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25

STEPS TO PREVENT NUCLEAR TERROR: A GUIDE FOR POLICYMAKERS

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THE HENRY L. STIMSON CENTER
JANUARY 2007

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FOREWORD

Dear Reader,

I am pleased to present to you *25 Steps to Prevent Nuclear Terror: A Guide for Policymakers* by Brian Finlay and Elizabeth Turpen, Senior Associates and Co-Directors of the Cooperative Nonproliferation Program at The Henry L. Stimson Center. The study provides an important and fresh look at one family of nonproliferation activities and makes useful recommendations for policymakers engaged in this critical work.

This monograph takes a new and bold approach to the issue of sustaining the important programs established at the end of the Cold War to dismantle Soviet-era weapons programs and to engage scientists in peaceful work. Finlay and Turpen review the proud origins and history of the Cooperative Nonproliferation programs, but quickly identify the shortcomings and structural weaknesses that derive from shifting priorities, the inherent fatigue of a program that has been in place for more than a decade, and some of the unintended consequences of decisions made early on. They go on to explore ways in which to sustain and invigorate this important work and propose new approaches that would engage more productively the private sector and post-Soviet counterparts in and out of government.

It is our intention that this book be useful for those who are already engaged in Cooperative Nonproliferation (CNP), as well as for those who are new to the field. It is both a primer on the early politics and history of CNP, and a provocative policy manifesto designed to ensure that the United States and its allies continue to give necessary attention to countering the threat from the proliferation of weapons, know-how, and material.

The Stimson Center wishes to acknowledge and express our gratitude for the financial support provided for this project by The John D. and Catherine T. MacArthur Foundation, the Ploughshares Fund, and The Ford Foundation. In particular, the following program officers from these foundations – Lukas Haynes, Naila Bolus, Paul Carroll, Bonnie Jenkins, and Megan Burke – all made substantial contributions to the project at key development stages.

Sincerely,

A handwritten signature in cursive script that reads "Ellen Carpin". The signature is written in dark ink on a white background.

PREFACE

In January 2005, The Henry L. Stimson Center launched a new initiative designed to identify and remove the impediments to the Cooperative Nonproliferation programs—America’s first line of defense against terrorism threats from weapons of mass destruction (WMD)—and seek sustainable new opportunities to leverage their impact and ensure the highest return on investment. By proposing innovative solutions to existing implementation challenges, reformulating existing programs, and strengthening political resolve, the goal of this Program is to expand and enhance the nonproliferation toolkit into and beyond 2010.

The Cooperative Nonproliferation programs between the US and Russia have achieved remarkable success during the past fifteen years. But, despite their front-line importance for preventing the spread of nuclear, biological, and chemical weapons, materials, and expertise, their potential has not been fully realized due to bureaucratic encumbrances, a sustained lack of White House and congressional support, and enduring vestiges of Cold War suspicion.

This monograph articulates a series of pragmatic, politically viable steps that must be taken to ensure the full and effective implementation of these critical national security programs and maximize the return on investment in these programs. It also offers policymakers, program managers, and their private sector counterparts an innovative guide for reinvigorating Cooperative Nonproliferation efforts, making them sustainable and leveraging their impact across the full spectrum of foreign policy goals, from economic development to international public health. This publication accompanies a more extensive discussion of the history and obstacles to the Cooperative Nonproliferation programs published by the Stimson Center in January 2007 and entitled, *Cooperative Nonproliferation: Getting Further, Faster*.

There is no greater threat to global security than the diffusion of nuclear, biological, and chemical weapons expertise and materials. Without an integrated approach to securing the large inventories of WMD materials and expertise around the world, the United States will have failed to accomplish its primary national security goal to keep the “world’s most dangerous weapons out of the hands of the world’s most dangerous people.”

Brian D. Finlay
Senior Associate

Elizabeth Turpen
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COOPERATIVE NONPROLIFERATION: AMERICA'S FIRST LINE OF DEFENSE AGAINST CATASTROPHIC TERRORISM

Background

In the fifteen years since their inception, the Cooperative Nonproliferation programs (CNP) within the United States Departments of Defense, Energy, and State have proven to be an unparalleled, if constrained, foreign policy success.¹ Matched by massive reductions in the US arsenal, the international community led by the United States has cooperated with Belarus, Kazakhstan, Ukraine, Georgia, Kyrgystan, Moldova, Turkmenistan, and Uzbekistan to dismantle the last vestiges of the Cold War. The comprehensive list of successes is striking in its breadth of accomplishment and impressive in its depth of engagement, including:

- more than 6,900 former Soviet nuclear warheads deactivated;
- more than 600 intercontinental ballistic missiles dismantled;
- 155 strategic bombers destroyed
- 906 nuclear air-to-surface missiles eliminated;
- 30 nuclear submarines destroyed;
- 83% of Russian facilities storing weapons-usable fissile material have received security upgrades;
- 285 metric tons of highly enriched uranium (HEU) from dismantled nuclear weapons have been blended down to non-weapons-usable low enriched uranium (LEU) for burning in civilian power reactors;
- innovative new partnerships developed to promote peaceful joint US-Russian research at 49 former biological weapons facilities are ongoing; and,
- more than 4,000 former Soviet weapons scientists have been redirected toward sustainable and peaceful work.

Almost as significant as the hard security dividends on these investments have been the immeasurable soft security “spin-off” benefits. For instance, programs designed to mothball former weapons facilities in the former Soviet Union (FSU) have spawned new foreign and locally owned and operated companies. In turn, business management, marketing, and finance skills, once considered anathema to the state-run economies of the region, have been transferred from the US private sector to its FSU counterparts. Innovative research partnerships between the scientific communities of erstwhile adversaries have generated new products—from immune-boosting pharmaceuticals to new landmine detection technologies—and successfully introduced them into the marketplace. A new and heretofore absent understanding of quality control, cost accounting, and financial auditing in these

¹ Throughout this report, the term “Cooperative Nonproliferation” (CNP) will be used to refer to the entire suite of nonproliferation programs throughout US federal agencies. Cooperative Threat Reduction (CTR) refers only to those programs managed by the Department of Defense.

states has been fostered in the close working relationships with US private sector entities. Regional economic growth has promoted stability in potentially volatile countries and turned prevailing models of development and democracy building on their head.

With both tangible “hard” and “soft” security benefits to these efforts, it is not surprising to have witnessed the adoption of the original Department of Defense (DoD) Cooperative Threat Reduction (CTR)-type programs by other US Government agencies to address a wide range of weapons, materials, and knowledge of proliferation concern. Equally unsurprising has been the rush to embrace the program’s utility, however superficially, across the political spectrum. In what has been perhaps the most revisited quote of the 2004 US election campaign, President George W. Bush and Senator John Kerry agreed during the first presidential debate that the threat of a nuclear-armed terrorist is the greatest threat to the national security of the United States. The President has repeatedly stated his determination to keep the “world’s most dangerous weapons out of the hands of the world’s most dangerous people.” To that end, the Bush administration has requested, and the US Congress has appropriated, more than one billion dollars annually for the array of threat reduction and nonproliferation programs that now are spread across three main government departments—Energy, Defense, and State.²

Throughout the history of the programs, the US Government has been monitoring progress closely, as evidenced by the approximately 140 reports that have been released on Cooperative Threat Reduction and related activities since 1992. The private sector and academia have also become involved, as more than 1,600 companies, universities, and other research institutions have contributed to, or been involved with, CNP-related projects since the programs began (See Figure 1). In Washington alone, more than thirty non-governmental organizations with both private and public funding have developed efforts during the past decade designed to inspire grassroots activism, educate the public, lobby the US Government, publish new ideas, analyze and critique ineffective programs, appeal to the mass media, promote informal discussions among policymakers, or otherwise influence government programs as they relate to the threat reduction and nonproliferation agenda. A recent survey of public opinion indicates that support for nonproliferation programs is not limited to the Washington policy community. “Of the thirty foreign policy goals tested, ‘Keeping nuclear weapons away from countries and groups that are hostile to the United States and our allies’ received the highest priority among Americans. Six in ten respondents (60%) gave this goal a priority ranking of 10—including 53% of Independents, 72% of Republicans, and 53% of Democrats. . . . In fact, all three questions about the proliferation of nuclear weapons ranked in the top five of voter concerns.”³

² Starting with a budget at the Department of Defense of just US\$25 million in FY1992, the programs today have grown into multi-year, multi-country efforts totaling approximately US\$1.3 billion in Russia, the former Soviet republics, and other nations of proliferation concern. The President’s FY07 request includes about US\$372 million for the Defense Department’s Cooperative Threat Reduction (CTR) program, US\$834 million for Department of Energy (DoE) nonproliferation programs, and US\$163 million for State Department nonproliferation programs.

³ The Security and Peace Institute and The Marttila Communications Group, *American Attitudes toward National Security, Foreign Policy, and the War on Terror* (New York: The Century Foundation, 2005): 5, accessed at: <<http://www.securitypeace.org/pdf/AmericanAttitudestoNatSecPoll.pdf>>.

As one observer stated concisely, the rationale for Cooperative Nonproliferation is simple: No nuclear material. No bomb. No nuclear terrorism.⁴ But despite this straightforward causal relationship and the myriad organizations and individuals supporting CNP, the United States Government has not adequately accelerated cooperative efforts to eliminate this threat to our national security. While undeniably successful and politically popular, these programs have never been unleashed to realize their full potential. A systematic look at the history of these programs indicates that the failure to provide both adequate resources and flexibility to program managers has been bipartisan. Neither the Clinton administration, the Bush administration, nor the Congress under Democratic or Republican leadership, has given these programs the priority they deserve. While the first Clinton administration deserves considerable credit for building the existing network of programs within the three government agencies involved, the second administration witnessed flat-lined funding requests and largely unimaginative responses to evolving threats.⁵ These anemic funding requests have fed a perception that the programs are merely second-tier responses to the threat of weapons of mass destruction (WMD) proliferation, rather than the first line of defense against catastrophic terrorism. Similarly, the Bush administration has received failing grades for its handling of the programs. According to the members of the 9/11 Commission, the US Government has failed to request the personnel and resources or provide the domestic and international leadership requisite to secure all weapons-grade material within the shortest possible timeframe.⁶ Adjusted for inflation, financial investments in many programs abroad—let alone the pace of progress—have actually diminished since 9/11.⁷

The Nunn-Lugar threat reduction and nonproliferation programs remain the best and most cost-effective means of mitigating the threat of terrorist groups acquiring WMD capabilities.

The Nunn-Lugar threat reduction and nonproliferation programs remain the best and most cost-effective means of mitigating the threat of terrorist groups acquiring WMD capabilities. Yet, despite widespread efforts dedicated to urging the acceleration and expansion of these programs, the pace of securing materials and providing sustainable civilian opportunities for former weapons scientists, engineers, and technicians has not been commensurate with the threat. According to one assessment, at current rates, efforts to secure Russian weapons-grade materials alone may not be completed until

⁴ Graham Allison, "How to Stop Nuclear Terror," *Foreign Affairs*, 83, no. 1 (2004): 64-74, accessed at: <<http://www.foreignaffairs.org/20040101faessay83107/graham-allison/how-to-stop-nuclear-terror.html>>.

⁵ Office of the Secretary of Defense, "FY2000/2001 Biennial Budget Estimate, Volume 1: Justification for FY2000" (February 1999), accessed at: <http://www.dod.mil/comptroller/defbudget/fy2000/budget_justification/pdfs/operation/fy00pb_vol1_part3.pdf>.

⁶ 9/11 Public Discourse Project, "Final Report on 9/11 Commission Recommendations" (December 5, 2005), accessed at: <http://www.9-11pdp.org/press/2005-12-05_report.pdf>.

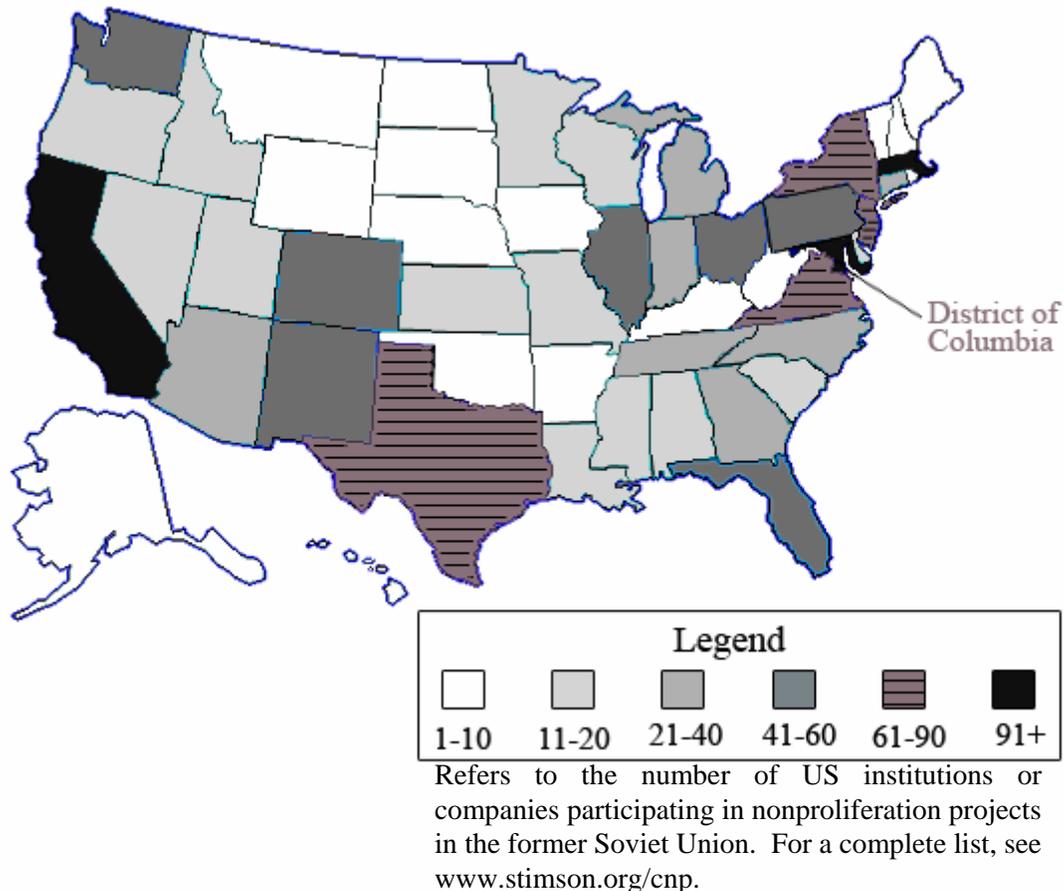
⁷ Brian Finlay and Andrew Grotto, *The Race to Secure Russia's Loose Nukes: Progress Since 9/11* (Washington: The Henry L. Stimson Center and the Center for American Progress, 2005): 29.

the year 2030—leaving open a 24-year window for terrorists to acquire the necessary materials to construct a nuclear weapon.⁸

A New Approach: A Public-Private Partnership on National Security

FIGURE #1

Geographic Distribution of Companies, Universities, and other Institutions across the United States Engaged in Collaborative Research in the FSU



A survey of existing efforts to promote Cooperative Nonproliferation reveals no shortage of non-governmental organization (NGO), academic, or even grassroots efforts. However, since the advent of the initial programs in the early 1990s, success in translating ideas into action and opinion into policy, particularly from outside government, has been marginal at best. This conclusion suggests that a critical link is absent. In almost any area of policymaking, the private sector wields a significant and influential influence on lawmakers. Industry represents a unique resource, often operating in various regions around the world and collecting knowledge and capacities that governments are unable to obtain. As such, its role in shaping national policy in the United States cannot and should

⁸ Finlay and Grotto, *The Race to Secure Russia's Loose Nukes* (2005).

not be ignored. In the case of threat reduction and nonproliferation, the role of the private sector is particularly significant, from providing support for program managers within the federal agencies, to direct implementation of CNP on the front lines throughout the FSU and beyond. But, despite the indispensable role of industry to Cooperative Nonproliferation, efforts to forge new partnerships with the private sector in shaping and implementing US nonproliferation programs have been *ad hoc* and, therefore, neither strategic nor sustainable. Project managers within the Executive agencies of the US government are generally too overwhelmed with day-to-day implementation to devote the necessary time to developing strategic level relations within their own departments, let alone between departments or with the private sector. Self-organization within industry has been equally deficient. Large multinational companies' share in the "business" of CNP is far too marginal as a percentage of the corporate bottom line to divert precious political capital from the pursuit of more profitable activities. Meanwhile, small and medium-sized enterprises whose bottom lines are more significantly impacted by fluctuations in government resources lack the necessary Washington representation to leverage their voices within federal agencies and on Capitol Hill. Lacking a true public-private partnership in implementing the CNP agenda, US efforts will inevitably be disorganized, inefficient, stovepiped, and ultimately unsustainable once public funding evaporates. To date, the US government has spent more than US\$12 billion on programs designed to manage the enduring threat posed by the Soviet Union's WMD legacy. The failure to realize enduring value from these significant investments would represent an appalling failure on the part of the US Government and present a potentially catastrophic blow to US national security in the form of rampant proliferation.

Methodology

The Stimson Center's Cooperative Nonproliferation Program works to build new alliances among the federal government, NGOs, and the private sector. In finding common cause with these entities, we intend to not only highlight the successes of CNP, but also provide constructive ideas for reform to ensure that these programs are able to meet and exceed targeted objectives in the former Soviet Union and beyond.

The primary goals of this study are to increase understanding of the benefits of the nonproliferation programs and provide the United States with innovative solutions to complex proliferation challenges. Our research and analysis targeted the most immediate operational concerns of US agency program managers and their private sector counterparts, and intentionally excluded Russian policies or procedures from the list of impediments. This was done for several reasons, including internal resource constraints; however, the most important reason was to ensure that the findings and recommendations that flow from this research remain within the US Government's purview to address, either by Congress or the Executive Branch. Although some of our recommendations will mention the importance of host country "buy-in" and the need to address threat perceptions of FSU counterparts prior to initiating a new program activity, they are all intended to be admonitions to US policymakers and program managers regarding the necessity of building an appropriate foundation for implementing the programs and enhancing the prospects for sustainability. We conclude that the recommendations offered herein are both politically feasible in Washington and palatable to host governments around the world.

The Stimson Center implemented a two-phase program of work to achieve our study goals: first,

during an intensive research phase, the project directors convened eighteen expert, off-the-record roundtables to examine obstacles to effective CNP implementation and identify potential mechanisms to remove these obstacles. Program managers at the Defense Threat Reduction Agency's (DTRA) Cooperative Threat Reduction Directorate, the Department of Energy's National Nuclear Security Administration (NNSA), and the International Security and Nonproliferation Bureau at the Department of State all participated in brainstorming sessions with the Stimson Center's project directors.⁹ Additional roundtables brought together many contractors and subcontractors of DTRA and the Department of Energy (DoE), including the DoE National Laboratory counterparts to these efforts. Private companies representing the United States Industry Coalition (USIC) and principal investigators who received grants through the Civilian Research and Development Foundation (CRDF) were instrumental in expanding the network of private companies and individual scientists consulted. In addition, the directors conducted numerous one-on-one interviews with both current and former government officials, members of the business community including representatives from several of the Cooperative Threat Reduction Integrating Contractors (CTRIC) to DTRA, representatives from the foreign ministries who are themselves engaged in nonproliferation activities under the G8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction, as well as American academicians, lawyers, and NGO experts who closely monitor implementation of the CNP programs.

This monograph is the culmination of all of these discussions and does not represent a consensus document among the various parties that were consulted during our research. In all cases, the findings and recommendations were drawn by the authors and then submitted back to the participants to ensure accuracy and elicit additional feedback. The following presents the substantive findings and recommendations that have emerged from this process.

⁹ The BioIndustry Initiative and the Bio-Chem Redirect programs at the Department of State were the only US Government efforts that declined to participate in the study. Thus, the conclusions drawn regarding those programs are the authors' best estimates based upon discussions with the private sector, other government representatives, and publicly available information.

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MAXIMIZING RETURN ON INVESTMENT

The Cooperative Nonproliferation programs, as currently configured, are not providing the maximum return on investment. Much of the blame for these inefficiencies can be laid on the doorsteps of the host government states that have often proven to be fickle partners. Nonetheless, the United States Government has erected its own barriers to success. Below, we have grouped the impediments identified by this study into four broad categories: **lack of interagency collaboration, unrealistic expectations, inefficient congressional oversight, and overly burdensome restrictions** on program implementation. We concluded that the programmatic barriers to success related to the **scientist redirection portfolio** are so vast and the threat so urgent, that a more detailed assessment of these efforts is needed. Our assessment is summarized below.

Promoting Interagency and Broader International Coordination

The Cooperative Nonproliferation programs were launched in an era of extreme uncertainty across the states of the former Soviet Union. The immediate and rapidly changing needs of those governments now responsible for managing the scattered pieces of the world's largest arsenals of nuclear, biological, and chemical weapons necessitated a flexible and responsive nonproliferation capacity. The early days of CTR implementation were characterized by a maverick attitude that

In the fifteen years since the US programs were launched, no strategic review has been conducted to systematically align and prioritize current threats with existing programs.

produced astonishing advances in support of US national security priorities. Over time, as the security environment in the region changed and the capacity of states to respond to those changes improved, new programs were added to address shifting demands. In the fifteen years since the US programs were launched, no strategic review has been conducted to systematically align and prioritize current threats with existing programs.¹⁰ This has yielded, in some cases, a mélange of programmatic efforts, some of which are pegged to dated threats, and others of which fail to fully leverage the opportunities provided by the spectrum of US Government programs and maximize return on our national security

investment. With both the functional and geographic expansion of activities occurring at a rapid pace, the time is ripe for a thorough reassessment of threats and priorities related to the CNP agenda. This review should occur both at the departmental level, as well as at a broader strategic level across the US Government. Ultimately, it should also involve the US Congress, as well as host state representatives.

Throughout the course of CNP efforts, interagency cooperation has been frequently driven by personalities rather than overarching nonproliferation priorities. Interagency rivalries were an

¹⁰ In 2001, the incoming Bush administration performed a review of these programs. Although coined a “strategic review,” the outcome of this process did little more than affirm the value of existing efforts and approve the status quo.

additional complication that many have assumed could be resolved through the appointment of a “nonproliferation czar.” According to numerous high-profile reports, this high-level White House official, sitting at the right hand of the President, would play “traffic cop,” ensure cooperation, and enforce solutions to interagency disagreements. The *Defense Against Weapons of Mass Destruction Act of 1996*, known as the Nunn-Lugar-Domenici bill, mandated the creation of this position, but the Clinton administration ignored this provision. Although a similar requirement can be found in several bills introduced in the 109th Congress, the Bush administration has also made it clear that it would not comply with a congressional mandate regarding the organization of its national security staff.¹¹ Thus, without even judging the operational utility of the concept, we conclude that it remains politically untenable.

Near universal agreement across the implementing agencies suggests that the “czar” is neither necessary nor particularly desirable. Rather, we found that many interdepartmental issues could be addressed through enhanced information sharing that builds upon the innate sense of purpose shared by program managers across the multiple CNP implementing departments. Entrenched interests

We found that many interdepartmental issues could be addressed through enhanced information sharing that builds upon the innate sense of purpose shared by program managers across the multiple CNP implementing departments.

within the Executive agencies and within existing Capitol Hill committees make centralized direction over competing programs not only difficult, but virtually impossible. A politically and structurally more sensible route would be the designation and funding of a State Department official responsible for information collection and sharing across all CNP activities/agencies.¹² This non-threatening position would go far toward resolving coordination challenges between, and in some cases, within the Departments of Defense, Energy, and State. When intractable conflicts between government departments do arise that cannot be handled by the collegial process managed by the State Department, a knowledgeable and hands-on National Security Council (NSC) official should be capable of resolving the lion’s share of these interagency problems. This office would

thus serve as the “court of last resort” with access up to the Oval Office and with strong connections to Congress. Across the US Government, priority setting and coordination from the strategic planning perspective revolves around the budgeting process. At present, one Office of Management

¹¹ Bills from the 109th Congress and their sponsors include: H.R. 422, *The 9-11 Commission Combating Proliferation Implementation Act*, sponsored by Representative Ellen Tauscher (D-CA), Section 101, <<http://thomas.loc.gov/cgi-bin/bdquery/z?d109:h.r.422:>>; H.R. 665, *The Omnibus Nonproliferation and Anti-Nuclear Terrorism Act of 2005*, sponsored by Representative Adam Schiff (D-CA), Section 3 <<http://thomas.loc.gov/cgi-bin/bdquery/z?d109:h.r.00665:>>, and; H.R. 5017, *Ensuring Implementation of the 9/11 Commission Report Act*, sponsored by Representative Christopher Shays (R-CT), Section 323 <<http://thomas.loc.gov/cgi-bin/bdquery/z?d109:h.r.05017:>>.

¹² In 1992, the *FREEDOM Support Act* created an NIS Coordinator position at the Department of State to synchronize all US Government assistance to Russia. This position met with limited success in large measure due to the sheer volume of initiatives ongoing simultaneously. This position would not actively seek to coordinate policy, but rather serve as a passive information clearinghouse.

and Budget (OMB) staff member is charged with overseeing DoD and DoE nonproliferation activities, while another controls Department of State funding. A central coordinating position should be established within OMB to absorb all US Government nonproliferation programming to ensure that financial needs are addressed in priority order.

The discussion of a US Government information clearinghouse for all CNP activities gives rise to another information sharing need that is not yet being met. Both Department of Energy and Defense Department officials suffer from a lack of data on other countries' activities under the Global Partnership. On their visits to host country sites, US officials are frequently surprised to learn that representatives from other Global Partnership contributing states have passed through to discuss similar programs or objectives. In short, not only do US Government officials—usually but not exclusively from different agencies—find themselves stumbling across one another in the field, but the advent of multiple countries implementing nonproliferation efforts in the region has increased the likelihood of being blindsided or undermined by another country's efforts at the same site. This has been promoted by an emerging competitiveness among participating G8 countries to execute projects under national banners as a proviso for expending state funds. Although the State Department does have a point person for coordination of Global Partnership efforts, other US agencies are often unaware of this office's existence and, therefore, have not exploited its critical role.¹³

Promoting Interagency and other International Collaboration
SUMMARY of FINDINGS

- CNP efforts were born in an era of extreme uncertainty in the FSU. Programs have not evolved to meet changing demands. The time is ripe for a full review of all activities to ensure proper prioritization and leveraging.
- Calls for the creation of a nonproliferation czar, even if prudent, are politically infeasible.
- Parochial interests within the implementing agencies must be broken down to ensure appropriate prioritization of activities and budgets.
- A trilateral structure composed of an information clearinghouse at the Department of State, a budgeting oversight office within OMB, and a “court of last resort” at the NSC would be both politically palatable to the agencies and promote maximum return on investment.

Managing Expectations

At the macro-level, CNP efforts have weathered numerous headline “crises” in the US-Russia relationship—for instance, Senate ratification of NATO expansion in 1998, the bombing of Serbia in 1999, the Anti-Ballistic Missile Treaty withdrawal in 2001, and so on. In most cases, this occurred with only minor delays in activities on the ground. This is a testament to the program managers' ability to build trust with their former Soviet counterparts and to the resilience of efforts based on

¹³ The implementing agencies have at times sought to develop *ad hoc* mechanisms to correct for the dearth of information available both across agencies and internationally under the Global Partnership. For instance, the Global Initiatives for Proliferation Prevention (GIPP) at NNSA works closely with their Global Partnership counterparts, in particular Great Britain, Canada, and the European Union. The Russian Government has openly expressed uneasiness over this coordination occurring outside of bilateral Russian channels.

mutually identified objectives. Nonetheless, the critical role that these programs play for overall US defenses against WMD terrorism suggests that greater care must be taken to ensure that subservient foreign policy goals do not unnecessarily trump CNP implementation. Wherever possible, the Executive agencies should work with the NSC to better integrate CNP programs with other US government operations affecting the region. They should also work assiduously to brief Capitol Hill on their activities to minimize legislative restrictions on program execution.

We further conclude that the atmosphere of mutual mistrust at the strategic level has been heightened on the Russian side by a US tendency to over-promise and under-deliver on CNP initiatives. Even if this is due to congressional actions regarding a policy or budget allocation over which program managers have little control, unmet expectations remain an ongoing liability in building the necessary trust to ensure forward momentum. There is a clear understanding within the US Government of the need to account for each host country's threat perceptions and objectives. Joint planning involving the US Government and Russian or other FSU partners would not only facilitate progress, but would also enhance the prospects of sustainability. Only recently have program managers undertaken to offer training to host country officials regarding the bureaucratic requirements within US law for programs to proceed and for funds to be released. When these guidelines are made clear at the outset, program implementation occurs much more effectively as host states understand the processes at play and are better prepared for delays. Conversely, when the terms are not established clearly at the outset, efforts are often plagued by host country misunderstanding, recalcitrance, and obfuscation.

We also found that a persistent hitch in the cooperative nature of CNP activities has been the lack of reciprocity in American demands for access to sensitive sites. Numerous earlier assessments of CNP programs have made calls for a shift in these efforts toward greater partnership by providing similar access to US facilities. To date, however, calls for "true partnership" were simply unrealistic in light of these efforts being funded wholly by Washington. In these cases, the US has had good reason to require transparency or access from the Russians that would not be reciprocated. As Russia begins to put its own money toward these programs, however, an opportunity arises to achieve greater balance in the relationship and thus establish a genuine collaborative relationship based upon parity of interests and goals. Enhanced Russian ownership over the programs will also increase the potential for long term sustainability once US Government investments end.

Managing Expectations
SUMMARY of FINDINGS

- CNP programs operate at peak efficiency when trust and transparency are maximized.
- Joint planning at all stages of program development and implementation fosters a sense of partnership that has proven crucial to program success.
- The Executive agencies should work both at home and abroad to ensure the broad coordination with other US foreign policy objectives and the sustained buy-in of Congress and host governments.

Rethinking Congressional Oversight

We have concluded that, while implications of congressional scrutiny differ, the current form of congressional oversight of CNP programs is problematic for all three implementing agencies. Program managers from DoD, DoE, and State all suffer under the strain of excessive reporting requirements. Competing with their responsibilities for day-to-day management and oversight of their complex and geographically disparate programs is a large number of congressionally-mandated reports whose purpose is often unclear, but whose completion requires a significant investment of time. To the extent that many program implementers are already stretched thin by managerial, contracting, and other administrative requirements, the additional time consumed with reporting in written form to congressional committees is, in most cases, excessive and a potentially poor use of personnel capacity. While generally available to all offices, most reports are read by only a select few interested offices. As a result, the information contained therein, which comes with a significant investment of managers' time, is not transmitted in an effective form to the widest possible audience. We propose that creating a mechanism to brief staffers at regular intervals would be a much more efficient use of both program managers' and congressional staff time and likely would be of greater utility to a wider array of Members and their staffs. Presenting information orally has the added benefit of delivering nuance more effectively, developing personal relationships between agencies and congressional staffers, and, overall, promoting the programs to a wider Capitol Hill audience.

While implications of congressional scrutiny differ, the current form of congressional oversight of CNP programs is problematic for all three implementing agencies.

With respect to nonproliferation programs at the Department of Energy, most Members and their staffs on Capitol Hill do not appear to sufficiently understand, nor value the role, that the National Laboratories perform in the DoE/NNSA's nonproliferation efforts. Seldom, if ever, are Laboratory officials invited to brief Hill staffers beyond their own Representative or Senator's offices on the nonproliferation work they are undertaking. Furthermore, few people on the Hill understand that the scientist-to-scientist relationships promoted by the Lab programs frequently provide the foundation upon which broader cooperation is built. In sum, the lack of opportunities for officials from the National Laboratories to brief Members and their staffs on Capitol Hill regarding their role in the implementation of these programs is a severe impediment to congressional understanding of the DoE/NNSA programs, and detrimental to congressional perceptions of the Laboratories' value. Simultaneously, to the extent that the only Members touting the importance of the Laboratories in CNP efforts and supporting the budgets for their work are those who represent them, others in Congress cynically equate the Laboratories' role in nonproliferation efforts to local "job creation."

Our research found that the metrics used by Capitol Hill in their assessment of program strengths or weaknesses do not allow for sufficient nuance regarding some of the longer-term positive impacts and less-tangible benefits derived from the initiatives. In short, the political necessity to display "impact" and national security benefits are at direct odds with the nature of these programs as cooperative efforts to pursue long-term sustainable security. As a result, unless a clear linear relationship can be drawn between appropriation and outcome, many Members would be more likely

to invest in the “quick fix” options—such as investment in radiation detectors at US ports—even if, in the long run, they are both more costly and less effective than other more enduring approaches. The agencies, along with their private sector counterparts, could play a critical role by highlighting for Congress, clearly and consistently, the tangible benefits derived from CNP investments.

Despite the minimal appropriations dedicated to CNP, a survey of congressional activity suggests evidence of earmarks that frustrate planned agency activities. Given that program implementation funds are stretched exceedingly thin in most cases, the presence of pork-barrel earmarks disproportionately skews managers’ ability to pursue focused programming. The US\$10 million to US\$15 million annual appropriations earmark over the past several years for, “dismantling and disposal of nuclear submarines, submarine reactor components, and security enhancements for transport and storage of nuclear warheads in the Russian Far East” provides a glaring example of how congressional mandates targeting scarce funds can negatively impact CNP priorities.¹⁴ By diverting funds without the benefit of broader priority setting, lower-tier threats are addressed in advance of top-tier concerns.

Like virtually every other venue for government appropriation, earmarks designed to bring benefits back to home states are not the only dynamic warping congressional appropriations. While many congressional offices offer little more than supportive lip-service to CNP efforts, there remains an impetus within the numerous oversight committees to “put a stamp” on nonproliferation activities. Unfortunately, these sporadic attempts to provide strategic or even tactical level direction often come

Earmarks and non-strategic funding mandates should be minimized wherever possible so that longer term strategic planning can identify and pursue the most urgent national security threats in order of priority.

without sufficient understanding as to how they impact program implementation. Consequently, we concluded that earmarks and non-strategic funding mandates should be minimized wherever possible so that longer-term strategic planning can identify and pursue the most urgent national security threats in order of priority.

Finally, while it is clear that more money would translate into faster progress across many programs, oftentimes big boosts to a specific program, especially those via an emergency supplemental, have not always been matched by additional personnel capacity at the agency to efficiently execute enhanced funding—or to garner host government buy-in to permit expanded activities. In many instances, large increases in budgets without sufficient staff capacity within the agencies

leads to inadequate oversight and a dilution of program focus. Furthermore, internal struggles over how the additional monies are allocated across different facets of the program can create destabilizing debates within government departments. Additional funding would certainly signal heightened political attention for these programs, and increase the leverage that the implementing agencies have over their host country sponsors, thus accelerating these efforts. Any budgetary plus-ups must,

¹⁴ The earmark for activities in Russia’s Far East actually dates back to Fiscal Year 1998 and was originally set at US\$35 million annually. See Defense Appropriations Acts from FY 1998 through FY 2006.

however, account for additional staffing needs to ensure effective implementation and sufficiently incorporate the programs into broader, government-wide strategic planning.

Rethinking Congressional Oversight
SUMMARY of FINDINGS

- The implementing agencies (DoD, DoE and State) all suffer under the burden of Congressionally-mandated reporting requirements.
- Reports are not received in a form conducive to Capitol Hill's absorptive capacity for information.
- Capitol Hill's need for rapid quantifiable progress is at odds with the very nature of the programs, and this gulf will widen as programs transition from infrastructure or weapons elimination to capacity development.
- Earmarks and the desire to "put a stamp" on CNP efforts may ultimately hinder program implementation.
- Additional funding should be dedicated only after careful integration across US Government programs and due consideration of the agency's staffing capacity to properly administer these funds.

Eliminating Programmatic Restrictions

Despite weak appropriations and scant political attention paid to the nonproliferation agenda, CNP programs have inspired a disproportionately large number of both internal governmental and external academic studies to assess their efficacy. Even more unfortunate has been the tendency of the Inspector General and Government Accountability Office (GAO) to focus on process, rather than on outcome, in their analyses of these efforts. Prone as such assessments are to pointing out programmatic inefficiencies absent the broader context of success, this leads to an enduring perception in Congress and within the White House of a cacophony of disorganized efforts spread across multiple departments that fail to produce tangible effects. Regrettably, the result has been a willingness to respond reflexively to negative reports with often ill-conceived new restrictions on program implementation. After fifteen years of operation, the Cooperative Nonproliferation programs have collected an overly burdensome series of Legislative and Executive driven impediments to the implementation of their mandate. As a result, long gone are the early days of CTR where program managers had the flexibility and capacity to respond quickly to opportunities and threats on the ground—a debilitating loss of innovation and rapid reaction capability.

Congressional oversight and proper management of the programs within the agencies are critical, but the totality of these requirements has become stifling, threatening the vitality of US Government efforts to ensure that the world's most dangerous individuals do not obtain the world's most dangerous weapons.

In sum, while additional funding would most certainly accelerate the pace with which the terrorist threat is being addressed across the states of the FSU and globally, the single most important element remains the lifting of onerous impediments on program managers. Today, these include budgetary caps on the transfer of funding from program to program, dated contracting mechanisms, and a series of certification requirements that each year threaten the future of vital CNP programming. Congressional oversight and proper management of the programs within the agencies are critical, but the totality of these requirements has become stifling, threatening the vitality of US Government efforts to ensure that the world's most dangerous individuals do not obtain the world's most dangerous weapons.

Eliminating Programmatic Restrictions
SUMMARY of FINDINGS

- All three implementing agencies (DoD, DoE and State) suffer under the burden of congressional and departmental impediments.
- Over time, these impediments have threatened the flexible nature of nonproliferation programming.
- Many of these restrictions could be rethought or adjusted without a deleterious effect on congressional oversight or program management.

Promoting Sustainable Scientist Redirection

The threat posed by excess weapons and materials, while awesome in its scope, was dwarfed in its complexity by the problem of nefarious technology transfer by under- or unemployed FSU weapons experts. The plight of the former Soviet weapons community was indicative of the widespread inability of Russia and the other FSU states to support the massive Soviet weapons complex that they

Unfortunately, none of the existing programs is designed to systematically create the new jobs necessary to sustainably engage weapons experts.

inherited. Within the first year after the collapse of the Soviet Union, life for this once sacrosanct community of scientists, engineers, and technicians was irrevocably altered. Tens of thousands lost their jobs or went months without a paycheck. Even the brightest scientists and engineers were forced to seek work where they could get it—whether driving taxi cabs or selling their talents to foreign governments or terrorist organizations.¹⁵ All told, the Soviet Union's ten closed nuclear cities employed more than 150,000 nuclear scientists and engineers.¹⁶ In addition, 65,000 biological warfare specialists and more than 6,000 chemical weapons experts were employed by the Soviets' massive WMD complex.¹⁷ Many were capable of spreading

¹⁵ Ken Alibek, *Biohazard* (New York: Random House, 1999): 270-279.

¹⁶ Landau Network-Centro Volta, "Analysis: International Cooperation Programs and Russian Nuclear Cities: Future Initiatives, Drawbacks, Strategies and Europe's Role," International Working Group General Secretariat (February 11, 2002): 3, accessed at: <http://www.mi.infn.it/~landnet/ENCI_BRUX/Martellini.pdf>.

¹⁷ Amy E. Smithson, *Toxic Archipelago...*, (1999).

critical components of sensitive information to hostile groups and states. Given the poor economic performance of Russia and other FSU countries, many scientists who could not find jobs elsewhere faced a literal choice: go hungry or sell your expertise to the highest bidder.

The stated objective of all current US Government programs focused on the nonproliferation of expertise is to permanently redirect to peaceful employment these former WMD specialists. Unfortunately, as currently configured, none of the existing programs is designed to systematically create the new jobs necessary to *sustainably* engage weapons experts and thus achieve this objective. Meanwhile, it is this subset of the CNP effort that is addressing the acute and growing need from a proliferation threat standpoint. Ultimately, the excess weapons and materials of proliferation concern throughout the FSU will be consolidated, secured, and eliminated. The diffusion of knowledge is a far more intractable threat whose reach goes far beyond the FSU. Today, we find that the United States Government stands without a coherent, long-term strategy in the face of this threat.

Critical to programmatic success of early redirect efforts was the immediate engagement of a massive scientific community whose expertise, if proliferated, could have significant negative implications for terrorist and rogue state access to weapons of mass destruction. Put crudely, the programs were designed to keep sensitive scientific capacity in place and provide some degree of accounting for the individuals of proliferation concern and their activities.

Parallel programs were launched to shut down or eventually “graduate” legacy weapons research and development and production facilities from US Government assistance to self-sufficiency. As part of this emergency response effort in the early 1990s, little thought was given to long-term sustainability. As long as the experts were not using their talents to inform weapons programs abroad, then the policy objectives of the US Government were considered as being met.

More than a decade later, the environment in Russia and other states of the former Soviet Union has changed dramatically. Newfound wealth derived from flourishing oil and gas industries in several states has made host states far less dependent upon Western assistance—though no less a proliferation concern. With increased host-state resources, lack of clarity over the enduring threat posed by the former weapons community, complicated metrics in measuring program impact, and ever restrictive budgets within the donor community, it is increasingly difficult for the existing programs to justify continued support. Nonetheless, the proliferation threat remains, and may be growing with a new generation of talented yet isolated scientists in the FSU. Inventive new models are overdue and must be developed. At a minimum, account should be taken of the lessons learned through more than ten years of redirect programming.

Ultimately, the excess weapons and materials of proliferation concern throughout the FSU will be consolidated, secured, and eliminated. The diffusion of knowledge is a far more intractable threat whose reach goes far beyond the FSU.

Our analysis revealed that current and previous redirect efforts were designed to produce one of two outputs leading ultimately to redirection: (1) collaborative research and technology development, or (2) restructuring of state-owned weapons institutes and production facilities. To understand the reasons that these approaches do not lead to sustainable employment and the lessons that can be drawn from these programs for future approaches, we offer below a systematic accounting of existing redirect efforts along with an assessment of their shortcomings.

Collaborative Research and Technology Development Approaches

This approach to redirection is based upon the belief that the provision of short-term grants to develop collaborative ties between the scientific community of the US and that of the host country will lead to the development of productive and lasting relationships. These models are, however, experiencing difficulty in creating *sustainable* jobs for the target community because they have failed to identify and engage *employers* for the redirected WMD specialists. Under these programs—which include the Science and Technology Centers, the Bio-Chem Redirect Program (State), the Biological Threat Reduction Program (DoD), and the Initiatives for Proliferation Prevention (DoE)—the moribund weapons institutes effectively “house” the scientists for employment by the donor governments through a collaborative grants process. Targeted researchers in the FSU serve as temporary workers to Western *clients* through the grant period. Rarely is the former weapons researcher hired by the client upon completion of the project, which means that the US or one of the other G7 governments must continue to support research through new grants. None of these governments are or want to be long-term *employers*.

The Science and Technology Centers

The State Department’s initial foray into these critical national security efforts was the establishment of the Science and Technology Centers (STCs) in Moscow and Kiev. While the STCs have been

The resulting inaccessibility of many of the ISTC-funded scientists has given rise to suspicions within the donor community, and particularly within the US Congress, that funds are being diverted for weapons-related purposes rather than in service of the nonproliferation mission.

largely successful in providing scientists with short-term financial means to survive (thus keeping them away from rogue states and terrorist groups), efforts to find sustainable commercial opportunities for the target population have confronted an array of potentially insurmountable structural hurdles to sustainability. In large measure, this is due to a decision at the program’s inception to keep scientists of proliferation concern at their erstwhile weapons institutes while they are receiving STC funds. The resulting inaccessibility of many of the scientists funded by the International Science and Technology Center (ISTC) has given rise to suspicions within the donor community, and particularly within the US Congress, that funds are being diverted for weapons-related purposes rather than in service of the nonproliferation mission.

In most instances, the ultimate purpose of funded scientific activities within the institutes remains ill-defined, the output of the scientists is seldom valued by paying customers, and the scientists rarely secure sustained employment. Even the advent of an industry partners program designed to marry the scientific

community with the private sector has failed to systematically pull the target constituency out of their institutes and into commercially viable private enterprises. This, combined with the historical trend to fund basic research without strong market pull, has resulted in relatively few commercial opportunities—and therefore, few instances of sustainable redirection.¹⁸ Instead, the majority of scientists thus far engaged by the STCs require additional grants to remain employed by their host institutes. Once donor country investments to the STCs cease—as they inevitably will—the “brain drain” threat from the region is likely to resurge.

The Bio-Chem Redirect Program

To address the STC’s failure to create valued outputs from funded research, the State Department has launched an effort to identify common interests across other US Government agencies. Through the Bio-Chem Redirect program, the State Department has attempted to engage these agencies as *consumers* of the WMD scientists’ research services by creating a network of initiatives at the Department of Health and Human Services, the Department of Agriculture, the Food and Drug Administration, and the Environmental Protection Agency.¹⁹ Under this model, the US Government is creating demand by directly funding research. The absence of private sector actors as long-term *employers* of this talent, however, means that government funding will be required for as long as it remains in the US interest to provide stable employment to this group of scientists.

The absence of private sector actors as long-term employers of this talent means that government funding will be required for as long as it remains in the US interest to provide stable employment to this group of scientists.

The Biological Threat Reduction Program

The Biological Threat Reduction Program (BTRP) program at the Pentagon provides an interesting model for leveraging the talent on an ongoing basis for US and international disease surveillance needs. The BTRP program has sought to create a network of scientific expertise to form the basis of an “early warning” system for emerging infectious diseases throughout the region. The starting premise of incorporating that talent to meet an *ongoing* and *sustainable* demand—albeit one that will require ongoing US Government or other international support—is an important step in the right direction. Like BCR, however, it is unclear if there will be continuing patronage of these surveillance networks by either the local or international public health bureaucracies.

The Initiatives for Proliferation Prevention

The US Department of Energy’s IPP program has gone further than any of the others to engage the private sector in its efforts to create sustainable employment. By linking FSU scientists with industry

¹⁸ The ISTC today receives external contributions from the European Union, the United States, Japan, Norway, Canada, and the Republic of Korea. See www.istc.ru.

¹⁹ For example, in 1998, at the request of and with funding provided by the US Department of State, HHS developed the Biotechnology Engagement Program (BTEP) to engage former biological and chemical defense scientists in the Russian Federation and other states in the former Soviet Union, to participate in collaborative research on applied high-priority public health problems. For more information go to: <<http://www.btep.net>>.

partners, the IPP attempts to establish commercially viable opportunities that will lead to employment.²⁰ Unfortunately, like the others, it has engaged companies primarily as customers of the specific talent or technology, rather than as employers of the WMD specialists.

At the heart of the IPP program are the US National Laboratories and the US Industry Coalition (USIC), a nonprofit association of the private sector participants chartered by Congress and funded by DoE, which essentially manages IPP on behalf of NNSA. Laboratory personnel recruit the corporate participants, manage the application process, and then oversee the work undertaken by the targeted FSU scientists, all while maintaining relationships with the FSU institutes that promote future collaboration. The research, however, is done *within and under the control* of the former

By virtue of expanding the network of relationships between US and Russian scientists and engaging some businesses with a strategic interest in the region, the IPP program has been a successful, useful, and innovative experiment.

weapons institutes, rather than through IPP's Industry Partners, which are usually restricted to making in-kind contributions. Companies' participation is further limited by their lack of control over the activities of the individual scientists involved. A successful IPP project will produce "proof of concept" for a technology or in some cases a prototype with commercial potential. The next step is proving this potential by engineering a commercially viable product, at which point it is often the case that few, if any, members of the original FSU research team are needed. Therefore, the incidence of IPP projects leading to new, sustainable jobs for the target community is relatively low.

Nevertheless, IPP has made considerable progress in demonstrating the significant nonproliferation and economic benefits that can be realized from effective engagement of companies as employers. Overall, 16,000 specialists at more than 180 institutes have been engaged by IPP.²¹ Regardless of the fact that nearly \$200 million has been spent to date, fewer than 3,000 jobs have been created. Nonetheless, by virtue of expanding the network of relationships between US and Russian scientists and engaging some businesses with a strategic interest in the region, the IPP program has been a successful, useful, and innovative experiment.

Restructuring of State-Owned Enterprises

Parallel to models of engagement that sought to develop collaborative ties between the scientific communities in the United States and the FSU are a series of programs that have worked to manage the legacy infrastructure of former weapons facilities—and by extension, the individuals employed by those facilities. Under these programs—the terminated Defense Conversion Program at the Pentagon, the BioIndustry Initiative (BII) at the Department of State, and the recently defunct Nuclear Cities Initiative (NCI) at the Department of Energy—the US Government sought to attain the mutually reinforcing objectives of eliminating a specific weapons production line, creating sustainable jobs, and introducing new technology and industrial capability to the region.

²⁰ United States Industry Coalition, "Reducing Proliferation Risks" *IPP Program*, accessed at: <<http://www.usic.net/usic/test1.nsf/Links/Reducing%20Proliferation%20Risks>>.

²¹ Ibid.

The Defense Conversion Program

The Defense Conversion program at DoD was the first attempt at restructuring former weapons facilities in the FSU. Approximately sixteen joint ventures between US companies and the former weapons plants were funded through individual grants of up to US\$5 million. Among these, only a handful succeeded in being converted to peaceful, commercially operated facilities. Those that did succeed created commercially sustainable jobs and introduced new technology and industrial capability to the region. They also provided extensive training in business management, quality assurance, and quality control. In the most successful scenarios, converted companies created local demand for goods and services while advocating for a better business environment. One converted plant fabricated virtually all of the equipment needed to shut down a local plutonium-producing reactor in a subsequent nonproliferation project undertaken by the US Department of Energy. Ideally, this sort of synergistic activity would be designed into future nonproliferation programs. Regrettably, these examples were not indicative of other Defense Conversion efforts, which generally suffered from a lack of business acumen, insurmountable hurdles erected by the host government, a lack of ownership, or unforeseen and massive cost overruns associated with the conversion effort.

Defense Conversion proved to be a costly failure for DoD, but the program offered a rich series of lessons. Replicating the success of the model of defense conversion while avoiding its shortcomings should be the goal of US Government efforts to introduce sustainability and coordination to scientist redirection. According to the businesses surveyed by the Stimson team, above all, successful engagement requires a business structure with clear ownership and the management expertise and organizational capacity to ensure that the facility's human and material resources are efficiently engaged in producing value for a reliable stream of paying customers. As a practical matter, this means recruiting companies with a strategic reason for entering the former Soviet Union, and with existing products or services that can be competitively produced for an existing customer base. These companies can help create strategic value by meeting other foreign policy objectives in nonproliferation and economic development.

Replicating the success of the model of defense conversion while avoiding its shortcomings should be the goal of US Government efforts to introduce sustainability and coordination to scientist redirection.

The BioIndustry Initiative

In recognition of existing STC and BCR impediments to sustainable redirection, and the growing concerns about biological weapons proliferation, the State Department created the BioIndustry Initiative to bring commercial actors into the fold and generate opportunities for unemployed or underemployed bioweaponers. While BII is a step in the right direction, this effort, like the STCs, appears to face formidable difficulties in creating widespread opportunities for sustainable commercial employment. To date, the focus of the BII has been on facilities restructuring or conversion. The biological research and production facilities throughout the FSU were heavily contaminated by their Cold War labors and their conversion to meet global standards for Good Laboratory (GLP) and Good Manufacturing (GMP) Practices is both questionable and costly. BII has set about replicating many of the previous and failed efforts of the DoD's Defense Conversion

program and DoE's Nuclear Cities Initiative to convert dated facilities into modern enterprises capable of competing in global markets.²²

The Nuclear Cities Initiative

The mandate of the now-defunct Nuclear Cities Initiative was to help Russia downsize its nuclear weapons complex by introducing commercial enterprises and redirecting employment in Russia's ten closed nuclear cities. Working with the US Laboratories, NCI first attempted to convert large defense production facilities into civilian applications. When access limitations caused these attempts to fail, both Russian and US Government actors concluded that the creation of "technoparks" outside of the fences of the closed cities was a more cost-effective and viable strategy to engage the targeted population of weapons specialists. NCI also worked to train a number of specialists from the WMD complex in management, English, business plan development, and strategic planning, with the aim of encouraging development of a non-WMD economy within the closed cities. In some cases, this has created a fledgling market that vies with the WMD institutes for high technology skills either locally developed or recruited. While the groundwork has been laid, with approximately thirty-five NCI-businesses developed across its three target nuclear cities, this nascent effort requires more cultivation and global exposure to have an assured long-term significant impact. NCI ceased operations on September 22, 2006, due to continued disputes between Washington and Moscow over liability protections, along with a lack of political support for the program across the US government.

The Civilian Research and Development Foundation

With existing models of engagement under siege, and with private sector engagement increasingly seen as a lever toward program sustainability beyond the US Government funding horizon, the Civilian Research and Development Foundation could become critical to mission success. Over time,

CRDF represents a unique and underutilized tool for the United States Government to not only better leverage and integrate programming across government agencies, but also to act innovatively due to fewer bureaucratic restrictions.

CRDF has become an indispensable partner in the efforts of all three agencies, from management support under a Defense Threat Reduction Agency contract for cooperative biological research, to facilitating the transfer of equipment for NNSA's nonproliferation programs, to support for implementation of the State Department's BioIndustry Initiative and the Science and Technology Centers. CRDF represents a unique and underutilized tool for the United States Government to not only better leverage and integrate programming across government agencies, but also to act innovatively due to fewer bureaucratic restrictions. If offered sufficient means and an enhanced mission, CRDF's Industry Grants Program and its potential involvement in activities across government agencies could increase industry's role in successful, sustainable redirection. Exploiting CRDF's potential in this manner would offer an elevated return on investment as

²² The BioIndustry Initiative and the Bio-Chem Redirect programs at the Department of State were the only US Government efforts which declined to participate in our study. Thus, the conclusions drawn regarding those programs are best estimates based upon discussions with the private sector, other government representatives, and publicly available information.

compared to similar efforts embedded within US Government agencies and an enhanced opportunity for sustainability.

Restructuring of State-Owned Enterprises
SUMMARY OF FINDINGS

- Restructuring *can* produce commercially sustainable employment.
- State enterprises are not capable of restructuring themselves into commercially viable businesses.
- Commercial restructuring provides the greatest total return on investment for governments because the benefits far exceed the core nonproliferation goals.
- Such efforts are potentially risky and may be much more costly in the long run than “greenfield” efforts.
- The BioIndustry Initiative has yet to demonstrate how it will create sustainable employment.
- The capacity offered by the Civilian Research and Development Foundation could be the most efficacious and cost-effective mechanism to implement new, sustainable models of scientific engagement.

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COOPERATIVE NONPROLIFERATION: GETTING FURTHER, FASTER

While the CNP agenda has been an unparalleled national security success, US Government efforts are not operating at peak efficiency. Below we offer a pragmatic set of solutions to Congress, the agencies, and to the private sector that, if implemented, will go far toward maximizing US return on this critical national security investment. We divide our recommendations into crosscutting proposals affecting programs across the US Government, and agency-specific recommendations for the Departments of Defense, Energy and State. In summary, our recommendations include:

Crosscutting Recommendations:

1. **Prepare a Global Reassessment of Risks and Objectives:** The National Security Council should appoint a single individual to coordinate a comprehensive assessment of global nonproliferation threats and CNP program responses;
2. **Leverage Existing Structures for Continuity and Coherence:** A new tripartite structure involving the National Security Council (NSC), Office of Management and Budget (OMB), and the Department of State should be created to settle disputes, ensure budgetary prioritization, and enhance information sharing and coordination;
3. **Leverage Synergies Across All Contributory States to the Global Partnership:** Following a survey and reassessment of its own activities (see Recommendation #1), the US Government should work collaboratively with other contributors to the Global Partnership Against the Spread of Weapons and Materials of Mass Destruction to identify common objectives and leverage opportunities that maximize sustainability and return on investment;
4. **Promote Implementation of UN Security Council Resolution 1540:** The global nonproliferation toolkit created by US Government planning and G8 coordination should be leveraged in direct support of the effective implementation of UN Security Council Resolution 1540;
5. **Move from Patronage to Partnership:** Where possible, reciprocity and collaboration between the US and host governments in program conception and implementation should be promoted to alter the CNP dynamic from one of “patronage” to one of “partnership;”
6. **Manage Expectations, Buy-in, and Sustainability:** Greater attention should be paid by the agencies during program development stages to build consensus through negotiation and outline processes through training to ensure the buy-in of the host country and promote sustainability;
7. **Establish a Novel Congressional Mechanism for Oversight and Support:** The United States Congress should establish a bi-cameral congressional task force to receive regular briefings from an array of government, private, and non-governmental experts to facilitate improved oversight of the CNP programs and reduce the administrative burden on personnel within the Executive agencies;

8. **Sustain Redirected Scientific Talent of Proliferation Concern:** The US Government should reexamine the goals of all programs that promote global scientific engagement as a route to nonproliferation and begin to more directly work with the private sector to transition the target community from short-term grants to long-term employment whenever possible;
9. **Establish a Business Roundtable to Identify Synergies with US Government Programming:** Following the global reassessment of threats and CNP activities (See Recommendation #1) that should incorporate US Government interests beyond the immediate nonproliferation objectives of these programs, a periodic business roundtable should be convened to begin surveying synergies between government and industry needs and objectives.

Department of Defense:

10. **Refine the Master Plan for Cooperative Threat Reduction:** The Department of Defense should reevaluate its individual “country plans” to better integrate these with other DoD activities, as well as wider US Government objectives and programs;
11. **Address Staff Shortfalls at the Department of Defense:** The CTR Directorate at the Pentagon should establish a formal program whereby scientific detailees from other agencies augment any existing staffing shortfalls. In addition, there is a particular need for new permanent staff within the CTR Directorate with expertise in acquisition;
12. **Adjust the Cooperative Threat Reduction Contracting Process:** DoD should move beyond the Cooperative Threat Reduction Integrating Contract (CTRIC) model and make use of the various contract mechanisms that are available, including direct contracts with other US Government entities or with host nation firms, award/fee contracts, fixed-fee contracts, and incentive fees to address changing threats and opportunities on the ground;
13. **Pair Program Budgets with Program Priorities:** The White House and Congress should ensure that political commitments are followed up with the appropriate budgetary allocations to avoid a mismatch between promises and expectations within the host country;
14. **Remove Restrictions on Cooperative Threat Reduction Expenditures:** Congress should lift the legislated ceiling on annual maximum allowable increases on CTR budget line items;
15. **Promote Transparency with Capitol Hill and the Media:** The DTRA public affairs office should assume a more proactive stance in hailing the successes of the Cooperative Threat Reduction programs on Capitol Hill and to the media directly.

Department of Energy:

16. **Define Agency Turf and Eliminate Conflict:** The roles and responsibilities of each agency must be clarified at the outset of each new initiative by defining a clear line between the termination of one agency’s role in negotiation and another agency’s role in implementation;
17. **Promote Sustainability and Leverage Existing Programs:** NNSA should work aggressively to break down stovepipes between programs and leverage opportunities to jointly pursue objectives and promote sustainability;
18. **Recognize the Role of the Private Sector in Addressing the Brain Drain Threat:** Congress should immediately work to enhance the flexibility and performance of the

Initiatives for Proliferation Prevention (IPP) program by giving the private sector wider berth to exploit redirection and market pull opportunities;

19. **Enhance Efforts to Inform Congress:** DoE/NNSA should initiate regular briefings for Members and staff to enhance transparency, encourage oversight, and build greater awareness of its programs on Capitol Hill;
20. **Remedy the NNSA Contracting Bottleneck:** Staff of the Albuquerque Service Center should be augmented to help eliminate contracting bottlenecks for NNSA program implementation;
21. **Eliminate Unnecessary Funding Restrictions:** Congress should immediately eliminate restrictions that divide DoE funding into program funds (for implementation of program activities) and program direction funds (which support NNSA personnel, travel, training, *etc.*).

Department of State:

22. **Create a US Government Nonproliferation Clearinghouse:** The Department of State should establish a new office that serves as an information clearinghouse for all agency and G8 activities to avoid duplication of effort and maximum use of resources;
23. **Shore Up Capacity at the Department of State:** Within the context of the US Government-wide reevaluation of CNP programming (See Recommendation #1), special attention should be paid to the various redirection/engagement programs at the Department of State, with renewed emphasis placed upon those efforts that can most effectively support long-term sustainability;
24. **Rethink the Role of the STCs, Facility Conversion, and CRDF:** As with NNSA efforts, State redirection programs should work toward greater involvement of the private sector;
25. **Eliminate Legislative Impediments to Progress:** Congress should amend the provisions on certification to offer permanent Presidential waiver authority, or at least align reporting requirements so that they occur simultaneously.

1

Recommendation One: *Prepare a Global Reassessment of Risks and Objectives*

Findings

The Cooperative Nonproliferation programs were conceived and launched in the early years following the unanticipated collapse of the Soviet Union. This time period was characterized by major political, social and economic transition throughout the region. Despite radically different circumstances in Russia and the other former Soviet states today, there has not been a global reassessment of these programs' roles and objectives to ensure efficiency and effectiveness in the current strategic environment. Not only is there a need to reevaluate the original patchwork of nonproliferation programs that have evolved, but the other major programs established at the Department of Homeland Security and elsewhere after September 11 to address a more diffuse scope of threats should be evaluated as well. All of these efforts have not been integrated into a holistic and coordinated strategy to combat proliferation risks from various groups and states.

Impact

A common criticism of CNP programs has been the lack of a focal point within the government to assess priorities, allocate budgets, and delegate authority across multiple government agencies. This absence is exacerbated by the annual budget process, which stovepipes funding within agencies without a process to recalibrate efforts based upon changing threats. Not only does this promote redundancies and inefficiencies across programs, but it frustrates efforts to pair budget priorities with security priorities.

Recommendation

A National Security Council designee should spearhead an interagency process to reassess the global role of CNP efforts in today's context, including those that have arisen in the past few years. Such a close examination of the entire suite of programs across all relevant government agencies should strive to eliminate duplication, consolidate where necessary, prioritize activities, and fill any gaps within existing efforts. Not only do the changed circumstances in Russia and the region call for a reevaluation, but the role of CNP efforts beyond the FSU needs to be revisited in light of new opportunities, such as the Global Partnership Against the Spread of Weapons and Materials of Mass Destruction, UN Security Council Resolution 1540 and the recently announced Global Initiative to Combat Nuclear Terrorism.

The central objectives of this reassessment are two-fold: 1) to produce a detailed and timely analysis, including an "exit strategy" for US assistance where appropriate; and, 2) to provide the foundation for an ongoing interagency process led by the NSC that involves OMB, as well as the State, DoE/NNSA and Defense Departments (See Recommendation #2).

2

Recommendation Two: *Leverage Existing Structures for Continuity and Coherence*

Findings

The Departments of Defense, Energy and State all suffer under significant programmatic impediments resulting from unclear authorities between agencies or discontinuities in the interagency process. Furthermore, a definitive need exists for greater information sharing among agencies regarding their programs and activities in the field. This information deficit is further complicated by the ongoing programs and activities of other countries participating in Global Partnership efforts. It is common for multiple agencies to simultaneously plan and pursue opportunities on the ground in the FSU only to learn of one another's efforts—or other states' efforts—through their host partners.

Impact

The impact of agency parochialism exacerbated by an ineffective interagency process and a lack of transparency are manifold. These include, but are not limited to: delays in the execution of programs, redundancies in efforts, unrealized potential to build synergies within or between agency efforts, and a potential for CNP efforts to work at cross-purposes with or be impeded by other foreign policy objectives. The implications are potentially far more sweeping due to a lack of coordination across G8 partner countries.

Recommendation

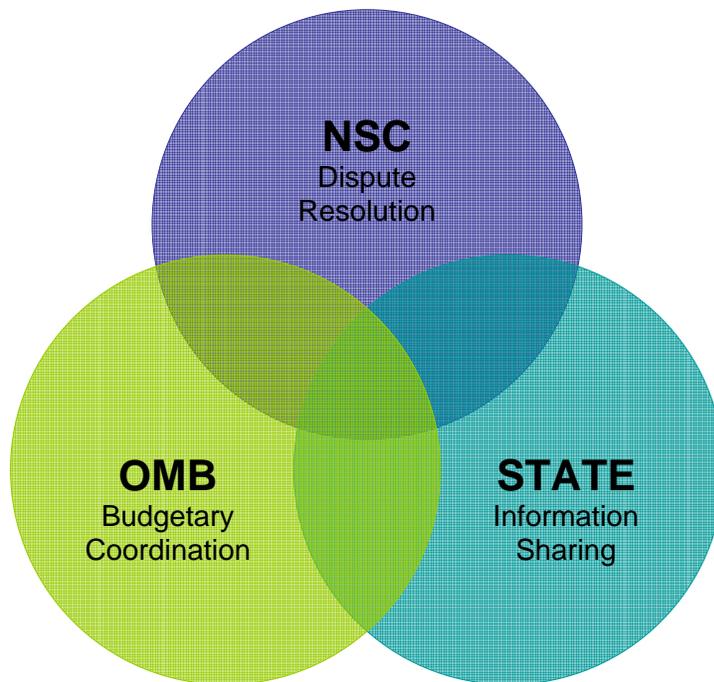
The global reassessment of risks and objectives (See Recommendation #1) should be used to build a foundation for an ongoing process within the US Government to set priorities, ensure coherence, and streamline ongoing activities. Building this foundation and spearheading the process will require knowledgeable and active engagement by a National Security Council official. The NSC official will work hand-in-glove with the appropriate OMB, State, Energy and Defense Department officials, and with Capitol Hill, to provide the assessment outlined in Recommendation #1 and prepare the foundation for an ongoing interagency process to implement these findings and maintain coherence and efficiency in the US Government's CNP efforts as a whole. Once the overarching strategy is determined, the NSC will serve as a "court of last resort" for disputes arising between agencies.

In addition, we recommend the creation of an office at the State Department as the US Government's "information clearinghouse" for all agencies' CNP-related activities, as well as the information collection and distribution office for timely information regarding Global Partnership programs and field activities. This office will be responsible for collection and dissemination of information regarding the status, site visits and objectives of each program. The office will not have operational control over programs, but rather serve as a node for ongoing communications and information sharing.

Finally, we recommend the amalgamation of responsibility for all Cooperative Nonproliferation budget oversight within a single individual within OMB. The urgency of the threat necessitates that the sole responsibility of this office should be to ensure the systematic and deliberate prioritization of budgets based upon the security priorities as defined by the NSC coordinator in conjunction with the Departments of Energy, Defense and State, as well as the intelligence community. The urgency of the proliferation threat surely justifies the creation of a special budget coordinator's office within OMB.

FIGURE #2

Proposed Tripartite Structure for Budget Coordination, Information Sharing, and Dispute Resolution.



3

Recommendation Three:

Leverage Synergies across all Contributory States to the Global Partnership

Findings

The United States Government spearheaded the launch of the Global Partnership Against the Spread of Weapons and Materials of Mass Destruction in 2002 at the G8 Summit in Canada. The goal is to secure US\$20 billion for use in Russian nonproliferation projects during the course of a ten-year period. The United States has pledged US\$10 billion in support of this effort and in keeping with its current pace of CNP spending.

To date, the Global Partnership is US\$1 billion short of its goal. More distressing, however, is the pace at which existing pledges are being converted into projects on the ground in the region. As of last year, only sixteen percent (16%) of pledges have been committed to programmatic activities.

Impact

In large measure, this is due to continued reluctance of many of the smaller state contributors, such as France (€750 million) and Italy (€1 billion), to “piggyback” their commitments on other states’ projects. Because many projects within the host countries require larger investments than these donor states are willing to contribute, and due to their unwillingness to commingle their funds with other states’ contributions, they have been unable to translate their pledges into nonproliferation programs in support of the Global Partnership.

Recommendation

The internal reassessment of US Government-wide objectives beyond the immediate nonproliferation goals of CNP (See Recommendation #1) provides a unique opportunity to highlight the synergies that states can derive in support of nonproliferation, economic development, public health, and myriad other policy objectives. The US Government should share the results of its findings and press the G8 and other contributing states parties to: (a) search for similar domestic commonalities that combine their respective Global Partnership investments with other foreign policy spending, and (b) encourage wider collaboration internationally to better leverage Global Partnership funding across national boundaries.

4

Recommendation Four: *Promote Implementation of UN Security Council Resolution 1540*

Findings

While the states of the FSU are perhaps the *largest* potential source of proliferation, anecdotal evidence suggests that they are not the only source. Today, intelligence suggests that up to 12 states are suspected of harboring nuclear, biological or chemical weapons programs. Until the motivations for WMD acquisition can be addressed, this number is only expected to grow.

To help close the gap and strengthen the global nonproliferation regime, the United Nations Security Council unanimously passed Resolution 1540, mandating that all UN Member States implement a set of supply-side controls and criminalize proliferant activities within their territories. The April 2004 resolution was introduced with great fanfare, marking the most significant opportunity since September 11th to pragmatically pair states-at-risk with the technical and financial assistance they require to conform to global nonproliferation norms.

Global implementation of 1540 will demand that the tools under the rubric of “collaborative nonproliferation” be sharpened, extended, and fully exploited. Moreover, eliciting the political will to use these tools in a widespread capacity-building effort requires recognition of the nexus between international nonproliferation objectives and the vulnerabilities associated with states-at-risk. The breadth, resilience, and adaptability of the Cooperative Nonproliferation toolkit are its key strengths and the main reason that its application extends far beyond the territory or challenges arising from the Soviet Union’s collapse. The spin-off benefits from these programs have been immense and have included not only security payoffs, but also advances in global development, technology and skills transfer, enterprise development, and rule of law programming. Because of bureaucratic stove-piping, however, the United States Government has never fused hard and soft security efforts in an attempt to maximize return on investment.

Impact

Whereas the Global Partnership represents a major step forward in meeting the original objectives of collaborative nonproliferation and a foundation for activities inside of the former Soviet Union, UN Security Council Resolution 1540 puts forward a vague notion of technical assistance to implement a global mandate stipulated by the UN Security Council. In many cases, however, states that have the means to become global proliferators lack supply-side capabilities to prevent weapons diffusion. The result is that they are likely to become unwitting contributors to global terrorism.

Recommendation

The Cooperative Nonproliferation toolkit, made international by the Global Partnership, provides a logical platform from which to implement UNSCR 1540 and a global supply-side approach to nonproliferation. In contrast to other initiatives focused on the assistance offered by CNP

programming, the US Government should take the lead in coordinating a sustained program to match the expanded tools of CNP with apparent need. Coupling the Security Council-imposed standard with a comprehensive international toolkit of resources, both technical and financial, would achieve an integrated framework for managing supply-side proliferation risks—including those from non-state actors.

5

Recommendation Five: *Move from Patronage To Partnership*

Findings

As mentioned above, several other analyses of CNP efforts have indicated the necessity to move the US-Russia relationship from one of “patronage to partnership.” Agency officials and their private sector counterparts are acutely aware of the “donor” issue as an ongoing impediment to progress and sustainability. Government officials also recognize that the dynamics of the current relationship put the US at a disadvantage in negotiations with their Russian counterparts due to varying threat perceptions and Russia’s greatly improved economic circumstances.

In light of the radically changed political and economic environment in the region, and as one likely result of the global assessment set forward in Recommendation #1, the moment is ripe for finding common ground and fundamentally transforming this relationship. Furthermore, the commitments made at the recent G8 Summit in Saint Petersburg provide an appropriate foundation and propitious opportunity to achieve this objective.

Impact

The imbalanced nature of the US-Russia relationship has been a systemic impediment to achieving faster progress from the very beginning of CNP efforts. While US policymakers were entirely justified in presuming that reciprocity was unnecessary so long as the US “paid the bills,” the lack of Russia’s willingness to provide the access or transparency necessary to ensure appropriate use of US taxpayers’ money at sensitive sites and facilities has precluded achievement of US objectives in numerous instances. This longstanding and pervasive impediment is likely to become an intractable barrier due to Russia’s improved economic situation. Whereas earlier US support for these efforts was a requirement and the Russians were more eager to leverage these financial contributions, this is no longer the case. Lastly, the gap between US and Russian threat perceptions only further serves to undermine efforts toward sustainability and disadvantages the US in its negotiations with Russia. Where the host government sees no threat, it is unlikely that it will invest local resources to maintain US Government investments once CNP financing is terminated.

Recommendation

A reassessment of the prospects and pitfalls of US-Russian relations would presumably be a fundamental component of Recommendation #1. Not only should the radically changed economic situation provide the context for a fresh look at US Government programs with Russia, but the analysis should include concrete measures for leveraging recent US-Russian agreements and beginning the transition from patronage to partnership. For example, the recent Bush-Putin announcement of the Global Initiative to Combat Nuclear Terrorism and commitments toward full implementation of UNSCR 1540 provide an opportunity to achieve a fundamental transformation in the relationship. Implementation of the Global Initiative in particular should begin with achieving

consensus on the threats (internal and global), agreed upon standards for safety and security of nuclear weapons and materials, including information exchanges and reciprocal on-site visits to ensure adherence to such standards, and joint measures to assist other countries in meeting standards to combat nuclear terrorism and implement UNSCR 1540.

6

Recommendation Six: *Manage Expectations, Buy-In, and Sustainability*

Findings

Today, three common themes are challenging the CNP agenda across each of the principal implementing departments: (1) the longstanding perception of unmet expectations, both in the US and the host countries; (2) the need for stronger host country buy-in at the outset of any major program; and, (3) the prospects for sustainability after the conclusion of US support. Clarity regarding US commitments and objectives, in conjunction with meeting the host countries needs and/or addressing any mismatch in threat perceptions, would go a long way toward helping to build a foundation for program stability and long-term sustainability.

Impact

Both the implementing agencies and their private sector counterparts recognized the need for more planning, consensus-building and clarity regarding procedures between the US and host countries at the front end of program execution. This balancing of expectations would avoid misunderstanding and the souring of relations due to program changes midstream or due to blatant misunderstandings over incorrect assumptions. US efforts to ensure sustainability will enjoy a more solid foundation if they build a consensus regarding the host country's needs and objectives. Without this foundation at the outset, US efforts will likely meet with resistance in program implementation and find transition to an exit strategy exceedingly difficult. For example, the US Government has invested substantially in Russia to address the threat of unsecured weapons-grade materials. The Russian Government is far more preoccupied with the threat presented by "dirty bombs" and has prioritized domestic funding on that basis. This differing threat perception will challenge sustainability once US assistance ceases.

Recommendation

At the start of any program, the agency involved should build consensus with the respective host country regarding the threats and ensure host country support for the objectives and commitments to sustain the efforts after US support ends. Ideally, the beginning of every iteration of a program would include "training" elements for host country counterparts regarding US processes and procedures.²³ Experience has shown that program execution becomes immeasurably more fluid absent unrealistic expectations from host country participants. The problem of unfulfilled expectations based on a glitch between agencies and/or congressional changes to a program's parameters or budgets can be mitigated by the proposed interagency and congressional task force processes and structures outlined in Recommendations #2 and #7. Also see Recommendation #5 for Russia-specific issues and proposed solutions.

²³ The Department of Energy initiated a training program for host country personnel to clarify US budget and contracting processes. Due to the perceived success of these training modules in helping to manage host country expectations and avoid misunderstanding in the ongoing efforts, the Defense Department has since started providing them in certain instances as well.

7

Recommendation Seven:

Establish a Novel Congressional Mechanism for Oversight and Support

Findings

A survey of CNP program implementation suggests that Cooperative Nonproliferation programs have never been embraced at sufficiently high levels to become an “organizing principle” for a US non-proliferation and counter-proliferation strategy. Over time, this collection of acronyms across multiple US Government agencies became relegated to a limited role of administering supply-side measures applicable to the former Soviet Union and, perhaps, other discrete scenarios. Their low-level status within the agencies, mirrored by relatively meager funding allocations in the President’s Budget, has limited the incentives for the Legislative Branch to further promote these activities. In addition, the complex, multi-jurisdictional and preventive nature of funding allocated for CNP efforts stymie the intermittent efforts on Capitol Hill to generate greater support and assist in “organizing” the Executive Branch’s efforts.

All three Executive agencies, as well as many of their private sector counterparts, suffer under cumbersome “congressional oversight” activities – reporting requirements, nonsensical earmarks, lack of nuance in metrics for progress, and insufficient understanding of the programs. While it is a universal truth that agencies will balk at congressional actions that limit their flexibility or mandate greater transparency, common ground must be found to rectify the deadlock. In our assessment, the complexity of these programs, their dispersion among multiple agencies, the limited agency personnel responsible for executing them, and the relatively small budgets afforded them all suggest that finding a more effective and less time-consuming means for informational exchanges between the agency actors and their congressional counterparts would be highly advantageous to both parties. Creating an informal convening mechanism within Congress that includes all interested personal office and committee staff, with the potential for occasional participation of Members, would not only enhance Congress’ internal policymaking coherence on CNP efforts, but would serve to bolster its knowledge base regarding the processes and larger prospects for these programs in meeting some of the US’ non-proliferation and counter-proliferation objectives.

Impact

The impact of the institutional barriers in Congress, as well as the disconnect between Capitol Hill and the agencies for which they provide “oversight” in these programs, is that CNP activities are afforded neither the time nor the attention they deserve as critical elements to the US’ defensive strategy. More importantly, Congress has been culpable of intentionally or inadvertently creating obstacles to achieving faster progress in these efforts through ill-informed earmarks and onerous reporting requirements.

Recommendation

In light of the obstacles internal to the Legislative Branch and the need for greater communication between agency officials and their congressional counterparts, we propose the creation of a bicameral congressional task force whose objective is to regularly provide briefings from a broad array of the actors involved in actual implementation of CNP initiatives. This internal congressional mechanism would provide the necessary institutional counterpart to the more coordinated interagency efforts outlined in Recommendation #2. The sponsorship of Members of Congress and a minimum of internal support could be bolstered by collaborating with a non-partisan policy institute willing to facilitate the organization of the briefings, provide synopses of each briefing and facilitate outreach beyond those in actual attendance, when necessary. Although a Nonproliferation Task Force, currently chaired by Representatives Edward Markey (D-MA) and Chris Shays (R-CT), already exists in the House, its wherewithal is limited to one full-time fellow from the American Association for the Advancement of Science who rotates annually. Also, the Russian American Nuclear Advisory Council (RANSAC) runs a very successful annual briefing series with numerous sponsors from both chambers. Similarly, the Center for Strategic and International Studies (CSIS) runs an ongoing educational series on proliferation issues, and the Stimson Center's *Security for a New Century* program offers ongoing briefings for all interested staff on a broad array of current security challenges. The key differences between these activities and this proposed series would be its structure, the continuity provided in terms of key staff and agency official participation, and a narrower focus on the operational elements of CNP efforts.

8

Recommendation Eight: *Sustain Redirected Scientific Talent of Proliferation Concern*

Findings

The threat posed by the proliferation of potentially nefarious knowledge is creating a growth industry in the FSU and around the globe. Meanwhile, programs focused on redirecting scientific capacity of proliferation concern in the FSU toward peaceful pursuits are facing premature elimination. We have found that:

1. The programs have not sufficiently inculcated “lessons learned” from more than a decade of efforts in conversion and commercialization, and have been structurally impaired by congressional authorities from reacting inventively to the continued threat of brain drain from the states of the former Soviet Union;
2. Existing programs focus on scientific collaboration (Science and Technology Centers, Bio-Chem Redirect program) or technology development (Initiatives for Proliferation Prevention), rather than sustainable job creation through “market pull” models. As such, permanent job creation has occurred by accident rather than design;
3. The shortfall of the government-funded redirect efforts outlined above is that sustainability hinges on continuing government support;
4. No systematic effort has been made to address the next generation of FSU scientists who may possess potentially dangerous capabilities, who are not engaged in global research networks, and who therefore may have the motivation to proliferate;
5. Too little effort has been made to include industry actors as *employers* rather than *customers* of technology and “incentivize” their employment of the scientific capacity of proliferation concern; and,
6. The focus on “conversion” of existing facilities and providing salaries to keep scientists in place at their erstwhile weapons institutes has hindered the creation of sustainable commercial employment opportunities and downsizing of the WMD complex.

Impact

While the redirect programs are critical to US security, they are underperforming as currently configured. US programs have been unable to systematically create opportunities for sustainable employment. Addressing the human dimension of the potential proliferation threat is key to the sustainability of all US CNP efforts. Allowing donor fatigue or new priorities to overtake US attention to this aspect of the threat leaves the nation vulnerable not only to leakage of sensitive

knowledge detrimental to our interests, but leaves open the possibility of a quick reversal of all of the disarmament objectives realized by these programs to date. While some suggest that the brain drain threat has become more contained and thus more manageable through strengthened security at facilities and successful transformation through existing redirect efforts, increased mobility of the target community, a new generation of disengaged scientists, and the ability to market their talents unilaterally has meant a burgeoning rather than a diminishing threat.

Recommendation

To more closely align nonproliferation objectives with the interests of industry, thereby creating employment opportunities for top-tier scientists, technicians and engineers, the US Government should:

- Engage the G8 business communities and FSU target communities in a rigorous informational exchange regarding the types of expertise available and potential advantages of employing former weapons specialists;
- Establish an international version of the Small Business Innovation Research (SBIR) program that targets the talents of former Soviet WMD specialists in particular to service US Government needs—or alternatively, recruit SBIR grant recipients to enhance their research and development capacity by using/engaging FSU scientists through existing programs;
- Create incentive structure that engages the private sector as *employers* of FSU talent, rather than as *customers*, through short-term salaries and other subsidies to promote sustainable commercial employment over the long-term;
- Integrate the needs of government for ongoing CNP programs into an effort to create “sustainable” employment opportunities for former weapons personnel through the provision of products and services requisite to maintain other DoE and DoD funded projects in the region or promoting “security culture” efforts. Use tax incentives and other inducements to engage private industry in these efforts (See also Recommendation #18 for DoE/NNSA specific recommendations);
- Incentivize collaborative efforts between businesses and FSU weapons expertise to meet the technological demands of US Government efforts, such as the Global Nuclear Energy Partnership (GNEP), the Global Nuclear Terrorism Reduction Initiative, the Joint Improvised Exploding Device Defeat Organization (JIEDDO), and the Domestic Nuclear Detection Office (see Recommendation #17 for DoE/NNSA specific recommendation).

9

Recommendation Nine: *Establish a Business Roundtable to Identify Synergies with US Government Programming*

Findings

The CNP programs were launched fifteen years ago with little thought given to their long-term sustainability. There is a real possibility that once US and other G8 funding for Cooperative Nonproliferation sunsets, the investments of both time and money will be for naught. Unless models of sustainability and host government buy-in can be achieved before funding streams are terminated, there is little hope that enduring security benefits will be realized. Critical to achieving the former will be the broader involvement of the private sector to, over time, fulfill the role of the United States government as a supporter—albeit indirect—of the CNP agenda. While industry cannot be expected to act as social investors from a security perspective, if it can be convinced that there is sufficient business incentive that would create anticipated social returns in terms of nonproliferation, then the potential of making these programs sustainable is vastly improved.

Impact

To date, the US government has spent more than US\$12 billion on programs designed to manage the enduring threat posed by the Soviet Union's WMD legacy. This does not account for the opportunity costs associated with diverting DoD, DoE, State, congressional or White House energy from other pressing foreign policy objectives. The failure to realize enduring value from these significant investments would represent an appalling failure on the part of the US government, and present a potentially catastrophic blow to US national security in the form of rampant proliferation.

Recommendation

The United States government should act to appoint an independent broker to help generate a dialogue between overworked agency implementers and disinterested private sector players. Through the establishment of a "business roundtable" dedicated to more effective implementation of the broad panoply of CNP programs, this disinterested third-party broker would: (a) survey the landscape to define novel areas of collaboration; (b) identify the relevant players from both government and the private sector; (c) build a network to foster productive relationships; (d) act as host and moderator of a regular series of roundtable discussions; (e) provide a critically absent feedback loop between government and private industry, and, (f) facilitate a process of consensus-building among all pertinent players in the CNP arena designed to promote the US government's broad foreign policy objectives and promote sustainability of the CNP agenda.

10

Recommendation Ten: *Refine the Master Plan For Cooperative Threat Reduction*

Findings

At present, insufficient coordination with the threat reduction agenda occurs across other US Government program areas. Achieving greater clarity within the Pentagon's "Master Plan" for each country is critical. Perhaps more important, however, is enhanced coordination within the context of the US Government's overall "Country" or "Master Plan" vis-à-vis other issues, such as human rights and democracy promotion. Also tied to this lack of clarity in terms of long-term strategic objectives is the absence of refined goals and a defined end-state for each project in DoD's implementing agreements with each host country.

Impact

Both CTR program managers and their contractors experience considerable confusion and significant delays in program implementation as a result of the shortfalls in government-wide strategic planning, as well as the processes internal to DoD with respect to negotiation of annual implementing agreements with each host country.

Recommendation

Ideally, the Pentagon's articulation of goals and an "exit strategy," where applicable, would be a subset of DoD coordination with the State Department regarding an overarching "Country" or "Master Plan" that would outline the US Government's foreign policy priorities (presumably an objective of a coordinated interagency process as outlined in Recommendation #2). In the context of this interagency process, the Defense Department's own strategic plan for threat reduction efforts could remain a Pentagon-specific exercise that delineates its one-to-five-year goals regarding the myriad of non- and counterproliferation initiatives with each host country. The Pentagon also should devise an easy method for ensuring that contractors operating in the CTR arena receive information regarding the overarching objectives as part of the contracting process.

11

Recommendation Eleven: *Address Staff Shortfalls at the Department of Defense*

Findings

The expansive and increasingly labor-intensive suite of CTR programs within the Pentagon has in some cases created insufficient personnel capacity for effective implementation and oversight. Not only is additional personnel with acquisition experience needed within the CTR Directorate, but additional shortfalls in capacity exist within the Office of the Under Secretary of Defense for Policy (USD(P)) and the Assistant to the Secretary of Defense for Nuclear and Chemical and Biological Defense Programs (ATSD(NCB)). Furthermore, the lack of personnel within the US Government with scientific expertise often results in impediments to implementation of projects.

Impact

One concrete manifestation of personnel shortages at USD(P) is the creation of onerous delays in approval of travel and communications for CTR program managers. Similarly, shortfalls in acquisition personnel within the CTR Directorate create delays in the contracting process, unnecessarily slowing program implementation. Lastly, due to a lack of scientific expertise within US negotiating teams, the implementing agreements with host countries and subsequent task orders for specific projects often lack sufficient detail to allow those implementing contractors the capacity to require facilities or laboratories to meet certain security requirements or achieve specific objectives. When such vagaries surface in the implementation process, the contractor must compel managers to go back to the implementing agreement and negotiate changes that specify requirements parallel to those being required of the contractor. This is a significant waste of time and resources.

Recommendation

The 2004 DoD Inspector General report noted shortfalls in the CTR bureaucracy's capacity for efficient implementation and effective oversight of the programs under its purview and recommended that DoD perform an internal assessment of the numbers and qualifications of personnel needed to fill specific gaps. We recommend that DoD follow up on this recommendation from the Inspector General report.²⁴

Whereas the increase in military or civilian billets to obtain the needed scientific expertise would likely be cost prohibitive, the CTR Directorate could create a structure similar to other DoD offices to leverage seconded employees with technical specialties from other agencies (or use the Intergovernmental Personnel Act to employ personnel from US National Laboratories) to bolster its internal scientific capacity within the policymaking and implementation arena to bridge the gap and avoid unnecessary delays in project implementation in a cost-effective manner. Where such capacity

²⁴ See Department of Defense Inspector General, "Cooperative Threat Reduction: Management Structure of the Cooperative Threat Reduction Program (D-2004-050)" (February 5, 2004): 11.

does exist, better effort should be made to link these in-house resources with both prime contractors and subcontractors.

12

Recommendation Twelve: *Adjust the Cooperative Threat Reduction Contracting Process*

Findings

The evolution of Defense Department efforts from an emergency response “procurement” effort, to programs designed to eliminate excess weapons and infrastructure, to today’s more nuanced focus on “capacity building” has required the adoption of different mechanisms to address changing needs on the ground in the FSU. As many of the major CTR dismantlement and construction efforts come to a close over the coming years, and the bulk of DoD’s activities assume a capability-building and self-sufficiency mode where host countries can become partners in global threat reduction rather than perceived aid recipients, demands and needs are shifting once again. Large scale construction and destruction projects such as the Shchuch’ye chemical weapons destruction facility will likely become a thing of the past. In 2001, the CTR Integrating Contracts (CTRIC) umbrella was created to expedite the contracting process in support of the large-scale efforts by the Department of Defense. CTRIC includes the following five large integrating contractors: Bechtel National Inc., Kellog Brown and Root, Parsons Delaware Inc., Washington Group International Inc., and Raytheon Technical Services Company. Since CTRIC’s creation, all CTR contracts were competed for exclusively among these five firms. Because today’s needs entail less large-scale engineering/design efforts and more frequently encompass unique scientific or training needs, the CTRIC companies are increasingly less suited to meet changing US Government objectives. Often, particularly for some of the more common initiatives in the CTR Directorate’s portfolio today, these large engineering and construction giants have essentially become pass-through entities where, upon winning a CTR task order, they then hire the necessary talent or skills sets from a pool of subcontractors to achieve the objectives outlined in the CTR contract.

Impact

The current contracting process adds an additional layer of cost and complexity to many of the CTR Directorate’s efforts. There exists an unnecessarily long chain of command placing DTRA program managers farther from the operational implementation of CTR efforts, which reduces effective oversight. Although the CTRIC umbrella does help expedite the process, more can be done to create a general “template” among similar efforts to further streamline the paperwork involved in the contracting process among CTRIC contractors. Responses to task orders have become increasingly longer and more time intensive. In addition, due to changing priorities at these companies themselves, many solicitations elicit minimal “competition” among the five companies. Frequently, only two proposals might be submitted in response to a given solicitation for bids. The lack of real competition has led to inefficiency and a decrease in the quality of work from the CTRIC partners. Lastly, by using different types of contracts and exploiting a full range of options to meet CTR’s needs, many officials and private sector actors believe that cost efficiencies and prospects for sustainability would be enhanced.

Recommendation

Such an immense amount of experience in the FSU region and CTR programs resides within the CTRIC companies and therefore, the CTRIC option should be maintained. However, we recommend that the CTR Directorate be given greater flexibility in the expansion of potential prime contractors beyond the CTRIC contracting pool. The CTR Directorate at DTRA should also be permitted to use the full range of contract mechanisms available, including direct contracts with other US Government entities or with host nation firms, award/fee contracts, fixed-fee contracts, and incentive fees, as needed, to address changing requirements and opportunities on the ground.

13

Recommendation Thirteen: *Pair Program Budgets with Program Priorities*

Findings

The White House has made commitments to complete certain CTR programs by defined deadlines; however, these commitments have often not been matched with the requisite budgetary increases to meet the mandated schedule. Although Senator Lugar successfully championed the needed increases to ensure that political commitments made by the White House could be implemented by the CTR Directorate, there should be enough coherence within the Executive Branch that such disconnects do not arise. When political commitments are made by the White House and not executed, bilateral relations at the program implementation level are compromised and the effectiveness of CNP suffers.

Impact

Absent coordination within the Administration, Congress must act to increase the program budget to make a newly expedited deadline attainable. Absent congressional action, the CTR Directorate would be forced to skim the financial resources from other program areas to meet the desired date of completion. In one instance, the needed adjustment exceeded US\$45 million—a significant amount considering that the entire Directorate’s budget is roughly US\$400 million for FY 2006 and will be significantly less in FY 2007. Thus, the CTR Directorate is put in the position of having to “rob Peter to pay Paul,” making the determined implementation of strategic goals difficult.

Recommendation

We recommend that the National Security Council, Office of Management and Budget, and other relevant agency officials achieve sufficient interagency coordination to address such informational gaps and/or oversights in the budgeting process. This should be achievable with the adoption and implementation of Recommendation #2.

14

Recommendation Fourteen: *Remove Restrictions on Cooperative Threat Reduction Expenditures*

Findings

In some cases, Congress has legislated a “ceiling” on the annual maximum allowable increases for particular program budgets. This constraint has impeded the wherewithal of the CTR Directorate to leverage particular opportunities where increases above the specified ceiling would be justified.

Impact

Russia and other states of the FSU have proven, at times, to be mercurial partners. When opportunities for cooperation avail themselves and US Government agencies have been able to respond rapidly, US security has benefited. In each such instance, there is likely a significant opportunity cost for not having proceeded with expansion of the program. The complexities of negotiating the parameters and objectives of a program with each host country are then accentuated by confronting a potential “funding gap” due to imposed ceilings and lengthy delay prior to implementation. These delays present the host country with an opportunity to rethink its position and potentially foreclose collaboration.

Recommendation

Congress should avoid imposition of a strict ceiling on annual maximum allowable increases in a particular CTR program budget. The CNP program has been the most successful when afforded the longest leash on its activities. Oversight and control of budget growth can be maintained by conditioning increases above a particular ceiling on the satisfaction of specific criteria or notifications to, and approvals from, Congress prior to exceeding a particular percentage increase in an annual program budget.

15

Recommendation Fifteen: *Promote Transparency with Capitol Hill and the Media*

Findings

As previously noted, interactions with Capitol Hill are strictly controlled by the Office of the Under Secretary of Defense for Policy. The CTR public affairs office remains in “passive mode” vis-à-vis the media, NGOs and the general public. We believe that this restrictive public affairs posture is ripe for rethinking. We concluded that the benefits of greater transparency with congressional audiences and the media outweigh the potential pitfalls—particularly given the dramatic return on investment that these efforts have yielded in regard to the national security of the United States.

Impact

As one agency official put it, “several committees on Capitol Hill ‘want to put their stamp’ on CTR programs, but too few understand how their actions will impact the programs.” At present, the public affairs office within the Defense Threat Reduction Agency has not been allowed to be more proactive in its interactions with the media. This translates into an inability to highlight the successes of the threat reduction programs, relegating the agency to a passive posture that leaves many with the false impression that the CTR programs are fraught with controversy. This leads to Inspector General and Government Accountability Office reports that reaffirm Capitol Hill’s mistaken impressions regarding the vitality and benefits of these programs.

Recommendation

As mentioned in Recommendation #7, a mechanism for receiving ongoing briefings from the agency personnel involved in implementation would go a long way in creating the needed knowledge base on Capitol Hill, provide an alternative to excessive reporting requirements that stretch limited personnel capacity, and help mitigate congressional actions that create unnecessary impediments to these efforts. In addition, the DTRA public affairs office should be encouraged to take a proactive stance in working media channels to underscore the value of these programs to a broader public and Hill audience.

16

Recommendation Sixteen: *Define Agency Turf and Eliminate Conflict*

Findings

Turf battles involving NNSA and the State Department over specific programs or projects are not uncommon. This tension is complicated by the State Department's responsibility for negotiating implementing agreements and DoE/NNSA's responsibility for executing projects. In the particular example of liability, several NNSA-based programs have not been able to start new initiatives under ongoing program umbrellas until this issue is resolved. Although the State Department is responsible for negotiating the new provisions on liability, Congress is threatening to cut funding for DoE/NNSA programs that rely on resolution of the liability issue. Moreover, the dividing line between program negotiation and execution has, at times, been strained as the State Department is perceived to be encroaching upon NNSA's role as the implementing agency.

Impact

In certain instances, as outlined above, one agency's budget is being held at risk over an issue for which it does not have the responsibility. More frequently, however, delays in execution of a major project result from a lack of clarity as to when authority is passed between the State Department's conclusion of an agreement and DoE/NNSA's role in execution.

Recommendation

To eliminate ambiguity and promote continuity, the roles and responsibilities of each agency between the negotiation of an agreement and the program's execution must be clarified. Such clarification would flow from the ongoing interagency process outlined in Recommendation #2. With or without such a process, a vigilant and hands-on National Security Council official should be capable of playing the role of an honest broker when such situations arise to clarify the transition of responsibilities and minimize the negative impacts on program execution.

17

Recommendation Seventeen: *Promote Sustainability and Leverage Existing Programs*

Findings

Despite stalwart efforts to ensure the “sustainability” of NNSA’s nonproliferation efforts, attaining such objectives requires not only bridging a widening gap over threat perceptions with the Russians, but also ensuring that indigenous capacity exists to adequately sustain the systems and infrastructure that the US has so painstakingly put in place during the last fifteen years (See Recommendation #6). As one significant example, MPC&A site upgrades are slated to be complete by 2008 and entirely weaned from US Government support by 2013. NNSA is working to develop a comprehensive approach for the Russians to assume full ownership of these safeguard and security systems. However, NNSA program managers are acutely aware that the Russians do not view the Improvised Nuclear Device (IND) threat to be a substantial challenge to international security. Instead, their focus is on the threats posed by Radiological Dispersion Devices (RDDs). This suggests that once US Government investments cease, the Russian Government may be unwilling to expend the necessary resources to sustain these important efforts. Moreover, in NNSA’s efforts to ensure sustainability, too little attention has been given to the possibility of leveraging other program areas to build the in-country capacity needed for servicing equipment, training personnel and promoting the desired “security culture.”

Impact

Weaning FSU countries from assistance prior to getting consensus on potential threats and building the in-country capacity to sustain the systems in place will threaten to nullify all US efforts to date. Unless the scope of ongoing sustainability efforts is broadened and programs that might contribute to creating in-country capacity are sufficiently integrated, redundancies and inefficiencies are likely to arise. In addition, the potential cost-savings and economies of scale attainable through a more holistic approach to sustainability across NNSA’s program areas—and all other US Government CNP activities—will not be achieved.

Recommendation

DoE/NNSA should broaden the scope of sustainability efforts to cross-link existing programs, including MPC&A, IPP, and the Megaports Initiative. NNSA activities should focus on the development of a robust nuclear security supply capacity to serve its own needs and the needs of the host state as DoE programs are sunset. This demand goes beyond spare parts and training modules to the promotion of a security culture adequate to maintaining program integrity once Western support is terminated. This approach requires the creation of incentives for suppliers to enter the nuclear security supply market and ensuring that those suppliers could meet international standards. Existing NNSA (and other US Government) programs to redirect scientists from weapons-related work to commercial sectors, especially those with industry already involved, could be exploited to foster the necessary nuclear security supply. Strategically pairing US security equipment suppliers with

appropriate Russian counterparts also has the potential to create more competitive suppliers for the security equipment needed. Furthermore, US companies should be motivated by certain incentives to facilitate “indigenization” of management skills and business practices requisite to ensure the in-country capacity to supply the needed products and services. This recommendation is inextricably linked to Recommendations #6 and #8 above, as well as #18 below.

Sustainability is not unique to DoE/NNSA efforts in Russia. Nor is it solely a concern with respect to assistance to Russia or limited to the nuclear sector. The recommendation above should be extended to a government-wide approach to sustainability of all CNP efforts across the FSU. This would require interagency consensus and ongoing collaboration (as outlined in Recommendations #1 and #2) to fully explore potential synergies and exploit existing programs to achieve US Government nonproliferation objectives. Creating the appropriate incentive structures to engage the US private sector as a key facilitator in meeting US Government goals is likely to require bigger budgets or reallocation of existing budgets in the short-term. However, increased financial means devoted to sustainability and exploiting redirect activities in the short-term will ensure that investments in CNP efforts to date are not wasted and will likely prove much more cost-effective in the long-term than alternative approaches.

18

Recommendation Eighteen: *Recognize the Role of the Private Sector in Addressing the Brain Drain Threat*

Findings

Among DoE/NNSA's scientific engagement programs, the Nuclear Cities Initiative offered greater flexibility and a quicker turnaround time from conceptualization to program start than other redirect options. However, access to the closed nuclear cities severely complicated industry involvement in creating sustainable commercial employment. Without direct ownership and access to the community of researchers within the closed cities, private sector partners are relegated to serving as temporary clients rather than permanent employers. The IPP program represents under-used potential in fostering the partnerships that would redirect scientists into commercial employment. Its current structure, however, does not fully exploit the strengths of each party, resulting in unfunded mandates for the Laboratories, truncated control for the Industry Partners, and an unnecessarily circumscribed role for the US Industry Coalition in fully leveraging its membership's potential. Not only could the IPP program effectively utilize double its current program budget to support existing opportunities, but expansion of the program to exploit "market pull" (as opposed to technology push) and engage businesses as employers, rather than customers of technology, could enhance its nonproliferation impact, contribute to NNSA's sustainability efforts, and provide technologies for an array of US Government and other commercial demands.

Impact

NNSA's redirect efforts are not systematically achieving the job creation goals necessary to provide long-term employment to the target community. This reality impedes efforts to downsize the weapons complex. Furthermore, potential benefits beyond redirection of the talent and downsizing of the complex—economic development, capacity building, etc.—are not being fully realized.

Recommendation

Immediate actions to increase the flexibility and enhance performance of the programs include:

- Congress should change the budget cap of thirty-five percent (35%) involvement of labs in IPP due to its strain on the labs' capacity to provide adequate technical and managerial oversight.
- Congress and the Administration should begin experimenting with new redirect models that directly involve the private sector as employers outside of the erstwhile weapons institutes.
- DoE/NNSA should examine the role of its redirect efforts in creating the capacity to produce the products and services inherent to sustainability;
- DoE/NNSA should work with Congress and potential Industry Partners to craft appropriate incentives to engage industry to contribute to redirect efforts that target the nuclear security demands;

- IPP’s “technology push” model should be matched by similar efforts that exploit “market pull”; in this vein, DoE/NNSA should specifically target collaborative efforts between industry and FSU weapons experts to meet demands generated by the Global Nuclear Energy Partnership and the Global Initiative to Combat Nuclear Terrorism, among others.
- IPP should be permitted to evolve to exploit new opportunities by making Lab participation customizable, contracting companies directly in support of US Government nonproliferation objectives, creating new mechanisms for funding start-ups or expanding existing businesses in the FSU that will hire former WMD specialists and recruiting new stakeholders such as MPC&A and SBIR.

19

Recommendation Nineteen: *Enhance Efforts to Inform Congress*

Findings

Too few Members and their staff on Capitol Hill understand in sufficient detail the successes and challenges of the nonproliferation work at NNSA. Despite being stretched thin by a steady stream of congressional reporting requirements, GAO inquiries, and the like, these mechanisms fail to adequately feed congressional oversight or more generally enhance the knowledge base of these programs on Capitol Hill.

Impact

Program Managers' attention is constantly diverted by congressional reports or other "oversight" inquiries regarding their programs and thus can devote too little time to actual management and implementation of the projects under their purview. Unfortunately, we have concluded that the various forms that these reports take are not conducive to the Capitol Hill audience. Due to demands on staff time, the reports are often ignored or reach only a very limited and self-selected number of offices. In addition, the lack of in-depth knowledge by Members and their staff not only frequently breeds new reporting requirements, but also can give rise to earmarks, restrictions to specific programs, or budgetary actions that are detrimental to the essence of the programs.

Recommendation

NNSA's efforts would benefit from the establishment of a new bicameral congressional Task Force (See Recommendation #7). A less robust undertaking than proposed in Recommendation #7 might be led by Members responsible for NNSA authorization and/or appropriations to initiate an off-the-record briefing series for interested Members/staff with NNSA officials, National Laboratory representatives and the business actors within specific program areas. Similar to the military services' congressional liaison offices on Capitol Hill, DoE/NNSA could also spearhead its own initiative to offer routine briefings for staff.

20

Recommendation Twenty: *Remedy the NNSA Contracting Bottleneck*

Findings

The National Nuclear Security Administration Service Center, also known as the Albuquerque Service Center, provides a broad range of business, technical, financial, legal, and management advice and services to the NNSA. The Center's role in the current NNSA contracting process creates numerous hurdles and inefficiencies that impede rapid progress of program implementation. All contract requests for NNSA must be funneled through the Albuquerque Service Center; however, the Center is severely understaffed, relying on eight people to wade through more than US\$1 billion worth of contract requests. Also, the Service Center does not report to the NNSA Director of Contracts, but rather to the NNSA Administrator's office directly. This creates a complicated chain-of-command.

Impact

The inability to move contracts expeditiously through the Service Center creates hurdles similar to those experienced by DoD. Until the agencies are given an extended capacity to react to changing opportunities on the ground in the region, the program will not return to the enviable era of flexibility experienced in the early years of CTR that yielded rapid progress toward the defined strategic objective. In many cases, opportunities on the ground have been lost due to the excessively slow pace with which contracts and decisions must churn through the bureaucratic decision-making process.

Recommendation

NNSA should work with Congress to expand the capacity of the Albuquerque Service Center.

21

Recommendation Twenty-One: *Eliminate Unnecessary Funding Restrictions*

Findings

In the mid-1990s, the Congress placed a restriction upon DoE's ability to expend funding in support of its nonproliferation agenda. Appropriations for program execution (for instance, implementation of the GIPP, HEU downblending, or MPC&A) are held separate from program direction funding (for salaries, bonuses, training, and travel). Funds from one source cannot, by congressional mandate, be used to support the other. To our knowledge, the Department of Energy is the only US Government agency under such restriction.

Impact

Because recent appropriations in support of program direction have been very limited, and because funds are not interchangeable between accounts, salaries are a fixed expense, and training budgets are extremely limited. Thus, when shortfalls in program direction budgets occur—as they often do—travel budgets remain the sole source to borrow against. As such, NNSA oversight of activities throughout the FSU suffers accordingly.

Recommendation

Congress should immediately act to repeal this restriction on DoE funding.

22

Recommendation Twenty-Two: *Create a US Government Nonproliferation Clearinghouse*

Findings

As mentioned in Recommendation #2, the diffusion of CNP activities across numerous agencies often leads to confusion regarding what agencies are operating at what sites or facilities and toward what objectives. This information gap between US agencies has been amplified by the lack of timely information regarding the ongoing operations of other countries contributing to Global Partnership efforts. Although the State Department does have an official responsible for tracking and coordination of Global Partnership programming, many US Government agency officials are unaware that this position exists and therefore, do not adequately leverage information maintained by this office.

Impact

This lack of information sharing leads to confusion and duplication within US Government efforts. Furthermore, it neglects potential synergies between programs and creates the real possibility of host-countries playing US Government programs and other G8 contributions off one another. Indeed, evidence suggests that host governments have become increasingly adept at cross negotiating with potential donor states.

Recommendation

We recommend that the State Department create an “information clearinghouse” for US Government-wide CNP activities. This office would have no *operational* authority over other US agency activities or programs. Its function would be to provide a focal point for collection and dissemination of information pertinent to all agency officials regarding the activities of their counterparts in other parts of the US Government. Critical to the success of this office would be the full participation of other government implementing agencies. Evidence gathered by this study suggests that both the Department of Energy and the Department of Defense would welcome this information sharing capability. Timely information regarding Global Partnership activities and objectives should also be made available through this office.

23

Recommendation Twenty-Three: *Shore Up Capacity at the Department of State*

Findings

Even a casual survey of the State Department's Bureau of International Security and Nonproliferation (ISN) raises concerns regarding understaffing and the resources available to achieve its critical mission. Expansion of the State Department's "redirect" efforts to Libya and Iraq has created an internal competition for resources and put a strain on existing personnel capacity. Furthermore, the application of existing State Department redirect programs to regions outside the FSU without a thorough assessment of their efficacy in providing sustainable, civilian employment runs the risk of replicating a deficient model. The lessons learned from fifteen years of redirect efforts and the role of the private sector in creating sustainable employment opportunities for this scientific capacity should inform any US Government redirect efforts in regions beyond the FSU.

Impact

Retrofitting existing programs and establishing a functioning operation to engage scientific capacity in regions outside the FSU is a major undertaking. Without adequate resources, State Department personnel will find themselves unable to meet desired objectives on any front. Furthermore, the application of models with insufficient prospects for commercial job creation will result in a squandering of the miniscule resources made available for these non-FSU redirect efforts.

Recommendation

Ideally, as a part of the global assessment outlined in Recommendation #1, redirect efforts should be prioritized according to the threats they represent. Budgetary needs should then be set accordingly. FSU-specific programs could be greatly facilitated by integrating the State Department redirect programs into the broader scope of US Government sustainability efforts and the application of creative models to incentivize industry involvement as outlined in Recommendations #6 and #8. Programs such as BTEP could be reworked and expanded to absorb additional capacity and meet mutually identified needs in public health. Critical to the success of these efforts, however, will be a reconceptualization of program execution based upon: (1) private sector involvement as employers rather than clients; (2) direct ownership; (3) market pull; and, (4) connectivity to other US Government programs. More effective use of non-government organizations, such as the Civilian Research and Development Foundation and its Industry Partnerships program or the US Industry Coalition, can serve as a means to create needed commercial linkages at the outset and enhance the Department's capacity to achieve its redirect objectives. Both CRDF and USIC have already been engaged to some extent, but their participation should be enhanced through a more rigorous process of assessing needs, defining their respective roles, and creating the mechanisms for integral participation in achieving US Government's objectives.

24

Recommendation Twenty-Four: *Rethink the Role of the STCs, Facility Conversion, and CRDF*

Findings

The Science and Technology Centers have and continue to play an important role in providing FSU scientists with short-term grants for non-weapons related research. Recent research shows that a certain amount of “goodwill” results from Western assistance for basic research that would deter these scientists from contributing their knowledge to rogue states or terrorist organizations. This appears to be true regardless of whether this assistance leads to long-term sustainable employment.²⁵ Intelligence, supported by anecdotal evidence, suggests that the brain drain threat continues to pose a challenge to international security. The contribution of the STCs was particularly valuable in the early “emergency” phase of providing opportunities to keep this scientific capacity in place; similarly, they perform a valuable role for scientists whose skills are difficult to segue into commercially viable pursuits.

Unfortunately, however, the STCs have been slow to adapt themselves to the dramatically changed environments in which they now operate. Founded in the early 1990s and based on government-to-government agreements concluded at that time, they confront clear structural impediments in their ability to partner efficiently with industry and systematically promote sustainable commercial opportunities for the target community. The focus on scientists within the former WMD institutes themselves creates substantial difficulties in attempts to involve industry (due to access) and runs counter to US desires to facilitate downsizing of the weapons complex—particularly through closure of “white elephant” facilities or those deemed to be in excess of real defense needs. In addition, industry participation in collaborative efforts funded by the International Science and Technology Center leads to excessive scrutiny by Russia’s Federal Security Service due to their concern that the ISTC’s non-profit, (*i.e.*, tax free) status is being used by industry to circumvent legitimate taxation. While the BioIndustry Initiative was created to overcome these impediments and formally partner with industry to generate sustainable opportunities, BII has also confronted substantial limitations in its ability to systematically generate commercial opportunities for the bioscience community in these former weapons institutes. Again, the focus on the institutes as the place of continuing employment for these scientists would appear to create significant impediments to industry’s potential involvement in creating sustainable opportunities. Similarly, while an emphasis on “conversion” of existing facilities may be valid in exceptional cases, this approach is tremendously expensive and may, in certain cases, be less efficacious than incentivizing greenfields investments that would draw the scientific capacity into a commercially viable enterprise outside the weapons complex. While BII has yet to have an opportunity to prove its model of engagement, it has failed to learn the lessons from previous failed efforts of engagement and conversion.

²⁵ See Deborah Yarsike Ball and Theodore P. Gerber, “Russian Scientists and Rogue States: Does Western Assistance Reduce the Proliferation Threat?” *International Security*, Vol. 29, No. 4 (Spring 2005): 50–77.

Impact

While serving a valuable role for a certain segment of the target community, the STCs do not have any long-term strategy to wean the institutes and scientists from Western assistance and offer an exit strategy from government support. In addition, providing short-term assistance to scientists within the former WMD complex, while valuable in the early years, does not lend itself to the eventual closing of state-owned facilities considered excessive to the host country's defense needs. The BII model is extremely risky and could prove to be an expensive and failed experiment.

Recommendation

As mentioned in Recommendation #8 (and #17 and #18 for DoE/NNSA-specific efforts), the two avenues for effectively engaging and leveraging the talent resident in the WMD complexes in the region are: (1) offering government support to meet mutually identified needs (e.g. the Biotechnology Engagement Program) where government agencies become sustained clients, or, (2) offering innovative incentives to engage industry as potential employers. The specific action items directly applicable to State Department efforts include:

- Engage the G8 business communities and the FSU target community in a rigorous informational exchange regarding the types of expertise available and potential advantages of employing the target community;
- Bolster the capacity of CRDF's Industry Grants Program (First Steps to Market and Next Steps to Market) to increase private industry involvement in commercially viable initiatives;
- Bridge the gap between current program funding for everything up to prototype development (STCs and CRDF's Industry Grants Program) and actual commercialization of the technology by creating an international version of the SBIR program available to collaborative efforts between industry partners and FSU scientists;
- Find common cause across US Government Executive agencies, including the US Agency for International Development, Health and Human Services, the National Institutes of Health, the Environmental Protection Agency and others to create an *a la carte* incentives' structure to increase industry's participation as direct employers of the talent resident in the FSU that simultaneously supports other US Government objectives;
- Incentivize collaborative efforts between businesses and FSU weapons expertise to meet the "market pull" of US Government efforts and joint US-Russia initiatives.

25

Recommendation Twenty-Five: *Eliminate Legislative Impediments to Progress*

Findings

Reporting requirements place an excessive burden on the already strained capacity at the State Department. The reporting requirements of particular concern are those related to “certification” of compliance with arms control agreements and the annual Human Rights Report.²⁶ According to officials at State, these two annual reporting exercises consume considerable time throughout the year.

Impact

The certification requirements have significant implications for ongoing CNP activities. Although permanent Presidential waiver authority has been granted, the certification and reporting requirements continue to create an undue burden even in the face of a presidential decision to exercise the waiver.

Moreover, the conflict between US human rights and nonproliferation objectives created by congressional linkage of these issues remains an occasional impediment to achievement of US national security goals. Recognizing that the threat of a weapon of mass destruction in the hands of a hostile state or terrorist organization is the greatest threat facing the United States today, the US Government should be cautious about linking core nonproliferation goals with other important but ultimately second-tier goals.

Recommendation

Congress should repeal the certification requirements. If repealing these requirements is politically infeasible, then Congress should, at a minimum, align the timing of certification and the Human Rights Report to increase the efficiency of the State Department’s achievement of these separate reporting requirements.

²⁶ Certification requirements were enacted in the original *Soviet Nuclear Threat Reduction Act of 1991* (Section 211) and *The Freedom Support Act* (Section 502), while Section 1308 of the *National Defense Authorization Act for Fiscal Year 2002* added specific certifications to chemical weapons destruction funds. The Human Rights Report requirements were originally enacted in the *Foreign Assistance Act of 1961* (Sections 116(d) and 502(B)). The *Foreign Relations Authorization Act of FY 1998-1999* changed the submission date from January 31 to February 25.

— 4 —

CONCLUSION

Since the end of the Cold War, no national security investment has been more cost effective or shown more tangible results than the suite of Cooperative Nonproliferation (CNP) initiatives encompassing the Cooperative Threat Reduction (CTR) programs at the Pentagon and the nonproliferation programs at the Departments of Energy and State—and now elsewhere in the Executive branch. In 2005 alone, more than 30 metric tons of highly enriched uranium—enough to fashion more than 1,200 nuclear warheads—were permanently transformed into fuel for use in civilian power plants across the United States. An additional 165 high-priority storage sites containing vulnerable radiological material in Russia were secured and more than 300 former nuclear, chemical, and biological weapons scientists found peaceful work. Through collaborative research grants with the highly skilled and underutilized community of former biological weapons experts in the FSU, new commercial and public health products were created to address the scourge of infectious diseases. G8 investments in the Global Partnership have hastened regional economic development by extending Western business practices to the former command economies in the region and introducing them to global markets. Burgeoning relationships between American and former Soviet scientists increased trust and transparency and built confidence within each national capital that their erstwhile adversaries are no longer committed to developing weapons capable of mass annihilation.

Despite these notable successes however, a survey of fifteen years of CNP operation suggests that progress has been stymied by a series of practical, political, and bureaucratic obstacles to effective

Successive Congresses and administrations have failed to invest the necessary political capital and financial resources to ensure optimum performance of the CNP programs in the shortest possible timeframe.

implementation. Securing nuclear, biological, and chemical weapons, materials and expertise is the most effective means to prevent an act of catastrophic terrorism involving a weapon of mass destruction. In spite of this nearly universal recognition and the broad array of efforts both inside and outside of government aimed at accelerating Cooperative Nonproliferation efforts, successive Congresses and administrations have failed to invest the necessary political capital and financial resources to ensure optimum performance of the CNP programs in the shortest possible timeframe.

The result has been twofold. First, and most disturbing, the window of opportunity for terrorists to obtain the necessary materials to fashion a weapon of mass destruction has been—and remains—left open for an unacceptably long period of time. In our race with the terrorists to secure the weapons, materials and expertise of proliferation concern, the United States government has opted for a donkey over a thoroughbred. Second, the failure of the United States and other Western nations to recognize the unique capabilities and capacities resident within the phalanx of former weapons scientists, engineers, and technicians and to leverage them to address common threats to humankind represents a significant opportunity cost to future generations.

At its outset, the Cooperative Nonproliferation agenda was designed as an emergency “hard security” response to the rapidly disintegrating nuclear, biological, and chemically armed empire of the Soviet Union. Throughout its fifteen-year history, however, the CNP agenda has grown into an underappreciated, but multifaceted toolkit capable of addressing a broad array of US foreign policy objectives ranging from proliferation to economic development. Regrettably, we conclude that these tools have collided with a series of political realities in Washington that have resulted in a continuous failure to fully incorporate the benefits offered by CNP into the wider US foreign policy agenda. To reverse this cycle, we conclude that the terms of the debate surrounding CNP must be changed. This can only be achieved by building a strong constituency in support of the Cooperative Nonproliferation agenda that includes the White House, the Executive agencies, Congress, NGOs, and the private sector. In developing this public-private partnership in support of US national security interests, the business community can play a particularly important role. If organized effectively, industry can serve as a powerful, informed, and visible constituency promoting the benefits of Cooperative Nonproliferation to legislators and the White House. We believe that the unity of the private sector in this critical area of US national security would elevate the Cooperative Nonproliferation toolkit in a manner that no other informed constituency has proven capable of doing. By devoting the necessary resources to help inform policymakers of the merits of the program, the business community can do well by doing good, simultaneously enhancing its bottom line and performing an important public service to the American people.

Ultimately, the role of the private sector extends far beyond the immediate national security and financial gains that could be associated with an accelerated and expanded CNP agenda. The public-private partnership that we propose should serve as a model for leveraging the private sector directly in support of US foreign policy goals. The longstanding failure of both government and industry to cross-fertilize their staff has promoted insular understandings within each in regard to the role and functions of the other. While the latter often views the former as a disruptive force needing peripheral management, government, by and large, views the business world with equal suspicion and misunderstanding. Both result in a failure to recognize common goals and leverage one another in mutual support.

Our study found that by bridging this divide and promoting a new partnership in national security, America’s nonproliferation goals could be met more efficiently, rapidly, and sustainably while leveraging their value across a broader panoply of US foreign policy objectives. Our main conclusions are summarized below.

1. In general, we concluded that the nonproliferation programs, as currently configured, are incapable of providing maximum return on investment. Though much of the blame is rightly laid at the feet of the host governments that have often proven to be fickle and mercurial partners, the United States Government has erected its own barriers to success. We grouped these barriers into four broad categories: a lack of interagency collaboration, the mismanagement of expectations, a failure to provide effective congressional oversight, and a series of overly burdensome restrictions on program implementation. We further concluded that the programmatic barriers to success related to the scientist redirection portfolio are so vast and the threat so urgent that a more in-depth assessment of these efforts is needed.

2. CNP efforts were born in an era of extreme uncertainty in the FSU. The result was a patchwork of initiatives that addressed immediate security challenges without long-term sustainability or cross-program integration. Though the strategic circumstances of the region have changed dramatically over the past decade and a half, no strategic rethink has occurred at the national level in the United States to determine how to maximize return on the national security investment made by the CNP programs. The development of a new plan that fails to build on existing initiatives, however ingenious, is ultimately, insufficient. The time is ripe for a government-wide review of all CNP activities involving host governments, Congress, the agencies, and the private sector. Unless the parochial mindset within the implementing agencies can be broken down to ensure prudent prioritization of activities and budgets, the CNP programs will continue to under-perform. We therefore call for a new integrated trilateral structure supported by an information clearinghouse at the Department of State, a budgeting oversight office within the Office of Management and Budget at the White House, and a “court of last resort” at the National Security Council to promote efficiencies and maximize return on investment.
3. The Cooperative Nonproliferation agenda rests on a foundation of trust and transparency. When these are maximized, the programs operate at peak efficiency. When they are lacking, implementation of the programs is arduous. Joint planning at all stages of program development and implementation fosters a sense of partnership that has proven crucial to program success. Consequently, the Executive agencies should work both at home and abroad to manage the expectations of all relevant parties from Congress to host governments. Only by ensuring their sustained buy-in can the CNP agenda be accelerated and its critical national security mission be achieved.
4. The United States Congress is an overburdened institution. Responsible for the oversight of literally millions of US government programs with minimal staffing and vastly reduced internal support, Capitol Hill is as strained a partner as it is a critical actor for CNP implementation. The result of contravening pressures upon Congress has been ineffective leadership and a lack of interest and dedication to the CNP issue. Exercises to cull pertinent information from the agencies on the execution of the programs more often than not yields numerous reports that are not received in a form that is conducive to Capitol Hill’s absorptive capacity for information, or worse, that fail to find an audience receptive to the message. Still, even the most cursory examination of the CNP programs reveals that the Executive agencies charged with their implementation—the Departments of Defense, Energy, and State—all suffer under the burden of excessive congressionally mandated reporting requirements. This has not only slowed implementation, but has threatened innovation by constraining the flexibility of programs to take advantage of emerging opportunities on the ground. We conclude that many of these restrictions could be rethought or adjusted without a deleterious effect on oversight or program management. Moreover, Capitol Hill’s need for rapid quantifiable progress is often at odds with the very nature of the programs. As the evolution of the programs moves from infrastructure elimination to capacity development, this gulf will widen even further. The role of Capitol Hill as an oversight partner on the Cooperative Nonproliferation agenda must be rethought and both the Executive

branch and the Congress must be prepared to accommodate the needs of the other to ensure a more effective and rapid implementation of the programs.

5. The stated objective of all current programs focused on the nonproliferation of expertise is to permanently redirect former WMD specialists. Unfortunately, as currently configured, none of the existing programs is designed to systematically create the new jobs necessary to sustainably engage weapons experts and achieve this objective. Additionally, existing programs fail to exploit fully the range of potential “spin-off” benefits that could be derived from sustainable engagement and employment. As a result, the United States Government is not maximizing its return on its national security investment through the portfolio of scientist redirect programs at the Departments of Defense, Energy, or State. Many of the existing redirect programs were designed to produce collaborative research rather than jobs. Unfortunately, research—especially basic research—does not inevitably lead to sustainable employment of the community of experts of proliferation concern. All of the existing programs continue to work through the erstwhile weapons facilities in the states of the former Soviet Union by keeping the target community locked into employment at these facilities. Not only does this hinder the rationalization of the bloated former weapons institute structure across the FSU, but state enterprises throughout the region have, by and large, proven to be incapable of restructuring themselves into commercially viable businesses, and thus, long term employers. Only by engaging the private sector directly as employers of the target community can the current short-term “redirect” programs be transformed into long-term “engagement” programs and thus serve the nonproliferation goals of the United States Government. At present, no tool in the US nonproliferation arsenal can effectively marshal the necessary communities for efficacious, cost-effective, and sustainable models of scientific engagement better than the Civilian Research and Development Foundation.

At funding levels of just over US\$1 billion annually, the return on investment on the Cooperative Nonproliferation programs has been incalculable—not only in terms of weapons destroyed and potential terrorist incidents averted, but in much broader terms of relationship building, scientific exchanges, economic development, new product development, commercial growth, rule of law, and democracy and peace building. Yet, despite these proven successes, these collaborative efforts have not been afforded the financial resources or political support they warrant. This study provides the roadmap for extracting the full value of the CNP programs in support of US foreign policy goals and objectives. There is no greater threat to global security than the diffusion of nuclear, biological, and chemical weapons. Without an integrated approach to securing inventories of WMD materials and expertise in the world, the US will have failed to accomplish its top national security goal to keep the “world’s most dangerous weapons out of the hands of the world’s most dangerous people.”

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Dr. Elizabeth “Libby” Turpen joined The Henry L. Stimson Center in 2001 to establish the Senate component of the Security for a New Century congressional study group. Prior to joining the Center, she served as Legislative Assistant for Senator Pete Domenici, responsible for defense, nonproliferation, and foreign affairs. Previously, she was a consultant on nonproliferation policy, US-Russian programs, and the national security implications of technology advances for Aquila Technologies Group. Dr. Turpen also has extensive teaching and lecturing experience. She holds a PhD from the Fletcher School of Law and Diplomacy at Tufts University and a BA from the University of New Mexico. Dr. Turpen also co-directs the Security for a New Century (SNC) program, a bipartisan study group series designed to educate Congressional staff about the complex security challenges now facing US policymakers. Her publications include *Cooperative Threat Reduction: Moving Beyond State Intent*, (Dalhousie University, 2005), *Policy Matters: Educating Congress on Peace and Security* (Stimson Center, 2004), and *The Nuclear Posture Review & the Future of Cooperative Threat Reduction* (Stimson Center, 2002).

About the Cooperative Nonproliferation Program

The Cooperative Nonproliferation Program at The Henry L. Stimson Center offers innovative, functional approaches to address the most significant threat to international security today: the spread of weapons of mass destruction. It seeks to bridge the gap between traditional “hard” security (proliferation) and “soft” security objectives (capacity-building, global development and public health). We partner with both the public and private sectors to achieve mutual security and development objectives. Only by exploring and leveraging all available means to address the growing threat of proliferation can we begin to treat its causes, rather than just its symptoms.