

**U.S.-RUSSIAN INDEPENDENT SCIENTIFIC COMMISSION
ON DISPOSITION OF EXCESS WEAPONS PLUTONIUM**

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June 1, 1997

Dear President Yeltsin and President Clinton:

We respectfully submit the Final Report of the U.S.-Russian Independent Scientific Commission on Disposition of Excess Weapons Plutonium. We strongly urge that the U.S. and Russian governments, with support and cooperation from the international community, take additional steps – beyond those already underway – to more rapidly reduce the security risks posed by excess weapons plutonium, ensuring that this material will never again be returned to nuclear weapons. Our report recommends specific steps to meet this objective, including the technologies that can be used, a step-by-step plan of action for bringing these technologies into operation as rapidly as practicable, an international cooperative approach to financing the program, and establishment of an international entity to coordinate the necessary financing and implement the effort.

Your meeting with your P-8 colleagues in Denver this month represents an opportunity to agree on concrete next steps to be taken. We hope and expect that at the Denver summit, it will be possible to reach agreement to direct experts to prepare specific plans for an international approach to disposition of excess weapons plutonium, including financing, for decision at next year's P-8 summit. We believe that the prospects for progress, and for gaining strong support from the other P-8 states for implementing an international cooperative approach to plutonium disposition, will be greatly improved if the United States and Russia can reach agreement between themselves to jointly support construction of the necessary facilities, with appropriate nonproliferation arrangements to govern the operation, and to work together with their P-8 partners to establish an effective international cooperative mechanism to finance and implement the effort. We recommend that you direct your two governments to prepare a document for signature reflecting agreement on these points.

Specifically, we recommend that:

- (1) The United States and Russia should agree that both countries will use two approaches to achieve the Moscow Nuclear Safety and Security Summit goal of transforming excess weapons plutonium into spent fuel or other forms equally

inaccessible for use in nuclear weapons: using the plutonium in mixed oxide (MOX) fuel for nuclear power reactors, and immobilizing the plutonium in large glass logs together with high-level radioactive wastes. The Russian government should make a formal statement of its intention to pursue this dual-track route, paralleling the Record of Decision announced by the U.S. government on January 14. Both approaches should be brought to the point of operability at the necessary scale as rapidly as practicable in both countries. Each country can decide for itself how much of its excess plutonium should go to each option. Because of the urgency of proceeding, the reactor option should begin in both the United States and Russia with once-through use in currently operating reactors. When and if new advanced-reactor systems are constructed, on their merits as energy options, it may prove desirable to employ them in the disposition of any surplus military plutonium that remains at the time, or in further reducing the risks from spent fuel or other waste forms containing both civilian and previously dispositioned military plutonium.

- (2) The United States should agree to support the pilot MOX fabrication plant proposed by Russia, France, and Germany, with appropriate nonproliferation conditions and provisions for eventual expansion. The United States and Russia should jointly support both this project and parallel projects in Russia related to facilities for converting weapons-component “pits” to oxide and immobilizing plutonium. The United States and Russia should begin working jointly with their P-8 partners to create mechanisms for international cooperation in the financing and management of these projects.
- (3) Russia and the United States should reaffirm their Moscow Nuclear Safety and Security Summit agreement that, in each country, facilities for these purposes will have security and accounting measures meeting stringent international standards and ensuring effective nonproliferation controls, and will be placed under international safeguards as early in the process as practicable (and in a manner that will protect key classified weapons information). In addition, the United States and Russia should agree that facilities to be built with U.S. support for the disarmament mission of disposition of excess weapons plutonium will be used only for that purpose, and that the spent MOX fuel that results will not be reprocessed, at least until the job of bringing all of the excess weapons plutonium to the spent-fuel standard is complete.
- (4) The United States and Russia, working with other countries with relevant experience and interests, should expedite and expand their technical cooperation to accomplish the steps that can commence before full-scale facilities can be built. This includes cooperation to develop, test, demonstrate, and license: (a) rapidly implementable and cost-effective means for converting pits to oxide, and for processing other plutonium forms to prepare them for disposition (including full-scale demonstrations of complete prototype systems for this purpose in each country); (b) fabrication of MOX fuel made from weapons plutonium and the use of this fuel in currently operating reactors (including exchange of information and carrying out whatever additional experiments may be necessary to validate computer codes for modeling the safety of MOX fuel use in currently operating reactors, and demonstrating fabrication and

irradiation of MOX fuel made from weapons plutonium); and (c) immobilization of plutonium with high-level radioactive wastes (including “hot tests” in each country immobilizing plutonium in full-size glass logs with high-level wastes). Both the United States and Russia should increase the amount of funding being made available to finance their joint cooperation in these areas.

- (5) The United States and Russia should agree to establish appropriate managerial structures – one in each country, as well as an international framework for managing internationally financed activities – to be responsible to the Presidents for carrying out this work to specified endpoints on a specified timetable. These structures should be given adequate authority and resources to accomplish the job assigned to them, and should have a sufficiently exclusive focus that they are not distracted by other priorities. The nuclear regulatory agencies in both countries should be directed – and funded – to establish special-purpose offices to develop the procedures to review and license promptly the MOX-fuel fabrication plants, reactors using MOX fuels, and plutonium-with-waste vitrification plants needed to implement weapons-plutonium disposition.
- (6) Russia should announce a specific date by which it will respond to the U.S. declarations of excess fissile material by making an initial declaration of the specific quantity of Russia’s plutonium which is excess to its military needs. We hope that declarations of further material as excess will occur regularly in the future on both sides. U.S. and Russian programs of warhead dismantlement and management and disposition of the associated fissile materials should proceed in parallel – resulting, in time, in reductions to equivalent remaining quantities of plutonium and HEU in the two military stockpiles. The United States and Russian should begin discussions with the goal of reaching a formal agreement toward this end, setting out the quantities, schedules, and approaches involved in plutonium disposition.
- (7) In order to reduce the security risks posed by these materials in the near term, the United States and Russia should: (a) continue to cooperate in providing secure storage and transport for nuclear weapons and for fissile materials removed from nuclear weapons, and in improving security and accounting for all separated plutonium and HEU (increasing the financing for this cooperation by at least 50 percent above the 1996 levels); and (b) move quickly to implement and expand on the reciprocal information exchanges and mutual inspections related to nuclear stockpiles that have been agreed to in principle, to help ensure the transparency and irreversibility of nuclear arms reductions. A top priority for implementation of these mutual exchanges and inspections is completion of the agreement required to provide the legal basis for exchanging selected types of sensitive nuclear information.

We believe that agreement on these urgent steps to address the security risks posed by excess weapons plutonium can and should be reached even while differences remain about the longer-term issues of the future of nuclear energy and the nuclear fuel cycle; resolution of these two important problems need not and should not be linked. We believe that moving forward with this agenda, with agreements at Denver and beyond,

will contribute to efforts to reduce nuclear arms and stem their spread, and thereby improve the security of the United States, the Russian Federation, and the world.

Respectfully,

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Russian Co-Chair

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