

EDITOR'S NOTE

This issue opens with a detailed assessment of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) by Lewis A. Dunn (Science Applications International Corporation). Dunn evaluates the successes and failures of each of the NPT's substantive articles as well as its withdrawal provisions and recommends ways to strengthen the NPT. He also lays out a roadmap for action between the 2010 and 2015 NPT Review Conferences in three critical areas: nonproliferation, peaceful uses of nuclear energy, and disarmament.

In a related article, Jeffrey Fields and Jason S. Enia (Defense Threat Reduction Agency and the University of Southern California, respectively) step back and evaluate the overall health of the nuclear nonproliferation regime, which includes not just the NPT but also the United Nations, the International Atomic Energy Agency (IAEA), the Nuclear Suppliers Group, and the Missile Technology Control Regime. Using a theoretical framework and a multidimensional assessment, and evaluating both the discrete components of the regime as well as their interactions, the authors find that notwithstanding some "troubling episodes," the regime is not in danger of imminent collapse and that a crisis mentality should not guide decisions to unnecessarily alter the regime or discard it as a failure.

Jeffrey G. Lewis (New America Foundation) examines and explains China's nuclear force posture and its ongoing strategic modernization plans, challenging the widely held perception that of all the nuclear powers, China alone is modernizing and expanding its nuclear arsenal. In fact, argues Lewis, China's primary focus is on new ballistic missiles, not new nuclear warheads. Moreover, most of those new missiles are armed with conventional weapons. And of all the nuclear-armed NPT signatories, China maintains the smallest nuclear arsenal, does not deploy weapons on alert, and has consistently adhered to a no-first-use doctrine. To prevent further misunderstandings and potentially dangerous crisis interactions between Chinese and U.S. forces, Lewis recommends that the United States reassure China that it does not seek to negate China's deterrent, and that China forswear efforts to achieve parity with a shrinking U.S. nuclear arsenal.

Sharon K. Weiner (American University) reviews the evolution of the Cooperative Threat Reduction (CTR) program from 1991 to the present, documenting the numerous and persistent problems in working with Russia to secure and reduce the threat posed by its nuclear arsenal and nuclear weapons complex, charting the progress of the program, and outlining what remains to be accomplished. Future success, writes Weiner, will require greater U.S. understanding of the security benefits provided by CTR, improvements in interagency leadership and coordination, and a willingness by Russia to become a true partner in the program.

The negotiation of the Convention on Cluster Munitions is the subject of Brian Rappert and Richard Moyes's (University of Exeter and Landmine Action, respectively) article. This agreement, concluded in mid-2008, bans the development, production, acquisition, stockpiling, and transfer of cluster munitions and requires the removal of unexploded munitions following a conflict. The authors pay particular attention to the process for determining what constitutes a cluster munition under the convention. Rather than adopting a traditional approach—that weapons with certain types of characteristics should be banned—negotiators adopted a categorical ban that required those seeking

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to retain certain cluster munitions to justify why they should be exempted. This shifting of the burden of proof could have important implications for future arms control agreements.

Adam Scheinman (National Nuclear Security Administration) discusses the Next Generation Safeguards Initiative (NGSI), which was launched by the United States in 2008 to address some of the critical challenges confronting the IAEA as it struggles to fulfill its vital role in monitoring and enforcing the nuclear nonproliferation regime. NGSI will encourage the development of a new generation of safeguards experts, promote advanced safeguards technologies, and foster collaboration and the development of safeguards-conscious infrastructure among states using or interested in nuclear power. Although NGSI is a U.S. program, its intent is to promote a safeguards culture through partnerships with other governments and the IAEA.

Increasing global interest in nuclear power as a means of mitigating global warming is likely to increase the risk of nuclear proliferation. Leonard Weiss (Center for International Security and Cooperation at Stanford University) considers the history of recent efforts to provide a reliable supply of nuclear fuel while simultaneously discouraging national efforts to manufacture or reprocess such fuel and concludes that such efforts are not likely to be effective. Instead, he proposes broadening the terms of Article IV of the NPT—which grants NPT parties the “inalienable right” to develop nuclear energy for peaceful purposes—to include cooperative development of reliable non-nuclear energy technologies for NPT members in good standing as a better means of promoting energy security and nonproliferation.

Following up on an article we published last year about the significant risks associated with the manufacture of radioactive isotopes (“Nuclear Medicine’s Double Hazard: Imperiled Treatment and the Risk of Terrorism,” 15.2, July 2008), Mushtaq Ahmad (Pakistan Institute of Nuclear Science and Technology) discusses the benefits and feasibility of using enriched molybdenum-98 to produce molybdenum-99, arguably the world’s most important medical isotope. Ahmad concludes that with sufficient support, enriched molybdenum-98 may one day replace highly enriched uranium and low-enriched uranium as the primary source of molybdenum-99.

This issue also features reviews of three recent books. Robert S. Norris (Natural Resources Defense Council), Jeremy Bernstein (physicist and author), and Peter D. Zimmerman (emeritus professor, Kings College) take a critical look at Thomas C. Reed and Danny B. Stillman’s *The Nuclear Express: A Political History of the Bomb and Its Proliferation*, which claims that every state that has developed nuclear weapons has done so with the witting or unwitting assistance of other states or individuals. Also, independent scholar Ward Wilson surveys Bruce Larkin’s *Designing Denuclearization: An Interpretive Encyclopedia*, and George Perkovich and James M. Acton’s edited volume *Abolishing Nuclear Weapons: A Debate*, and weighs in on the growing discussion over what it will take to create—and maintain—a world free of nuclear weapons.

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