

NUCLEAR FACILITIES AND MATERIALS

The 2009 IPU resolution on nuclear non-proliferation and disarmament urges “immediate commencement of negotiations on a non-discriminatory, multilateral and internationally verifiable treaty banning the production of fissile material for nuclear weapons and other nuclear explosive devices.”⁸⁰

Fissile materials – highly enriched uranium (HEU) and plutonium – are the key ingredients in nuclear weapons, and thus their control and elimination is vital to nuclear disarmament, to halting the proliferation of nuclear weapons, and to preventing terrorists from acquiring nuclear materials. Producing fissile materials still remains the critical obstacle to overcome in any new nuclear weapon programme and for any country seeking to increase its nuclear arsenal.

Global stockpiles of HEU total between 1,400 and 2,000 metric tonnes, while the current global stockpile of separated plutonium is about 500 tonnes.⁸¹ Most of this material is in the possession of the nuclear-weapon-possessing States – chiefly the United States and the Russian Federation. This is despite the great strides that both countries have been made in securing and eliminating fissile materials, and dismantling facilities, through a variety of cooperative threat-reduction (CTR), disarmament and non-proliferation programmes, initially in the Russian Federation, and increasingly worldwide.

Similarly, the G8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction, which was launched in 2002, has expanded beyond the G8 to become a large-scale collaborative international initiative with 15 additional partners today.⁸² The Global Partnership has achieved tangible results in advancing nuclear and radiological security, including the dismantlement of decommissioned nuclear submarines, the disposition of fissile materials, and the redirection of former weapon scientists.

One key building block in a comprehensive strategy to contain and abolish nuclear weapons would be a fissile material cut-off treaty, which would ban the production of HEU and plutonium for nuclear weapons, or a broader fissile material treaty also dealing with existing stockpiles.

Already in 1957, the UN General Assembly called for a treaty that would verifiably ban the production of fissile materials.⁸³ In December 1993, it adopted a resolution calling for negotiation of a “non-discriminatory, multilateral, and effectively verifiable treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices”.⁸⁴

The Conference on Disarmament in Geneva agreed to begin negotiations on such a treaty in 1995, but the negotiations have been at an impasse ever since. Fortunately, a moratorium on the production of fissile materials for nuclear weapons is already in effect in several nuclear-weapon-possessing States.

A fissile material cut-off treaty would strengthen the non-proliferation regime, reduce the risk of nuclear terrorism, and help lay the groundwork for nuclear disarmament by:

- meeting the demands of the UN General Assembly and the commitments made by the nuclear-weapon States recognized by the NPT;
- extending to the nine nuclear-weapon-possessing States the legal ban on the production of fissile material for weapons that currently applies only to non-nuclear-weapon States;
- further reducing the discriminatory aspects of the NPT by extending mandatory safeguards to nuclear facilities and materials in nuclear-weapon-possessing States;
- improving national monitoring and regulation of fissile material, and enhancing the transparency of these processes;
- extending to the nuclear-weapon-possessing States the institutions and practices necessary for the eventual achievement of a world free of nuclear weapons; and
- helping to make reductions in the numbers of nuclear weapons irreversible.

2009 IPU resolution on nuclear non-proliferation and disarmament: Provisions on IAEA safeguards

The 120th Assembly of the Inter-Parliamentary Union, (...)

19. *Urges* IAEA Member States or parties to a safeguards agreement to lend strong and constant support to the IAEA so that it can honour its safeguards obligations and therefore to cooperate in good faith with the IAEA by providing it with all information requested;
20. *Calls on* States whose ratification is needed for the entry into force of general safeguards agreements to take the necessary steps to that end as soon as possible;
21. *Further calls on* the States party to a safeguards agreement which have not yet signed and/or ratified an additional protocol to do so as soon as possible.

Good Practice

NWPS

Examples

A. Moratoria on fissile material production

An important stopgap measure

B. Cooperative Threat Reduction (CTR)

Acting together to advance mutual interests

A

Moratoria on fissile material production

An important stopgap measure

Although an international ban on fissile materials might not come into effect anytime soon, a de facto moratorium on the production of such materials for nuclear weapons is already in effect in several key countries. Four of the five NPT nuclear-weapon States – France, the Russian

Federation, the United Kingdom and the United States – declared in the 1990s that, as a matter of policy, they had stopped such production and had no plans to resume.

Many plutonium-production reactors have been shut down as a result of the 1994 declaration by the United States and the Russian Federation to initiate such a moratorium. This includes all 14 US plutonium-production reactors and 10 of 13 Russian plutonium-production reactors. In the Russian Federation, weapon-grade uranium has not been produced since 1989.

In 1995, the United Kingdom declared a moratorium on the production of fissile materials for weapon purposes, which it continues to abide by, pending negotiations on an international ban on fissile materials. It has also placed “excess” military fissile material under international safeguards. France announced a moratorium on the production of these materials in 1996, and simultaneously decided to dismantle the corresponding facilities.

B

Cooperative Threat Reduction (CTR)

Acting together to advance mutual interests

CTR programmes are aimed at enhancing the protection of weapons and materials that can be used to produce weapons of mass destruction, disposing of or eliminating weapons and components, and helping scientists, engineers and technicians switch to lines of work outside the weapons industry. The US Departments of Defense, Energy, State and Homeland Security run a series of such programmes, with specified sub-programmes, dealing with a wide range of issues related to nuclear security, including fissile-material consolidation, conversion and elimination, HEU reactor conversion, and export control and border security assistance.⁸⁵ As part of the commitments made under the G8 Global Partnership against the Spread of Weapons and Materials of Mass Destruction, other countries have also developed such programmes.

The first CTR programme legislation was co-authored in 1991 by Senators Sam Nunn (Democrat) and Richard Lugar (Republican), and CTR programmes are thus also known as Nunn-Lugar programmes.⁸⁶ The Nunn-Lugar Act was introduced against the backdrop of the

dissolution of the Soviet Union and focused on locking up weapon-usable nuclear material and dismantling or eliminating nuclear weapon systems in the Russian Federation and the independent successor States of the Soviet Union (including Azerbaijan, Belarus, Georgia, Kazakhstan, Ukraine and Uzbekistan).⁸⁷

The Nunn-Lugar Program has extended its cooperative reach beyond the former Soviet Union and continues to expand its scope to meet new threats.⁸⁸ It has been able to build cooperative security and considerably reduce nuclear dangers at an average cost of US\$ 400 million a year, which pales in comparison to the roughly US\$ 10 billion set aside annually for ballistic missile defence research and development or the US\$ 50 billion allocated annually to the development, deployment and maintenance of nuclear weapons and their delivery systems.

The Nunn-Lugar Program's more than two-decade record of accomplishment has encouraged policymakers to discuss ways to strengthen and expand CTR programmes. As Senators Nunn and Lugar have shown, parliamentarians and parliaments are ideally placed to initiate such programmes and to support them through their budgetary powers.

Scorecard: Nunn-Lugar Program

13,300 strategic nuclear warheads deactivated, **1,473** ICBMs destroyed, **831** ICBM silos eliminated, **442** ICBM mobile launchers destroyed, **937** SLBMs eliminated, **728** SLBM launchers eliminated, **48** nuclear submarines capable of launching ballistic missiles destroyed, **233** bombers eliminated, **906** nuclear air-to-surface missiles destroyed, **194** nuclear test tunnels eliminated, **565** nuclear-weapon train shipments secured, upgraded security at **24** nuclear-weapon storage sites, **38** biological monitoring stations built and equipped, and **2924.7** metric tonnes of Russian and Albanian chemical-weapon agent neutralized.

Perhaps most importantly, Ukraine, Kazakhstan and Belarus are nuclear-weapon free as a result of cooperative efforts under the Nunn-Lugar Program. Those countries were the third, fourth and eighth largest nuclear-weapon powers in the world.

CTR programmes such as the Nunn-Lugar initiative have been key tools in achieving nuclear non-proliferation and disarmament goals, while building trust to attain common security objectives. Such cooperative efforts greatly enhance regional and global security and stability and could be pursued in other regions, especially those plagued by distrust and tension, and where the prospect of a nuclear conflict is ever present. As Senator Lugar has noted:

“Some may say that we cannot forge cooperative non-proliferation programs with the most worrisome nations. But evidence proves that such pessimism is unwarranted. The experience of the Nunn-Lugar program has demonstrated that the threat of weapons of mass destruction can lead to extraordinary outcomes based on mutual interest. No one would have predicted in the 1980s that Americans and Russians would be working together to collect dangerous weapons materials around the world.”⁸⁹



Recommendations for Parliamentarians

- Support the initiation or extension of moratoria on the production of fissile materials for nuclear weapons.
- Call for full transparency on fissile materials, including declarations of current inventories of HEU.
- Promote the placement of all non-military facilities under IAEA safeguards.
- Advance debate and motions in parliament on the possibility of phasing out HEU and plutonium reactors.
- Parliamentarians in the five countries that reprocess power reactor fuel (China, France, India, Japan and the Russian Federation) should work toward phasing out reprocessing and ensuring the disposal of stocks of separated plutonium.
- Pursue cooperative threat reduction programmes to secure stockpiles of fissile materials.
- Call for the conclusion of a non-discriminatory, multilateral and internationally verifiable treaty banning the production of fissile material and dealing with stockpiles.