

Statement of
Statement of
Dr. Thomas B. Cochran
Director, Nuclear Program
Natural Resources Defense Program
before the
Secretary of Energy Advisory Board's Task Force
on the
Department of Energy's Nonproliferation Programs in Russia

April 25, 2000

In order to provide meaningful advice to the Department of Energy ("DOE") regarding its Nonproliferation Programs in Russia, the Task Force should first step back and articulate the United States' national security objectives regarding the nuclear weapon assets of Russian and other nuclear weapon states, and then address what this means. The U.S. has an obligation under Article VI of the Nuclear Nonproliferation Treaty (NPT):

"to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international controls"

To achieve this objective, the United States (and therefore DOE) should be seeking:

- (1) U.S. ratification and entry into force of a Comprehensive Test Ban Treaty (CTBT);
- (2) permanent closure of all nuclear weapon test sites;
- (3) much deeper reductions in U.S. and Russian strategic arsenals below the 2,000-2,500 countable strategic warheads that United States is advocating under START III;
- (4) the elimination of all non-strategic nuclear warheads, all reserve warheads and all strategic reserves of fissile materials;
- (5) public declarations of all nuclear weapon and fissile material stockpiles and production histories;
- (6) cooperative verification measures to confirm data included in declarations and exchanges

- (7) more informal transparency measures such as site visits, scientific exchanges, and cooperative programs between organizations involved in sensitive nuclear activities;
- (8) verified dismantlement of warheads and monitored interim storage of their fissile material components;
- (9) increased security and ultimate disposition of existing stocks of weapon-usable materials;
- (10) verified storage and disposition of highly-enriched uranium and plutonium declared to be in excess of national security needs;
- (11) assistance to Russia in downsizing Russia's nuclear weapons complex, and
- (12) alternative employment opportunities for workers in Russia nuclear weapon complex.

Comprehensive Test Ban Treaty. The CTBT has been ratified by Russia, but not by the United States. The bipartisan Task Force should make a strong statement in support of prompt U.S. Senate ratification of the CTBT

Permanent closure of all nuclear weapon test sites. The United States and Russia are maintaining a breakout capability to resume testing at Novaya Zemlya and the Nevada Test Site, respectively. The United States and the Russia should be negotiating joint permanent closure of these two test sites. It would have the added benefit of making the CTBT easier to verify and consequently easier to achieve Senate ratification of the CTBT.

Much deeper reductions in U.S. and Russian strategic arsenals. It is shameful that while the Russians would like to reduce to 1500 countable strategic warheads under START III, the United States is holding out for 2,000-2,500 countable warheads

The elimination of all non-strategic nuclear warheads, all reserve warheads and all strategic reserves of fissile materials. The last reductions in non-strategic nuclear warheads were the unilateral declarations made by Presidents Bush and Gorbachev in 1991. President Clinton has not made any significant progress in this area beyond implementing the warhead dismantlements called for by President Bush. Even under START II the United States will retain some 2500 hedge warheads, and some 2500 to 3000 inactive reserve warheads for a total assembled warhead inventory approaching 10,000 warheads, plus an additional strategic reserve of about 5000 assembled pits and thermonuclear secondaries. The Russian inventories of warheads and strategic fissile material reserves are even larger.

Public declarations of all nuclear weapon and weapon-usable fissile material stockpiles and production histories. The U.S. position on warhead declarations is believed to be inadequate, reflecting the refusal of the Department of Defense to declare inventoried or deployed warheads. The United States has not pressured Russia to resume negotiations to achieve stockpile and fissile material declarations since Russia cut off negotiations in 1995. The United States apparently has linked resumption of these negotiations to the START III negotiations and refuses to make public its position on what data should be exchanged under START III.

More informal transparency measures. Transparency measures have been hampered by new security measures imposed after the recent revelations regarding inadequacies in measures to protect nuclear weapon design information at the national laboratories.

Verified dismantlement of warheads and monitored interim storage of their fissile material components.. The DOE has not tasked any of the national weapon laboratories to develop a comprehensive warhead and fissile material verification program that the labs would deem as adequate. A decade after the collapse of the Soviet Union the DOE does not know what an adequate warhead verification program would look like.

Increased security of existing stocks of weapon-usable materials. The GAO has reviewed the limited progress made by DOE in its program to improve the Material Protection, Material Control and Accounting (MPC&A) at facilities that contain weapon-usable fissile materials in Russia and the Newly Independent States. (GAO, “Nuclear Nonproliferation: Limited Progress in Improving Nuclear Material Security in Russia and the Newly Independent States,” GAO/RCED/NSIAD-00-82, March 2000) This DOE initiative will never be successful as long as most of the weapon-usable fissile materials are beyond the reach of the DOE program. For the success of this program it is paramount that the United States aggressively pursue objectives (1)-(8), otherwise the DOE initiative will never reach most of the Russian inventories that need additional security.

The effort to place under IAEA safeguards fissile material inventories that have been declared to be in excess of national security needs by Russia and the United States is moving ahead so slowly that this DOE program must be counted as a failure;

Rapid disposition of highly-enriched uranium and plutonium declared to be in excess of national security needs. Privatization of the U.S. Enrichment Cooperation (“USEC”) while appointing USEC as executive agent to manage the HEU deal has proved to be a mistake. The HEU deal also suffers from the U.S. government failure to aggressively pursue fissile material declarations. The United States does not know how much HEU the Russians have within plus or minus a few hundred tonnes, i.e, plus or minus about 10,000 nuclear warheads worth of HEU.

The United States program for declaring and disposing of excess HEU is just as ludicrous as the Russian program. The U.S. has not reconciled its total HEU production with its existing inventories, even though Secretary O’Leary promised a public reconciliation some five years ago. The United States refused to declare excess any weapons HEU with U-235 concentrations above 90 percent, choosing instead to save it all ostensibly for use as naval reactor fuel—a supply that will last some 80 years, or so.

The program to assist Russia in disposing of its excess is unlikely to be successful and its objectives should be redirected.. It is unlikely to be successful because its mission is to assist Russia in converting excess plutonium into MOX to be burned in VVER-1000 reactors and one BN-600 reactor. Russia has no MOX fabrication facility, cannot afford

one, and no country has indicated any willingness to pay for a MOX plant in Russia. The initial capacity of the proposed Russian MOX fabrication facility has been scaled back to handle about 2.5 tonnes of plutonium annually, which is the approximate rate at which Russia is now adding to its separated plutonium stocks by reprocessing the spent fuel discharged from its three remaining plutonium production reactors (1.5 tonnes Pu/year) processing commercial VVER-440 spent fuel (about 1 tonne Pu/year), and processing naval reactor fuel and fuel from two tritium production reactors. Even if the three production reactors and the RT-1 reprocessing plant are shut down sometime in the future it will take decades to significantly see new plutonium sources are

Assist in downsizing Russia's nuclear weapons complex. The U.S. government assistant program