



REPORT *brief*

SEPTEMBER
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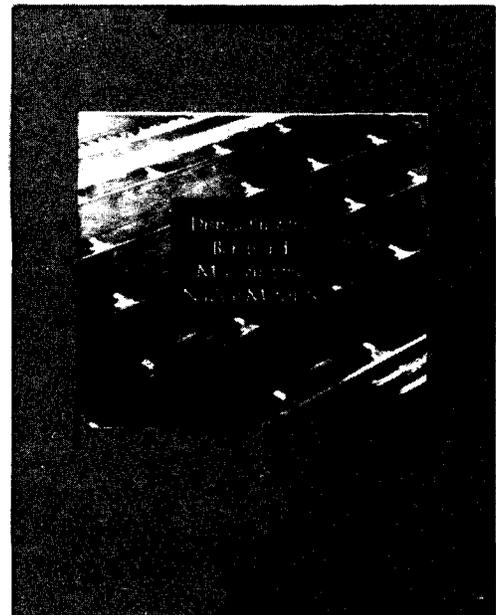
The Nation has embarked on a bold new mission to enhance world peace through deep and lasting cuts in nuclear arsenals. It has removed thousands of nuclear weapons from active, deployed status and has begun the process of eliminating delivery systems and dismantling the warheads themselves. Our old Cold War adversary, the former Soviet Union, has taken similar steps. The United States and Russia have pledged to continue their programs of weapons retirement and warhead dismantlement, and are discussing methods of defining and achieving long-term goals.

Existing and pending international agreements do not require that any warheads be dismantled, only that they be removed from delivery systems. The Nation's massive nuclear stockpile is now partly dismantled, partly in temporary storage, partly in transition, and partly deployed. The status and future use of materials removed from warheads is uncertain. Numbers of weapons in the active stockpile, and numbers to be retired and dismantled, are contained in classified documents not available to the general public.

Such efforts are unprecedented and challenging; they require resources and talent as well as enduring dedication within Government institutions. People are concerned that the work be conducted so as to avoid the types of adverse environmental and health impacts that resulted from nuclear weapons production in the past. Experts have been investigating how to use, control, or dispose of the nuclear materials—plutonium and highly enriched uranium (HEU)—that are recovered from

dismantled warheads and could pose long-term environmental, safety, and health risks. The OTA report **Dismantling the Bomb and Managing the Nuclear Materials** analyzes the current programs and policies and evaluates the prospects for future success.

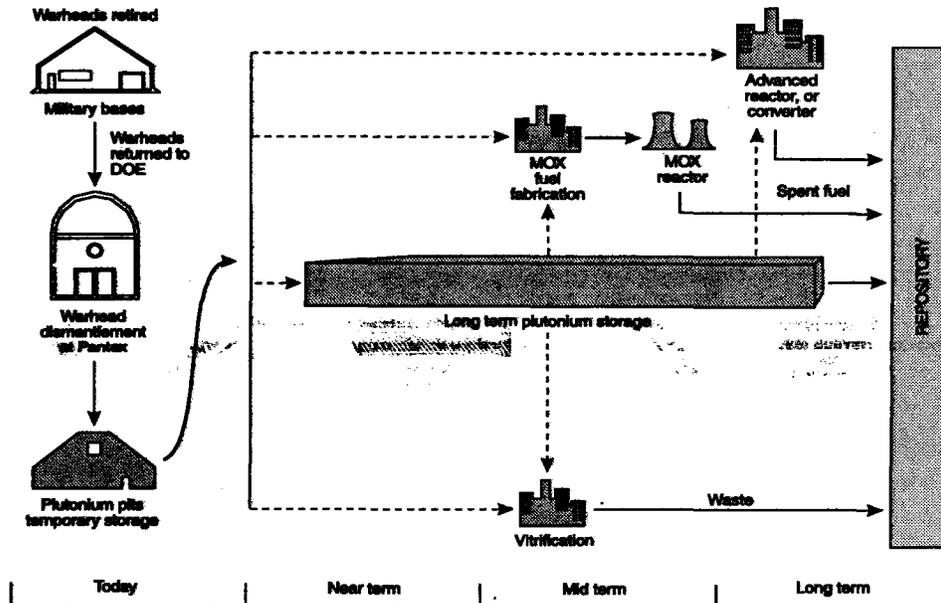
Although current Federal efforts are adequate for the present, they are insufficient to



meet the long-term challenge ahead. OTA concludes that the success of future warhead dismantlement and materials management requires a focused, high-level governmental effort to develop a comprehensive national policy. It also requires an open decisionmaking process and capable institutions to set and implement long-range goals and plans. OTA

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Warhead dismantlement and plutonium disposition scenarios



NOTE: A dotted line indicates alternative disposition paths.

suggests initiatives that Congress could consider to establish a national policy, determine the next steps in warhead dismantlement and nuclear materials management, approach decisions on the ultimate disposition of nuclear materials, enhance the institutional capabilities necessary to ensure success, and encourage sound dismantlement and materials management in Russia.

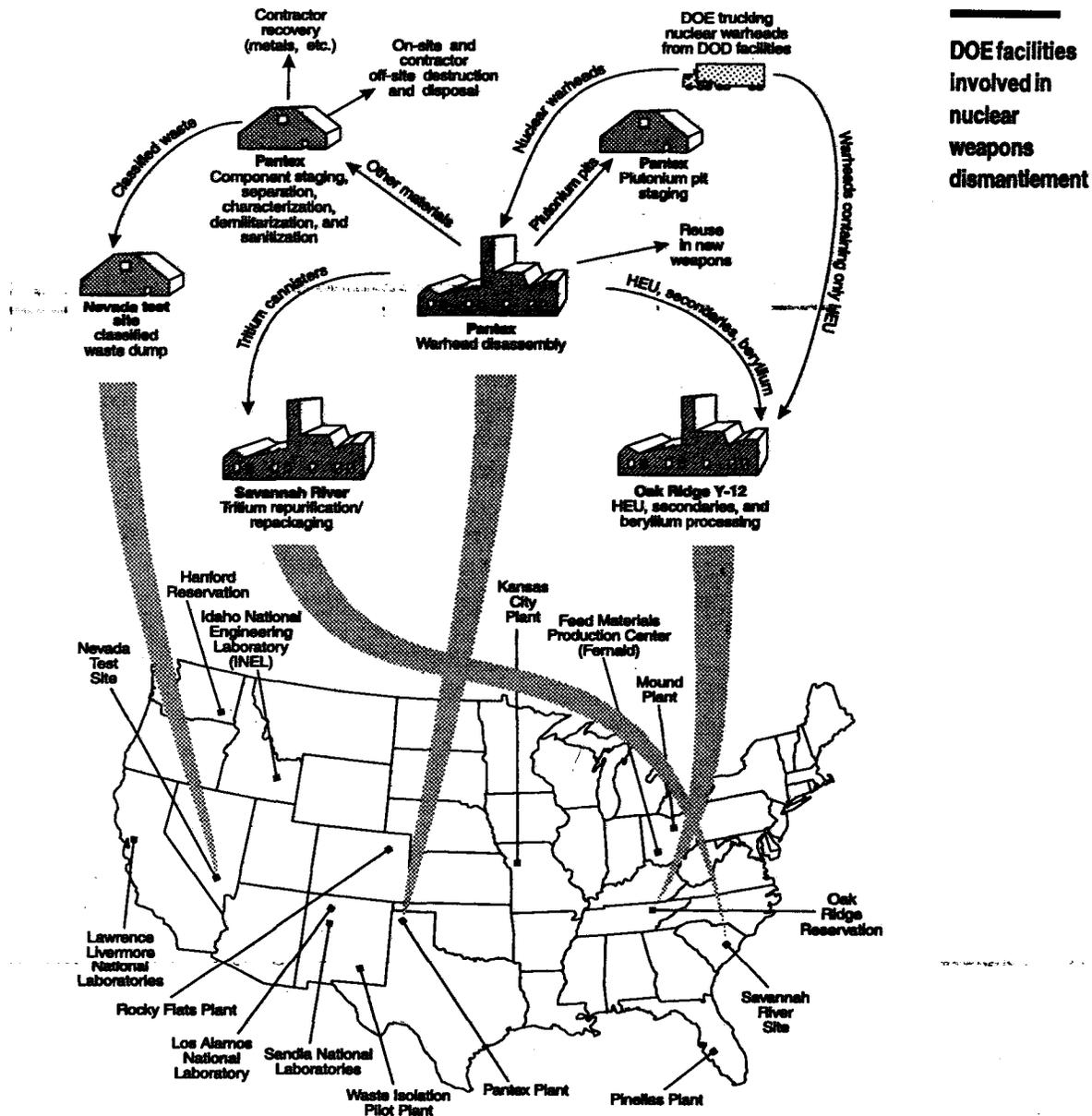
The Office of Technology Assessment is an analytical arm of the U.S. Congress.

OTA's basic function is to help legislators anticipate and plan for the positive and negative effects of technological changes.

KEY FINDINGS

- Ongoing Federal programs and plans within the Departments of Defense and Energy for retirement and dismantlement of nuclear weapons are currently treated as a short-term modification of past missions of weapon production and stockpile maintenance when, in fact, there is a new type of mission focused on stockpile reduction. There is no national policy to define and guide this new mission.
- A continuing lack of public credibility on the part of Federal agencies and limited public access to relevant information may adversely affect progress in dismantlement and in implementing key operational decisions. Yet, despite new public participation initiatives, DOE has yet to develop adequate communication with the public, ensure access to environment, health, and safety information, involve the public before making key decisions, or effectively address public concerns.
- It is likely that significant portions of the HEU and plutonium recovered from dismantled warheads will need to be stored for decades, regardless of the ultimate disposition option chosen for them, and a broadly based planning process should begin soon to identify and resolve critical storage issues.

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■ Decades will be required for making disposition decisions and formulating policies; for planning, designing, funding, building, and testing even the most available technology; for gaining regulatory and public acceptance; and for actually processing

quantities of materials. Consensus is lacking about whether surplus warhead materials should be stored indefinitely, converted into forms usable for commercial power generation, or disposed of as waste, and about the technical, economic,

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and political merits of various disposition options and technologies. A process for openly discussing and reconciling diverse governmental and nongovernmental perspectives on these issues is needed.

- The U.S. program to assist Russia with nuclear warhead dismantlement has initiated important cooperative work but has not addressed the broader issues of mutual goals and interests in stockpile and materials reduction or control, nor has it had a significant effect on Russian dismantlement. There is little linkage between Russian economic, environmental, or social needs and U.S. programs to assist and encourage Russian dismantlement or related activities. A focused, coordinated strategy within the Federal Government is needed to develop approaches acceptable to both nations.

POLICY INITIATIVES

Congress could implement—or the Administration could undertake to implement—the following policy initiatives:

Initiative 1—A National Dismantlement Policy

Develop and announce a national policy that sets goals for warhead dismantlement and materials management, and specifies the amount of plutonium and HEU from dismantled warheads that will not be needed to support future stockpile requirements.

Initiative 2—Strengthening DOE Management

Implement a DOE management system that gives priority to protecting the environment, health, and safety; and expand and strengthen external oversight of DOE dismantlement and materials management activities by independent outside entities.

Initiative 3—Nuclear Materials Storage

Establish an interagency task force that includes Federal agencies with expertise in regulatory, international, and public involvement matters to recommend a plan for safe, secure storage of nuclear materials, and to develop a process acceptable to the interested public for siting new or modified storage facilities.

Initiative 4—Nuclear Materials Disposition

Create a national commission to recommend goals, policies, and programs for ultimate disposition of surplus plutonium and HEU from warheads, and to provide a basis for developing an ultimate disposition policy for these materials.

Initiative 5—A New Materials Management Organization

Create a new organization outside DOE to manage surplus materials from warheads, or establish a new organization for this purpose within DOE or some other existing agency.

Initiative 6—Information Access

Review and possibly revise the existing legal basis for restricting access to information in light of today's post-Cold War national security objectives, and accelerate efforts to increase access to information relevant to warhead dismantlement and materials disposition.

Initiative 7—Cooperation with Russia

Strengthen the relationship between U.S. assistance to Russia for materials disposition and other programs in which assistance is desired by Russia; develop a means for joint assessment of plutonium disposition technologies; and negotiate mutual disclosure of information and reciprocal materials monitoring arrangements.

Copies of the report for congressional use are available by calling 4-9241.

Copies of the report for noncongressional use can be ordered from the Superintendent of Documents, U.S. Government Printing Office, S/N 052-003-01343-6, \$12.00 each, P.O. Box 371954, Pittsburgh, PA, 15250-7954, (202) 783-3238.



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