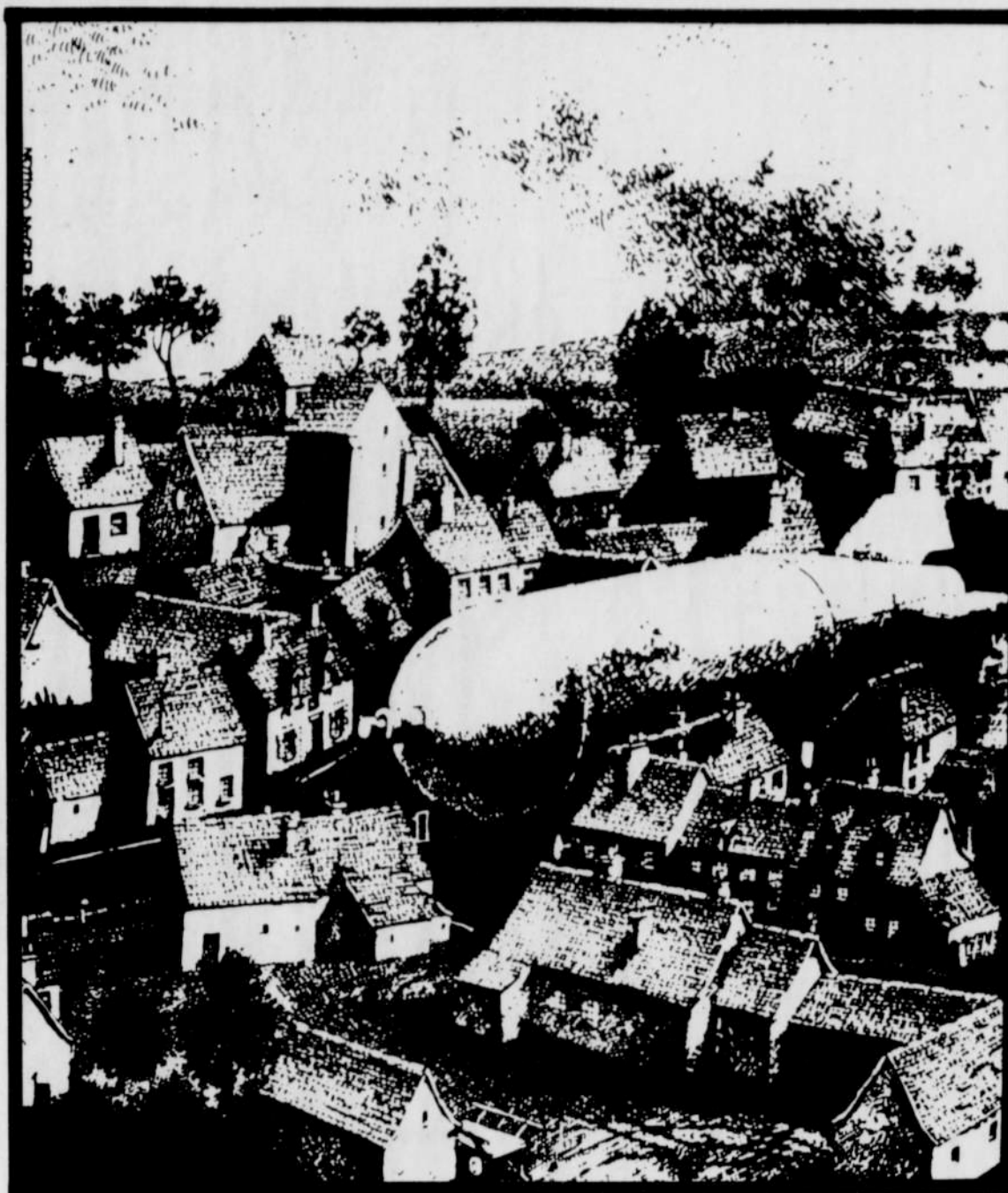
Biological weapons are infectious or toxic agents such as bacteria and viruses derived from natural sources. Even minute traces cause disease or death. Just 10 grams of anthrax spores (a form of disease-inducing bacteria) effectively disseminated could produce as many casualties as a ton (1 million grams) of nerve agent. Under the right conditions biological weapons might kill as many people as nuclear weapons, making them extremely dangerous as a terrorist weapon against dense population centers. Nations with even a modestly sophisticated pharmaceutical industry could produce biological weapons.

Modern chemical warfare originated in World War I when Germany used chlorine gas, a choking agent, on French troops. By the war's end, chemical weapons used by both sides had caused over 1 million injuries and 100,000 fatalities.

The 1925 Geneva Protocol was intended to prohibit chemical and biological warfare, but chemical weapons use (and unsubstantiated allegations of their use) continues. The extensive use of chemical weapons in the 1980-1988 Iran/Iraq war, the March 1995 release of sarin nerve gas in the Tokyo subway, and the discovery of the extent of Iraq's chemical and biological weapons programs should remind us of the need to control the spread of CBWs. Currently, as many as 25 countries may have or are interested in acquiring chemical weapons programs, while 10-12 countries are suspected to have or be trying to start biological weapons programs. Only three nations — the United States (with 31,000 tons of chemical warfare agents), Russia (with 40,000 agent tons) and Iraq (several hundred tons) — have openly acknowledged possessing chemical weapons. No countries admit to having active offensive biological weapons programs although Iraq and Russia are known to have recently maintained such programs.

A new treaty, the Chemical Weapons Convention (CWC), bans developing, producing, acquiring, stockpiling, retaining, transferring and using chemical weapons. Unprecedented in its scope and complexity, the CWC is the most significant agreement aimed at stopping the spread of weapons of mass destruction since the 1970 Nuclear Non-Proliferation Treaty. At the end of October 1996, less than four years after the treaty was opened for signatures, 160 nations (including the U.S.) had signed it and 65 had ratified it. President Clinton sent the CWC to the Senate in November 1993, but the Foreign Relations Committee did not vote on it until April 1996. Then election politics and opposition from some influential senators, former defense secretaries and a handful of conservative pundits threatened to undercut the needed votes for ratification by the full Senate. The President has urged the Senate to ratify the Treaty before the April 29 (1997) deadline. If the treaty is not ratified by that date, the CWC takes effect without U.S. participation. This means the U.S. will not be on the CWC's executive council nor will we be able to shape the system designed to enforce rules against making or selling prohibited chemicals. Furthermore, nonparticipation in the CWC could harm America's \$62 billion chemical export business.

A separate treaty, the Bacteriological (Biological) and Toxin Weapons Convention (BWC), prohibits developing, producing and stockpiling biological weapons and toxins. It came into force in 1975; the U.S. has signed and ratified the BWC. Unlike the CWC, the BWC lacks verification and enforcement mechanisms. This means the nearly 140 nations that have ratified the treaty have no "on-site" tools to corroborate claims of good behavior or allegations of cheating. Treaty parties are working to develop protocol to strengthen international compliance with the treaty, and President Clinton has said that strengthening the BWC is one his six "priority areas" for limiting the spread of weapons of mass destruction.²



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Further compounding the goal of eliminating biological weapons is the continued research into *defenses* against biological warfare that involves live biological agents. While permitted by the BWC, such research might easily be construed as *offensive*, thereby arousing suspicions among other nations. Many experts in the biological and health science professions who have signed a petition pledging not to engage in military research believe that biological warfare research involving agents should be shifted from military to civilian agencies (such as the National Institutes of Health and the Center for Disease Control in the U.S.).

Despite some dangerous trends and many uncertainties, the world community in the 1990s has significant new opportunities to curtail, and perhaps roll back, the spread of CBWs. But the future success of international efforts to control CBWs depends heavily on what the U.S. does. We should ratify the CWC without further delay and, in collaboration with other nations, devise and implement a stringent verification regime to ensure compliance with the BWC.

Although the world arms trade continues to decline in dollar value, the major arms supplying states have redoubled their efforts to export their weapons. In 1994 the top five, the U.S., United Kingdom, Russia, China and France were responsible for 84% of the total.

According to the U.S. Arms Control and Disarmament Agency, world arms deliveries in 1994 fell to \$22 billion, a 22% drop from 1993. World arms sales agreements, less reliably estimated than deliveries, fell from \$46 billion in 1993 to \$38 billion in 1994. This decline affected both developed and developing countries, although the rate of decline was larger for developed countries.

Unfortunately, these figures understate the true size of the arms market. They do not account for black and gray market arms sales which may be as much as 2 to 5 times legal sales by some countries. Not every country publicly reports all sales, and published figures include only cash transactions which do not cover innovative ways in which many arms deals are now financed — weapons for debt forgiveness or bartered for consumer products, food or oil.

At the global level the U.S. continues to be the dominant supplier of arms to the world, providing exactly one half of total in 1992-94. The Middle East, East Asia and Western Europe are the dominant arms importing regions, accounting for 76% of the world market in 1992-1994. In two of the those regions, the Middle East and East Asia, the U.S. was the predominant supplier, providing more than half in the Middle East and 54% in East Asia.³

Although the world arms trade is currently at a 10-year low, many analysts expect it to increase. A 1995 Pentagon forecast showed \$106.5 billion in existing contracts for 1994-2000 and an additional \$96 billion in pending contracts. In the current buyers' market, an increasingly wider array of ever more advanced military and dual-use products are being offered to virtually

any nation able to afford the cost. Suppliers no longer offer stripped down export versions of top-line equipment. Now it's state-of-the-art electronics and optics as well as aircraft, armored vehicles, diesel submarines, and the best portable surface-to-air missiles.

The increasing importance of economics as the driving force in the international arms market poses great risks for the U.S. Because we station troops or deploy them to conflicts around the world, the expected resurgence in the arms trade makes threats to U.S. military forces more likely and more lethal. The CIA's Nonproliferation Center has noted that the "acquisition of advanced conventional weapons and technologies by hostile countries could result in significant casualties being inflicted on U.S. forces...in future conflicts." On June 25, 1996, the Presidential Advisory Board on Arms Proliferation, Policy warned: "We do not believe that arms sales that would be rejected on the basis of foreign policy and national security considerations should be approved simply to preserve jobs or keep a production line open."

Yet the U.S. pursues an aggressive arms sales policy. Of the projected 1994-2000 market, the U.S. has 63% of the \$106.5 billion in existing contracts, expects to be the sole source supplier for more than 1/3 of the \$65-\$96 billion in contracts still to be signed, and be competitive for 25% of the remaining contracts. We should be trying to lower the number of weapons in the world, not raise them.

The President's arms trade policy (February 1995) not only maintains the U.S. role as the world's predominant arms broker but states that the government will explicitly consider the impact on the U.S. arms industry when deciding whether to approve arms exports. This easy acceptance of arms transfers as another foreign policy tool Congress as the only possible bulwark against continued massive arms sales. But for more than two decades Congress has repeatedly declined to exercise its power to reject unwise arms sales. Moreover, it has approved a new \$15 billion government-backed arms export loan guarantee fund and repealed hundreds of millions of dollars worth of annual fees on weapons exports designed to reimburse the U.S. Treasury for taxpayer funds spent on research and development of U.S. weapons.

Reforms must be implemented before more American lives and treasure are lost. One effort in this direction is the "Code of Conduct" legislation that, if approved, would prohibit arms exports to governments that are undemocratic, deny their citizens basic human rights, engage in armed aggression or refuse to fully participate in the U.N. Register of Conventional Arms. Finally, the U.S. should take the lead in creating an international regulatory agency to control arms transfers. Implementing controls would require, among other steps, supplier restraint and the adoption of regional peace and security pacts in the Middle East, East Asia and other areas of tension. Such measures would cost the U.S. little more than time and political will, but they would help preserve American lives, American treasure and our way of life.

"As we leave an old and prepare to enter a new century, it seems appropriate to also take leave of old ideas about what constitutes real national security for the United States," retired Vice-Admiral John J. Shannon, director of the Center for Defense Information, said in a letter to its members "Our old nemesis, the Soviet Union, died five years ago but the ideas that drove our Cold War policy of containment are essentially unchanged. They still drive U.S. military strategy, force structure, weapons programs, budgets and the destabilizing international arms trade. No nation or group of nations threatens our security. Our greatest threat is from terrorists bent not on military attacks but on decimating civilian populations. Massive military forces have little utility against such threats. Our security would be better ensured through using diplomacy and economic power to eliminate the conditions that create terrorists and reserving military force to prevent actual terrorist acts from being implemented."

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NOTES:

1. In 1986 there were 70,000 nuclear weapons in the world. Today there are 40,000 but these equal 700,000 Hiroshima bombs. 97% of these weapons belong to Russia (24,000) and the U.S. (15,000); 3% are in the UK, France and China. South Africa, Ukraine, Kazakhstan and Belarus gave up their nuclear weapons. Israel, India and Pakistan can make and deliver nuclear weapons should they want to. By treaty and unilateral cuts nuclear weapons will fall to 21,000 by 2003. Russia and the U.S. will each keep 10,000 deployed and stored nuclear weapons.

2. To strengthen the bans on CBWs: Classify new developments in materials and processes. Employ diplomatic and military actions to prevent exports by third parties. Develop confidence-building measures to verify that potential adversaries are not producing or planning to produce CBWs. Use economic, diplomatic or military sanctions against violators if required. Supplier nations adopt national and multinational export controls. Provide financial or technical assistance to nations renouncing CBWs.

3. A 1995 report by the World Policy Institute states that in the past 10 years warring sides in 45 conflicts received over \$42 billion in U.S. arms. In 45 of 50 significant conflicts in 1993-94, one or more sides had U.S. arms or technology before fighting began. In 26 of the conflicts the U.S. supplied at least 5% of the weapons over five years. In 18 conflicts in the most recent five years the U.S. accounted for over 25% of all weapons imported by one side.

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