

## INTRODUCTION

Long discounted by arms control critics, traditional nonproliferation efforts now are undergoing urgent review and reconsideration even by their supporters. Why? In large part, because the current crop of nonproliferation understandings are ill-suited to check the spread of emerging long-range missile, biological, and nuclear technologies.

Attempts to develop a legally binding inspections protocol to the Biological Weapons Convention, for example, were recently rejected by U.S. officials as being inadequate to catch serious violators while being prone to set off false alarms against perfectly innocent actors. Missile defense and unmanned air vehicle (UAV) related technologies, meanwhile, are proliferating for a variety of perfectly defensive and peaceful civilian applications. This same know-how can be used to defeat U.S. and allied air and missile defenses in new ways that are far more stressful than the existing set of ballistic missile threats. Unfortunately, the Missile Technology Control Regime (MTCR) is not yet optimized to cope with these challenges. Finally, nuclear technologies have become much more difficult to control. New centrifuge uranium enrichment facilities and relatively small fuel reprocessing plants can now be built and hidden much more readily than nuclear fuel-making plants that were operating when the Nuclear Nonproliferation Treaty (NPT) and the bulk of International Atomic Energy Agency (IAEA) inspections procedures were first devised 30 or more years ago.

This volume is designed to highlight what might happen if these emerging threats go unattended and how best to mitigate them. The book, which features research the Nonproliferation Policy Education Center commissioned, is divided into three sections. The first, *Life in a Well-Armed Crowd*, focuses on what a world proliferated with these technologies might look like. The first chapter, "Alternative Proliferation and Alliance Futures in East Asia" by Stephen Kim of the Lawrence Livermore National Laboratory, projects how the United States, Japan, Korea, and China will relate and compete with one another as each becomes more competent to deploy strategic weaponry. The good news is that further proliferation and war in the Far East are not inevitable. The bad news is that it will take considerable effort to avoid this fate.

Much is the same in the Middle East as Patrick Clawson of the Washington Institute makes clear in Chapter 2, "Proliferation in the Middle East: Who is Next after Iran?" Here, the lynch pin for further proliferation is Iran. Certainly, if Iran is able to edge toward nuclear bomb making capabilities

with impunity, Tehran's neighbors are likely to hedge their security bets by developing strategic weapons options of their own.

This, then, brings us to this section's final chapter, "Nuclear 1914: The Next Big Worry." In it, I argue that the greatest security danger renewed strategic arms proliferation presents is not the increased chance of nuclear theft or terrorism, so much as the increasing difficulty small and large nations will have in determining who they can rely upon and how militarily capable they might be. In such a world, even the best plans and diplomatic hedging may be incapable of preventing miscalculation and war, much as was the case in 1914 with World War I.

The book's second section, *New Proliferation Worries*, details three of the most important emerging proliferation technology threats we face—the spread of new biological, missile, and nuclear technologies. As detailed in Mitchell Kugler's chapter, "Missile Defense Cooperation and the Missile Technology Control Regime," the United States has a clear desire to encourage missile defense cooperation with its friends and allies even though key portions of the technologies in question are restricted by the MTCR. Mr. Kugler of the Boeing Corporation makes it clear that he believes the case for sharing this technology is stronger than the case for restricting it. He believes that the MTCR should be changed to allow such commerce, or it should be put aside.

Current nuclear controls also are being challenged by emerging technology, as former U.S. Nuclear Regulatory Commissioner Victor Gilinsky makes clear in his comprehensive chapter, "A Fresh Examination of the Proliferation Dangers of Light Water Reactors." This detailed history and technical analysis of the proliferation resistance of the most popular type of power reactor concludes that the current international nuclear safeguards system needs to be modified to cope with the new risks that a proliferating state might divert the fresh or spent fuel from these machines to small, covert reprocessing or enrichment plants that could bring a state within days of having a small arsenal of weapons.

In the biological weapons threat field, current control approaches are also in desperate need of help. Dr. Allan Zelicoff explains precisely what can and is being done that can be of immediate use with health monitoring in his chapter, "Coping with Biological Threats after SARS." What is reassuring is how much public health monitoring can and has accomplished to identify and immediately treat outbreaks of infectious disease. What is challenging is how much more can and needs to be done. All of this is laid out in Dr. Zelicoff's chapter.

This brings us to the book's final section, *What Can Be Done*. In the missile technology area, Dennis Gormley and Richard Speier identify

what specific new missile defense and unmanned aerial vehicle (UAV) technologies should be added to the MTCR control lists. Their chapter, "New Missiles and Models for Cooperation," also explains how the United States and other advanced states might share UAV services and turn-key missile systems rather than handing over the means for their production or, in the case of missile defenses, the countermeasures technologies needed to defeat them.

In the nuclear field, the key recommendation of the chairman of the German Bundestag's committee on energy and the environment is not to push nuclear power beyond what the market itself might otherwise demand. Certainly, if nuclear power is pushed with government subsidies too hard or too fast, there is a risk that the proliferation problems noted in Victor Gilinsky's analysis could come far sooner than the safeguards upgrades that are needed to keep them at bay. The way out here is to buy more time as Ernst Ulrich Von Weizsäcker explains in his chapter, "German Nuclear Policy." Specifically, he argues that we need to focus first on promoting the most economical way to extend energy supplies, through increased efficiencies and productivity for whatever amount of energy is available.

What are we to do with the time this might buy? In the book's concluding chapter, "President Bush's Global Nonproliferation Policy," the author details a series of steps that build on the proposals President Bush made in a February 11, 2004, speech on nuclear proliferation at the National Defense University in Washington, DC. All of these proposals deserve attention. This is especially so given the shocks the NPT and the IAEA have felt since the mid-1990s from Iraqi, North Korean, and Iranian noncompliance, Pakistan's proliferation activities under A. Q. Khan, and, most recently, the U.S. offer of civilian nuclear assistance to India, a nuclear weapons state outside of the NPT. As always, it is uncertain if we and our friends will take action. The hope is that this book and the writings of others will make clear that the price of failing to do so is sure to exceed the costs of any attempt.