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GLOBAL SECURITY

Pacific Northwest Center for Global Security

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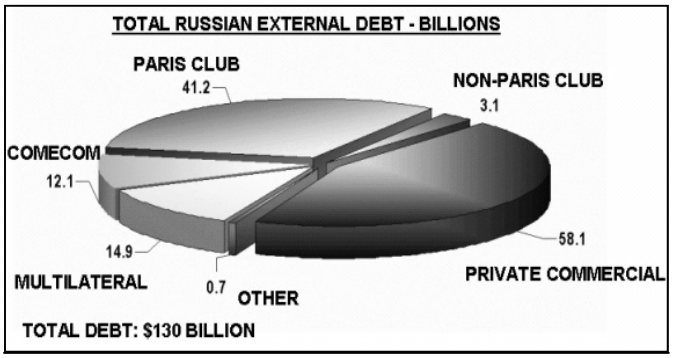
FEATURE ISSUE
DEBT FOR NONPROLIFERATION UPDATE

Debt for Nonproliferation: Update and Status



Source: US Department of Treasury, US-Russia Business Council and PNNL estimates as of June 2002.

In the last issue of *Global Security*, there was a feature on debt for nonproliferation and its merits as a tool in nuclear threat reduction. Since that issue, there has been a great deal of activity in support of the concept. Debt for nonproliferation has now been addressed by Congress, the Bush Administration, and, most recently, at the G-8 Kananaskis Summit. It has been the topic of House testimony. Debt for nonproliferation is increasingly seen as a useful mechanism for the US and its allies to secure weapons of mass destruction and assist Russia with its economic growth, thus providing a credible option for sustaining a Russia nonproliferation fund in the future.

Debt for nonproliferation is a term used to connote a debt restructuring and reduction, whereby the terms of a loan are changed or partially forgiven in return for which the debtor allocates an agreed upon amount of local currency to a nonproliferation project. Debt conversion and reduction is an approach that has been used to promote environmental objectives, such as conservation and biodiversity, since 1987, when the first debt for nature swap was executed. Debt reduction for nonproliferation employs the same concept, adapting it for the purpose of funding projects that will secure weapons of mass destruction (WMD) and their materials.

In July, G-8 members announced their Global Partnership Against the Spread of Weapons of Mass Destruction. This partnership, also referred to as "10 plus 10 over 10," commits the organization to addressing issues of nuclear safety, nonproliferation, disarmament, and counterterrorism. Initially, the areas of focus will be "…destruction of chemical weapons, dismantlement of decommissioned nuclear submarines, the disposition of fissile materials and the employment of former weapons scientists." The G-8 has committed $20 billion USD to this new partnership, with $10 billion committed by the US, and the remaining balance to be provided to Russia by other G-8 members.

The official G-8 Communiqué states that members can use bilateral debt to meet this financial obligation. The introduction of debt exchange with Russia as a financing mechanism has given debt reduction for nonproliferation a stronger financial base, as well as a broader audience. Most importantly, the Paris Club has agreed that G-8 members have the right to enter into bilateral debt negotiations without receiving Paris Club approval. This had been considered a potential stumbling block in the past, due to Germany's reluctance to forgive additional Russian debt. However, the new G-8 Global Partnership opens up the opportunity for any country within the G-8 to negotiate a debt reduction deal directly with Russia, and encourages other countries that are "prepared to adopt its *(G-8)* common principles and guidelines to enter into discussions… on participating in and contributing to this initiative."

The official communiqué released by the G-8 has six guiding principles that are to "prevent terrorists, or those that harbor them, from gaining access to weapons or materials of mass destruction." The principles cover issues such as weapons and weapons materials accounting, export controls, fissile material disposition, elimination of biological and chemical weapons, and development of effective physical protection measures. In addition, there is an expansive list of guidelines for new or expanded cooperative projects. These

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Inside...

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House International Relations Committee Hearing on the Debt Reduction for Nonproliferation Act of HR 3836

Opening Statement: Chairman Hyde

CHAIRMAN HENRY J. HYDE
HOUSE INTERNATIONAL RELATIONS COMMITTEE

The collapse of the Soviet Union heralded a new era, liberating hundreds of millions from the chains of dictatorship and the threat of annihilation. But this miraculous event was not an unalloyed good. Throughout its seven decades, the Soviet Union operated as a gigantic war machine, its economy, energies, and resources devoted to creating the means for the destruction of its endless enemies. The world has inherited the massive arsenal left behind and, with it, a mortal threat.

For well over a decade, we have been alert to the dangers posed by the combination of this deadly legacy and the frayed guarantees of its continued control. To secure these weapons and materials and the vast infrastructure that made possible their creation and manufacture, we have invested billions of dollars and tremendous effort, and there are many successes to report. But the task is far from over and is made more urgent by the efforts of terrorists and rogue states alike to secure access to weapons of mass destruction. The smallest of gaps in our defenses can have unimaginable consequences, and the first and most important line in our defense must be to prevent that access from occurring.

Given this very real threat, we must focus our attention on devising the most effective means to counter it. There are many factors to consider, among them the lessons learned from our nonproliferation programs to date, the degree to which we can persuade our allies to share responsibility for addressing a problem that threatens us all, and the extent to which the cooperation of the Russian government is likely to be forthcoming.

I confess that this latter question causes me great concern. Russia's record of cooperation in our existing nonproliferation programs is far from perfect, despite the commitments and assurances received or mandated by the agreements that established them. Far more disturbing is the problem of Russia's continuing proliferation of weapons, materials, and know-how to states such as Iran and China. Clearly, if we are to be successful in preventing the world from becoming an even more dangerous place, we must receive the cooperation of our friends and allies in all areas of concern, not simply those demarcated by US funding.

It is for these and other reasons that I have called today's hearing on the proposal to use Russia's Soviet-era debt to the United States to advance our nonproliferation efforts. The financial aspects of this innovative proposal are of considerable interest in themselves, and I look forward to a discussion of their merits and implementation. But of far greater importance is the degree to which this funding mechanism can have a positive influence on the broad range of factors I have mentioned earlier.

We have time to consider and weigh our options, but we have none to waste. Delay and indecision can only increase the risks we confront. The threat may seem distant and abstract, but we cannot allow the absence of crisis to lull us into a deceptive sleep. For then we would be certain to be awakened by a sudden alarm, one announcing the arrival of a new and darker era.

It is my hope that our discussions here today will help to equip us with the means to avoid that fate and to allow us to make secure our future and that of the entire planet as well.

The following are excerpts from the testimonies presented to the House Committee on International Relations during the July 25, 2002 hearing on House Resolution 3836, sponsored by Rep. Ellen O. Tauscher (D-CA). For the full testimonies, see: http://pnwcgs.pnl.gov

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House International Relations Committee Hearing on the Debt Reduction for Nonproliferation Act of HR 3836

Excerpts from Testimony of Rep. Tauscher

REPRESENTATIVE ELLEN O. TAUSCHER (D-CA)
SPONSOR OF HR 3836

Mr. Chairman, Ranking Member Lantos – I would like to thank you for the opportunity to testify before your committee on the issue of debt for nonproliferation.

The timing of this hearing could not be better. The May 24 arms agreement with Russia and the G-8 Summit in Canada this June together provide a critical framework for US-Russia relations that emphasize increased economic and security cooperation, and identifies preventing the spread of weapons of mass destruction as a top priority for both countries.

Secretary Powell called the Moscow Treaty an important element of a new strategic framework involving a broad array of cooperative efforts in political, economic and security areas.

As you know, they *(the G-8)* launched a new Global Partnership Against the Spread of Weapons and Materials of Mass Destruction to support specific cooperation projects that address nonproliferation, disarmament, counterterrorism, and nuclear safety issues.

This commitment to nonproliferation itself is important, but even more notable is the leaders' agreement to fund nonproliferation programs at $20 billion dollars over the next 10 years and specify that "a range of financing options, including the option of bilateral debt for program exchanges, will be available to countries that contribute to this Global Partnership."

As you know, more than a decade after the end of the Cold War, thousands of poorly guarded nuclear weapons and material still remain in Russia, increasing the possibility for their diversion or theft into the hands of terrorists. Existing US-Russian threat reduction programs have had an impressive track record over the last decade, but the challenge of securing Russia's vast nuclear arsenal is far from having been met. A more robust investment and international participation is needed to accelerate and complement US efforts and debt for security swaps are the ideal investment.

For example, the Department of Energy's Material Protection, Control and Accounting Program will not complete comprehensive security upgrades on fissile materials in Russia until 2011, but more focused funding and effort could enable at least rudimentary security improvements at these sites over the next nine months.

In January of last year, a bipartisan task force, chaired by former Senator Howard Baker and former White House Counsel Lloyd Cutler, highlighted this problem stating: "…the national security benefits to US citizens from securing and/or neutralizing the equivalent of more than 80,000 nuclear weapons and potential nuclear weapons would constitute the highest return on investment in any current US national security defense program."

The Baker-Cutler task force strongly recommended that, at a minimum, investment in DOE nonproliferation activities should be increased to roughly one percent of the annual US defense budget, which would total about three billion dollars per year, or $30 billion over the next 10 years.

I welcome the administration's pledge at the G-8 meeting to commit $10 billion dollars to threat reduction programs. But to actually improve on current funding levels, the $10 billion figure has to be a floor and not ceiling. Nonproliferation programs are the only proven way to literally buy down our risk that a loose Russian nuke will be stolen by a terrorist and aimed at us.

The G-8 agreement and its specific reference to debt reduction as a mechanism for combating the spread of weapons of mass destruction is a vital development as it does a number of things: it helps Russia reduce its outstanding debt; it involves Russia and the rest of the G-8 countries in programs that directly improve US national security; and it extends burden-sharing to our allies. In terms of Russia's incentives, we know that Russia has identified $17 billion dollars in its fiscal year 2003 budget for servicing its debt.

Now is the time to seize this unique moment in history. Accordingly, I introduced bipartisan legislation supported by three members of this committee, Representatives John McHugh, Mark Green and Adam Schiff, the Russian Federation Debt Reduction for Nonproliferation Act of 2002.

The legislation would establish debt for nonproliferation swaps, is modeled on past successful debt reductions for environmental efforts, and authorizes the President to establish an office at the Treasury Department to administer the debt reduction and authorizes $150 million in appropriations over fiscal years 2002 and 2003 to offset the cost of debt reduction to the Treasury.

The bill gives the President authority to reduce the Lend Lease and agricultural portions of Soviet-era debt, and replaces those obligations with new obligations defined

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House International Relations Committee Hearing on the Debt Reduction for Nonproliferation Act of HR 3836

Excerpts from Testimony of Dr. Fuller

DR. JAMES L. FULLER
BATTELLE/ PNNL

Thank you for the opportunity to comment on the use of Russian debt to enhance security. The Debt Reduction for Nonproliferation Act contained in S 1803 is an innovative, new approach in the prevention of proliferation. It is a good tool for President Bush and future Presidents to use to elicit additional participation by other industrialized nations. It also could help to increase the investment in Russia proliferation prevention programs to a level more commensurate with those recommended by the bipartisan 2001 Energy Department Russia Task Force.

We started thinking about the possibility of Russian debt swaps for nonproliferation in mid-1999 after a seminar at the PNNL Pacific Northwest Center for Global Security by a distinguished economist, Dr. John Hardt, who came out to talk to us about Russia's economic policy dilemma and US interests. The thought occurred to me that if the United States and other members of the Paris Club had been willing to forgive significant amounts of debt for emerging democracies such as Poland to help with environmental issues, surely it made sense to consider doing the same thing for the Russian Federation in relation to some of the under-funded cooperative efforts to limit the spread of chemical, biological and nuclear weapons.

The pros and cons of debt for nonproliferation can be broken down into two basic categories: financial and political. While the Russian liquidity crisis seems to have been resolved for the time being, federal budget solvency issues are still a major concern due to the significant portion of the annual budget that must be earmarked for external debt servicing. This burden reduces the funds available for more discretionary programs such as proliferation prevention.

The political dimensions of debt for nonproliferation are the utility of this proposal for advancing US nonproliferation programs in Russia, including its potential impact on the structure and effectiveness of those programs; the prospects and conditions for ensuring sufficient cooperation and participation by the Russian government; and operational considerations and options, including participation by nongovernmental organizations (NGOs).

From my own perspective debt reduction for nonproliferation would significantly advance US proliferation prevention efforts. What we are talking about is nothing short of a global proliferation prevention partnership addressing a problem that the US Congress has called "the most urgent unmet national security threat to the United States." Debt Reduction for Nonproliferation is synergistic with President Bush's proposal adopted by the G-8 for a Global Partnership Against the Spread of Weapons and Materials of Mass Destruction sometimes referred to as "10+10 over 10."

The impact of a debt reduction for nonproliferation program on existing efforts is hard to gauge. My view is this: we should consider the $10 billion over 10 years commitment made by the United States at Kananaskis as a US funding floor since it is consistent with recent and near-term Administration budgets. We should continue to give priority within this proposed $10 billion expenditure to the critical, more immediate security concerns such as accounting and protection of fissile materials and radiological dispersal device materials, and the continued production of weapons plutonium. And, we should probably continue to work on such problems in the somewhat one-sided, contractually forceful service-for-fee "compliance" manner that we have been using with Russia for the last several years. We do not want to negatively impact progress by changing the construct.

A Russia Nonproliferation Fund has several concomitant advantages. It allows G-8 contributors to pool resources to accomplish more; provides a mechanism for contributions for other national, multilateral, and even private commercial entities; allows Russia a major governance role in partnership with contributors; permits Russia to reduce the debt service burden on its budget and improve its credit-worthiness without further tapping into its Central Bank hard currency reserves; could be used to provide loan guarantees or direct funding to help build a viable commercial security sector with Russia; and could include formal roles for international NGOs in supplementing resources and measuring and assuring project performance.

In my view, a Russian Nonproliferation Fund of the type I have described would be effective in accommodating a key objective of President Bush's proposal and the G-8 Kananaskis agreement.

The prospects and conditions for ensuring sufficient cooperation and participation by the Russian government are also strongly dependent on the way in which debt reduction for nonproliferation is implemented if all the United States is offering is the choice between business as usual (one billion per year direct aid) and a smaller amount of direct aid with

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House International Relations Committee Hearing on the Debt Reduction for Nonproliferation Act of HR 3836

Excerpts from Testimony of President Curtis, NTI

PRESIDENT CHARLES B. CURTIS
NUCLEAR THREAT INITIATIVE

Mr. Chairman and members of the Committee, it is a privilege to speak with you today. From the very outset I want to associate myself and NTI with the finding put forth in the Russian Federation Debt Reduction for Nonproliferation Act as part of S 1803 and mirrored in HR 3836. S 1803 passed the Senate Foreign Relations Committee unanimously with the strong endorsement of Senator Helms. In a similar spirit of bipartisanship, Representatives McHugh and Schiff joined Representative Tauscher in introducing HR 3836 on March 4.

September 11 convincingly demonstrates that the capacity of terrorist groups to inflict death and destruction is limited only by the power of their weapons. The United States has a vital interest in working with other nations to secure and reduce weapons of mass destruction and their constituent materials around the globe. As the debt swap legislation's findings make clear, much of that work must be accomplished in Russia eliminating chemical weapons, destroying or converting bio-weapons facilities, creating peaceful employment opportunities for weapons scientists, securing nuclear weapons and materials, and rendering nuclear or radiological materials useless to terrorists who are seeking so desperately to acquire them.

The burden presented by these tasks is too great for the United States to tackle alone; we need assistance from our Allies. A debt swap mechanism, as envisioned by this legislation, presents a promising and creative supplemental avenue to explore in generating additional funding streams to help reduce Russia's proliferation vulnerabilities. Converting Russian debt into increased funding for nonproliferation efforts inside Russia would make a vital contribution to global security.

At the most recent G-8 Summit in Canada for the first time since the end of the Cold War, the world's leading economies and Russia went on record as recognizing the profound dangers we face around the world in the form of terrorists' determination to acquire weapons of mass destruction. Moreover, the G-8 has now pledged considerable resources—$20 billion over the next 10 years—to keep the world's most dangerous groups from acquiring the world's most devastating weapons. Russia emerged from this summit as a full partner in the newly announced G-8 Partnership Against the Spread of Weapons and Materials of Mass Destruction. In doing so, Russia has pledged to abide by a series of stringent guidelines that are designed to promote transparency and access to facilities involved in threat reduction projects. The guidelines crafted by the G-8 require that Russia take steps to ensure that assistance provided will be exempt from taxation and accept the need to have clearly defined milestones. Russia, along with the rest of the G-8 also agreed to assure appropriate privileges and immunities for donor government representatives and contractors working on cooperation projects.

President Bush and his Administration could use the legislation before you as a vital tool to ensure that the G-8 meets its recently announced commitment to spend $20 billion over the next decade to secure vulnerable weapons and weapon materials in the former Soviet Union and elsewhere. G-8 leaders specifically mention bilateral debt for program exchanges as a possible mechanism to use in meeting this pledge debt swap would play a key role in making sure that there is a sharing of the burden in meeting the global threats we face together. Converting Russian debt into increased resources for eliminating proliferation vulnerability should lead to greater Russian involvement in securing its own weapons and materials.

In 2001, NTI commissioned a study conducted by specialists at Battelle to address the concept of a Russian debt for nonproliferation swap. This study concludes that debt reduction for nonproliferation is both useful from a burden sharing perspective and practical from an implementation standpoint.

After reading the G-8 announcement launching the Global Partnership Against the Spread of Weapons and Materials of Mass Destruction, I can see that the Administration is aware of the complications and is prepared to deal adequately with them. In addition, the Battelle report provides several useful precedents to guide this work.

Let me outline briefly the scope of what may be an acceptable and workable mechanism. One, debt agreements and conversion framework agreements should clearly define fund governance and asset protection measures. The agreement must also establish transparent systems of program and project management. And, the fund must be fully auditable according to strict requirements that have been refined over ten years of experience in monitoring US-Russian cooperative threat reduction activities. Two, there should be a mixed board of directors, with members from donor countries as well as Russia, to govern and oversee project selection and implementation criteria. Three, donors should be able to direct their contributions to specific classes

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House International Relations Committee Hearing on the Debt Reduction for Nonproliferation Act of HR 3836

Excerpts from Testimony of Undersecretary Larson

UNDERSECRETARY FOR ECONOMIC, BUSINESS AND AGRICULTURAL AFFAIRS, ALAN LARSON
DEPARTMENT OF STATE

I would like to thank Chairman Hyde and other distinguished committee members for the opportunity to testify. My testimony will focus on one of the possible means of financing this important initiative—the waiver of US collection of Russia's repayment on its Soviet-era debt to the US in order to finance Russia's implementation of expanded non-proliferation programs.

Let me underscore two very important reasons for expanding cooperation to promote nonproliferation. The first is the national security imperative of destroying or bringing under responsible control the materials and technologies that could let hostile powers threaten the United States with weapons of mass destruction. The attacks of September 11 have given us a glimpse of the terror that such weapons, in the wrong hands, could inflict on the American people, or on the people of any country.

The second reason is the new opportunity opened by the US-Russia strategic relationship. Over the last year Russia has confirmed its position as a partner in the war against terror and is cooperating with the United States on many issues. In particular, the Russian leadership has made clear its interest in doing more, cooperatively, to eliminate or secure weapons of mass destruction and related material, equipment and technologies.

The G-8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction was the most notable achievement of the G-8 Summit in Kananaskis. It will focus on non-proliferation, disarmament, counterterrorism and nuclear safety projects, initially in Russia. The US played a leading role, but all of our G-8 partners deserve great credit for seeing and grasping a historic opportunity.

The Global Partnership commits the G-8 to raise up to $20 billion over 10 years for cooperation projects to address nonproliferation, disarmament, counterterrorism and nuclear safety issues. The United States has agreed to provide half of this sum. This initiative will make possible substantially increased nonproliferation efforts, through new and expanded multilateral and bilateral projects.

The initiative also includes a commitment to a set of principles designed to prevent terrorists from gaining access to weapons or materials of mass destruction. Partners will coordinate their projects to obtain the broadest coverage of nonproliferation requirements, avoid gaps or overlap, and help resolve any implementation problems.

The initiative allows each partner the flexibility to finance and carry out projects in a manner consistent with its program priorities, national laws and budgetary procedures. Bilateral debt for program exchange is an option for financing projects under the Partnership. The Administration will consult closely with Congress on the formulation of nonproliferation and threat reduction programs and projects, and on the choice between debt or more traditional assistance as a funding vehicle.

The Administration's concept for how a debt option might work is straightforward. The United States would agree in advance to waive collection of a given amount of debt payments owed by the Russian government to the United States government on Russia's Soviet-era debt. As a consequence, Russia would be able to make expanded budgetary expenditures for agreed upon nonproliferation activities. The financial and budget mechanics would be worked out in negotiations with Russia, subject to the requirements of US law.

I would like to highlight one point, that the Administration does not consider this kind of a financing vehicle as debt relief, per se. Financially, Russia does not require further debt relief. Since its financial crisis in 1998, Russia has adopted improved economic policies and has benefited from relatively high world oil prices. Although it remains a country with serious poverty and pressing needs, it can and is paying its bills.

At the same time, Russia cannot afford to do everything we would like it to do. In the wake of the breakup of the former Soviet Union, Russia chose to take over the assets and liabilities of the Soviet Union. This decision saddled Russia with a number of burdens, among them a vast and decaying collection of Soviet-era weapons and production facilities. In addition, Russia assumed the entire Soviet debt in exchange for title to all Soviet assets abroad. A decade later, these decisions and a changing global environment have left Russia with many responsibilities: to destroy chemical weapons in compliance with international obligations; to close down plutonium production facilities and dispose of excess fissile material; to dismantle old ballistic missile submarines and other strategic launch systems.

While Russia's fiscal position has strengthened enormously over the past three years Russia is pursuing an ambitious set of structural reforms that will involve

Featured Project...

significant fiscal outlays over the medium term.

Between 22 and 33 percent of Russians live in poverty. The life expectancy of a man declined from 64 years to 59 over the past decade. The government must cope with persistent financial demands to update its antiquated education and health systems. While Russia has been devoting its own resources to the destruction and control of dangerous materials, budget pressures have made it difficult to proceed with these tasks as fast as the Russian leadership and we believe is necessary.

The Administration has agreed to consider this exceptional financing option for Russia because of the unique burden Russia bears from the Cold War. It is not in our interest that Russia should face alone the harsh choice between the basic needs of its population or eliminating chemical weapons or excess plutonium.

Only in Russia do we confront so starkly the combination of Cold War debts and the proliferation threat. We see debt exchange for financing nonproliferation efforts as a possible approach unique to Russia.

A debt exchange arrangement would be a contract between the United States and Russia. First, the contract would be based on a mutually agreed upon price for a clearly defined product, just as is the case with our current assistance programs. There would be an agreed timeline for delivery, with clear benchmarks for tracking specific projects. We would insist on effective monitoring and accountability. The contract would include provisions for suspension, and even termination, of the debt exchange, in the event of non-performance. The Committee should note, however, that as provided under the Credit Reform Act, the Administration would request that Congress provide the costs of this contract at the outset of the program.

In closing, I would like to emphasize that this initiative is a work in progress. Many details remain. But it is an innovative option that the administration would like to have available for working with the Russian Federation on addressing Soviet-era threats to our mutual advantage.

Curtis Testimony *(Continued from page 5)*

of projects. Four, there should be a debt reinstatement provision that could be used for insurance in the event that Russia did not fulfill the terms spelled out. And, five, projects should be executed through contracts with qualified and experienced Western and Russian contractors. This last principle is essential for fund administration in terms of having sufficient assurances that monies will only be expended for work performed and in accordance with suitable, mutually accepted milestones.

President Bush said it best last November when he declared that America's number one national security priority was to prevent terrorists and those who support them from acquiring weapons of mass destruction. Russia is our natural partner in this struggle.

We know that terrorist groups have been actively seeking weapons of mass destruction. We also know that Russia is home to vast stores of nuclear, chemical and biological weapons as well as people and materials that can produce them. And, we know that we are a long way from adequately securing, consolidating and reducing these weapons and materials. What we do not know is how much time we have to work in cooperation with Russia before the next act of terrorism, an act that might very well involve a nuclear, chemical, biological or radiological weapon.

US homeland security, therefore, begins in the former Soviet Union.

Fuller Testimony *(Continued from page 4)*

the difference being made up by the swap, then a debt for initiative is dead on arrival, in my opinion. The best way is to: 1) earmark US debt for monies to be a significant addition to current and projected levels of US direct appropriation; 2) apply these monies in a manner that will help guarantee that the other G-8 countries meet their $10 billion/10 year commitment; and 3) give the Russians a partnership role in governance of the programs in a way that acknowledges their global stature, as well as their sovereignty over their national security and financial matters.

Battelle has done quite a lot of work on this subject for the Nuclear Threat Initiative. The four programs that received our most intense focus were USAID debt swap activities, the Polish EcoFund, the US-Russia International Nuclear Safety Program, and the US-Russia Cooperative Threat Reduction program.

Given the extent and complexity of the proliferation prevention issues in Russia, we recommend a modified two-tiered structure (similar to the Polish Ecofund model) consisting of an engaged stakeholder Board of Directors made up equally of creditor and Russian representatives, and an Implementation Team that could be heavily supported by NGOs. As I have stated, I believe that NGOs could play a significant role in the success of "10+10 over 10" that includes debt swap components.

Other Projects...

IPP Scientists Advance Neurotoxin Detection Capabilities

IPP contract celebration. Right to left: Dr. E. Fokin, GOSNIIOKhT; Professor S. Varfolomeyev, MSU; Dr. Natalya Zavialova, Russian Ministry of Defense; Dr. V. Zoryan, GOSNIIOKhT; L. Berube, PNNL; J. Miles, PNNL; Dr. I. Kurochkin - "the father" of the Analyzer, MSU; Evgenia Rainina, PNNL, center.

PNNL scientist Evguenia Rainina and colleagues from two Russian institutes, Moscow State University's (MSU) Department of Chemical Enzymology and the Allstate Institute of Chemical Technology (GOSNIIOKhT), are working together to create a quick and easy-to-use analyzer to detect and characterize the nature of chemical neurotoxins. The project is being conducted under the US Department of Energy's (DOE) Initiatives for Proliferation Prevention (IPP) program, developed to counter the proliferation of weapons of mass destruction (WMD) by offering weapons scientists of Newly Independent States (NIS) commercial opportunities to apply their knowledge. This enables NIS scientists to utilize their expertise for peaceful purposes and reduces their incentives to share their abilities with groups or countries seeking to acquire WMDs.

Rainina, who is project leader, describes her team's objective as being "to manufacture a new type of lab analyzer that identifies and discriminates organophosphates from other neurotoxins."

Organophosphates are the most potent type of neurotoxin and are widespread within the environment. They are used in pesticides and herbicides—as well as chemical weapons, and their accumulation in produce, water and soil can be dangerous for human and animal health, and the environment.

In accordance with the IPP model, MSU and GOSNIIOKhT have been paired with a commercial partner, New Horizons Diagnostic, which is matching DOE funds during the discovery and proof of principle phases of the project. In the third and final phase, the participation of DOE, which has also played an oversight role, will end and New Horizons will finance the manufacturing of the final product.

After two years of work, Rainina and colleagues are in the final stage of phase two, testing the new product. The team began the project with the advantage of already having a prototype developed by Russian team members. However the prototype analyzer, as well as the mode of analysis, were extremely complex, "requiring that one be a doctor of science to use it and do analysis," says Rainina. It became clear to her toward the end of last year that the prototype would need to be greatly simplified in order to ensure practicality and reliability in its yielding of results, and to differentiate it from current methods to detect neurotoxins.

"We had to do a… lot of work to make it user-friendly…," she says of the analyzer. "Now it is fully automatic, and requires no education to use… You just take the sample, follow the procedure and dip the needle from the analyzer into the sample, push a button, and in twenty minutes you have your analysis on screen… The value is incomparably higher than *(if it were)* just a method."

The results are a portable, durable analyzer, and reliable analysis that determines whether or not a sample contains neurotoxins; whether the toxins are organophosphates; and discloses the level of neuro-toxicity of samples. The analyzer and supplemented reagent kits are intended to be a low cost, easily accessible and simple-to-use option for military personnel, to detect contamination from chemical weapons; farmers, to determine whether crops and soil are free of neurotoxins; US Environmental Protection Agency (EPA), for management of natural resources, including water resources; and chemical enterprises and pesticide producers, for controlling wastes.

The twelve analyzers, with the reagents for analyses created by Rainina's team, will go to organizations including the DOE, EPA, US Department of Defense and US Department of Agriculture for testing, and to universities for use in research. Feedback on the analyzers will be utilized to make modifications. Rainina also anticipates that the analyzer will be miniaturized, and that at some point it will be enhanced to discriminate between different organophosphates.

Each component of the research team contributed different capabilities to the effort. GOSNIIOKhT scientists have extensive experience with organophosphates and also have great familiarity with current methods of detecting organophosphates and other neurotoxins, enabling them to authoritatively determine whether the

Other Projects...

new analyzer is as good and reliable as existing methods used by the food, chemical and other industries.

The background of MSU staff is in using enzymatic methods, specifically, in analytic chemistry. MSU scientists have been responsible for the end product of the project. They created the mode of discriminative analysis; designed and manufactured the first model of automatic analyzer with a multi-enzymes recognition element; and supplied the analyzer with a user-friendly analytical kit.

GOSNIIOKhT scientists prepared the samples and analyzed them using traditional analytical tools. The same samples were provided to MSU scientists for the analysis with the new biosensor. The teams both compared the results of the new and old methods and "graded" them. Thus, two institutions have been working as one team for the project.

Rainina's role in developing the analyzer and analysis mode has been that of supervisor/colleague/end-user/ tester. "And I played that role hard," she laughs. Then, becoming more serious she explains.

"If this *(the analyzer)* doesn't work like they *(the commercial partner)* need it to work, it doesn't work. If it doesn't work it means you don't have an analyzer."

The product needs to be useable by everyone and consistent in its results. Another goal has been to make the method of neurotoxins detection more accurate/unambiguous than a current AChE- based method used by the US Army for neurotoxins detection, which permits certain neurotoxins to cancel out the presence of one another.

New Horizons Diagnostic Corporation, of Columbia, Maryland, is a strong supporter of IPP and is involved with other program projects as well, including one to detect biological pathogens in food products. Although the company has no previous experience with biosensors, it has been highly involved in the project with Rainina's team and has plans to apply the new detection technology for a wide array of purposes. The corporation is seeking to partner with a Russian team to manufacture the analyzers and the reagents for analysis in Russia. The resulting Russian company will have a business and a research division, which is exciting to Rainina's colleagues because it potentially means more project work. For this and other reasons—such as her experience as a NIS scientist and previous member of MSU's staff—Rainina is an enthusiastic supporter of IPP.

"I would say IPP is unique—it has a very interesting perspective...," she explains. "It provides reasonable funding and very intensive control. Payment is not released until there is satisfaction with the results; it is not welfare, but collaboration."

She admits that sometimes with IPP projects she sends the reports back five or seven times, but also insists that is what lends the program its credibility. It is extremely results oriented. And, if it turns out that a project is not feasible, as long as there is a sound explanation as to why, that counts as a result too.

"There is also control over how money is spent—it doesn't all go to salaries but to equipment and communications as well," she says.

"Moscow State University recently got a new lab… IPP helped it to get great equipment… all the scientists have stayed on. They have good equipment and good salaries... When prospective clients come, they are impressed with the level of the lab, which leads to new project funding… They *(prospective clients)* see young faces… post docs with bright eyes who are satisfied with their work… They *(MSU)* also have all rights to do with their research as they please... They are building something for today and tomorrow," she says. "This is real."

Tauscher Testimony

(Continued from page 3)

through a "Russian Nonproliferation Investment Agreement" negotiated with the Russians and resulting in a Nonproliferation Fund.

Both my bill *(HR 3836)* and the Senate bill *(S1803)* would allow the President to sell the debt to an eligible third party or to the Russian government, provided that required nonproliferation plans, commitments, and transparency measures are in place.

The bill *(HR 3836)* further requires that nonproliferation programs be approved by the US government directly or via its representative on any governing board established to manage the funds, incorporate best practices from established threat reduction and nonproliferation assistance programs, be free of Russian taxes, be subject US audits, and that seventy-five percent of the funds be spent in Russia.

Finally, the bill mandates that the President or his designee enter into discussions with the Paris Club of creditor states on getting them to agree that a significant portion of their bilateral debt with Russia be devoted to nonproliferation and arms reductions activities.

I recognize that our bill and the Senate version are but one way of addressing debt for security, but I believe that it gives the President a vital tool to defend our nation and I look forward to working with my colleagues in Congress and the administration to move this measure forward.

Thank you, Mr. Chairman.

Other Projects...

Working to Improve Energy Efficiency in China

The Beijing Energy Efficiency Center (BECon) is an important partner in efforts to promote improved management of energy use in China. Since its inception in 1993, the Center has been involved in a variety of projects working with the Chinese and United States government, domestic and foreign industry, and international organizations such as the United Nations and World Bank. These activities have revolved around efforts to promote energy efficiency technologies and awareness of the environmental impacts of energy use, and to improve market practices concerning the consumption of energy.

BECon, described by Pacific Northwest National Laboratory (PNNL) Project Manger, Jeffrey Logan as, "an innovative institution staffed entirely by Chinese whose goal it is to promote efficient use of energy in China," is one of six independent, nonprofit energy efficiency centers launched by the Advanced International Studies Unit (AISU) of PNNL. The other centers are located in Russia, Bulgaria, Poland, the Czech Republic and Ukraine. All are staffed by local experts and were provided with core funding from the US Environmental Protection Agency, the US Department of Energy, and the World Wildlife Fund. AISU employees serve as planning and logistics advisors for the centers and play an oversight role.

The issue of energy efficiency is important for many reasons. Energy security—and thus, the availability and accessibility of sufficient and affordable energy —is recognized to be a key factor of national stability. In addition, the use and production of energy has profound environmental impacts, as well as consequences for public health and states' economies.

The United States government has several incentives to support energy efficiency efforts in China. The country is an enormous market for US businesses selling energy saving technologies, and according to Logan, the US government has already more than recouped in taxes what it has invested in energy saving projects in China. In addition, reducing pollution in China has a global impact because China is the second largest emitter of greenhouse gases in the world (the United States is the largest). And, as Chinese companies gain a competitive edge and greater share of the global market, they are increasingly embracing transparency measures and other international standards, in turn, pressuring their government to do the same.

From the perspective of the Chinese government, higher efficiency is necessary for economic success. In the 1980s, when China began its transition from a closed to a more open market, requiring consistent economic growth of around eight percent, officials feared that a lack of energy would impede the nation's long-term economic ambitions. The country is heavily dependent on its enormous coal reserves, which supply 67 percent of its energy. Coal is heavy and expensive to transport, and coal found in China often contains a lot of sulfur and ash, making it highly polluting. The government has experimented with other energy production options, including nuclear energy (three or four nuclear reactors are now operating and more will come on line soon). However, the greater shift in policy has been toward improved efficiency and cleaner production methods.

July 1998 Roundtable Meeting, Guilin, China: Former President Bill Clinton and BECon Director, Zhou Dadi.

Also, environmental problems such as water shortages, exacerbated by contamination and inefficiency in use; dust storms; water and air pollution—the World Bank estimates that, in China, nearly 400,000 premature deaths result each year from air pollution—have taken a toll on public health budgets and local economies, making a clear connection between environment and the economy. So, in the early 1990s, when the creation of BECon was proposed to the Chinese government, the Center was a welcome addition to existing efforts in the drive toward greater efficiency and improved environmental management.

BECon is engaged in several activities to promote greater efficiency: it advises the government on energy policy; educates the public and industry on energy and environmental issues; helps to arrange financing for energy saving projects; and organizes information exchanges and public outreach on the benefits of energy saving practices and technologies.

One of the Center's efforts is a $150 million project with the World Bank, Global Environment Facility, and European Union to introduce commercial Energy Service Companies (ESCOs) in China by creating pilot firms. It is estimated that the vast majority of energy saving potential in China lies within the industrial sector, and ESCOs have both

Other Projects...

the technical expertise needed to improve energy efficiency and the financial savvy to determine which measures would be most profitable to companies. ESCOs perform energy audits for client companies by evaluating the way in which the company uses energy and devising a plan for improved efficiency. After the client approves the plan, the new methods or technologies are implemented. According to Logan, in China, the majority of companies operate at a low level of efficiency making it possible for ESCOs to routinely provide savings of 30 percent or more to clients. As payment, the audited company and ESCO then split the savings over a specified time frame—usually two or three years. Afterwards, profits/savings are entirely enjoyed by the client company.

BECon is also working on the China Green Lights Project, which has strong support from the Chinese government including the Vice President of the State Economic and Trade Commission, who is the project lead. The objective of the multimillion-dollar campaign is to promote the benefits of "green lighting." The campaign will include a permanent Beijing exhibit of the products of 60 "green lighting" manufacturers. It will also entail efforts to help companies obtain the technology and funds they need to manufacture efficient lighting products, such as fluorescent bulbs, in an attempt to create both a market pull and push for the products.

Other BECon activities include efforts to identify financing sources for energy efficiency projects (which is somewhat of a challenge because in China only banks can lend money) and aiding local governments to implement the Energy Conservation Law. Local implementation of the new law, which entered into force in January 1998, is crucial, as it will determine the law's real effectiveness.

While BECon provided guidance to the Chinese government in its initial shift toward greater energy efficiency, more prosperous provinces, and cities like Beijing, Shanghai and Guangzhou now lead the way. As the economy grows, public interest and awareness of environmental issues is rising, resulting in a stronger demand for a healthy environment. And, planning for the 2008 Beijing Olympics has made the Chinese government eager to "clean up" Beijing and surrounding areas in time for the games in hopes of making a positive impression on the world.

"BECon has succeeded beyond most people's wildest expectations," says Logan, who has great praise for BECon's Director, Zhou Dadi, and his effective steering of BECon, as well as for the contributions of Zhou's team. "A lot of BECon researchers are dedicated in ways that go beyond financial reward because they believe energy efficiency is key to China's future—they're doing something great for the country."

PNNL Undertakes NA-20 Nonproliferation Graduate Program

This spring, PNNL was asked to assume the management for the NA-20 Nonproliferation Graduate Internship Program for the National Nuclear Security Administration (NNSA). PNNL began this year's activities by providing a twelve-day orientation and training in Richland, Washington for the Class of 2002. The program, sponsored by the NNSA, is a full-time internship designed to offer practical experience to students interested in exploring a career in international security and nonproliferation. Candidates must be first- or second-year graduate students in Economics, International Affairs, Political Science, International Business, Science, Engineering and/or a combination of International Affairs and Science, or Engineering. They may choose between domestic placement in Washington, DC, or placement in Russia, Ukraine or Kazakhstan.

The orientation/training agenda at PNNL's Richland campus included an introduction to the Lab's Energy, Fundamental Science, Environmental Science and Technology, and National Security Divisions with special focus on the latter. An overview was provided of the Department of Energy's (DOE) National Laboratory System, Russian weapons complex, Nuclear Cities Program, and Initiative for Proliferation Prevention program. Also, introductory lectures were given on various topics such as the technical requirements for the production of nuclear explosives, international border security, and the role of nongovernmental organizations in global nonproliferation. Activities included tours of the Richland B-Reactor, Plutonium Finishing Plant and Applied Process Engineering Laboratory.

After orientation, students traveled to Washington, DC to prepare for their DC and overseas assignments. Domestic practicum entails a fourteen-month placement at the Department of Energy's NNSA Headquarters in Washington, DC, or with other US agencies that participate in daily support of NNSA's nonproliferation efforts. Overseas practicum entails a fifteen-month foreign placement in Russia, Ukraine or Kazakhstan, and requires fluency in either Russian or Ukrainian. Overseas interns spend the last month at NNSA headquarters in Washington, DC before completing the program.

The internship program is designed to promote awareness and interest in nonproliferation careers within DOE and its national laboratories; provide participants with practical training and experience in nonproliferation; and help NNSA to achieve its nonproliferation mission by expanding its recruiting base and priming individuals for future employment.

Forging Alliances...

Senators Cantwell & Murray Address Security & Transportation Issues at WCIT Annual Conference

Left to right: Leigh Anderson, UW; Steve Martin, PNNL; Senator Patty Murray.

On July 2, Washington State Senators Maria Cantwell and Patty Murray addressed security and transportation issues at the Washington Council on International Trade's (WCIT) 7th Annual Senators' Conference. The conference, "Trade, Transportation and Security: Doing Business in Uncertain Times," was held at the Bell Harbor International Conference Center in downtown Seattle providing regional leaders and trade professionals an opportunity to meet and discuss current challenges impacting trade growth and stability.

WCIT is a strategic partner of the Pacific Northwest Center for Global Security, which places great importance on cooperative efforts with local nonprofit, academic and other organizations for the purpose of pursuing global stability enhancing missions. WCIT is a private, nonprofit, non-partisan association of trade interests in Washington State whose purpose is to inform, advocate and educate the public, elected leadership, educators and the media about the role and importance of trade. WCIT has promoted the benefits of a strong trade base in Washington State for almost three decades, dealing with topics such as corporate responsibility, sustainability, and labor rights. The organization is associated with the International Trade Education Foundation, which works with teachers and students to enhance knowledge and understanding of the vital importance of trade on local, national and international levels. The objective of the 7th Annual Senators' Conference was to "raise awareness on transportation and security issues" that are presently having a profound effect on business owners, workers, farmers and the state economy, and to provide Senators Murray and Cantwell "an opportunity to hear frank and open discussion of the challenges presented," said Bill Center, President of WCIT.

The event also enabled participants to share potential solutions to issues, and to provide real-time feedback to the remarks and suggestions of speakers through the use of instant electronic polling devices developed by the local pollster, Elway Research.

During the conference, Senator Murray, who is currently Transportation Subcommittee Chair of the Appropriations Committee, spoke about the importance of transportation infrastructure for fostering employment and a strong economy, calling investment in critical infrastructure the "foundation for our future economic growth." Senator Cantwell, who serves on the Subcommittee for Technology, Terrorism and Government Information, also addressed the audience, speaking about the changes in security since the attacks of last September 11 and the challenge of implementing sufficient levels of security measures without constricting commerce.

In addition, Steve Martin, Manager of Protection, Interdiction, and Enforcement Technology at Pacific Northwest National Laboratory talked about Homeland Security and the Laboratory's activities and responsibilities in that area. Doug MacDonald, Washington State Secretary of Transportation, and Karen Schmidt, former Executive Director of the Freight, Mobility and Strategic Investment Board, discussed transportation issues. Several business and political leaders, and academics from the region, including representatives from Airborne Express, the World Shipping Council, the AFL-CIO, REI and the University of Washington, also provided audience members with insight on current challenges.

WCIT President Center expressed much satisfaction with the outcome of the annual event stating, "We definitely met our objectives by raising awareness of the importance of passing transportation measures like Referendum 51 and underscoring the need for a balanced, carefully considered approach as we make needed improvements in homeland security."

Major sponsors of the event were, Microsoft, the presenting sponsor, Boeing, the Port of Seattle, and Weyerhauser.

Forging Alliances...

PNNL Global Security Education and Outreach

PNNL's Pacific Northwest Center for Global Security (PNWCGS) and the University of Washington's Institute for Global and Regional Security Studies (IGRSS) worked together to organize and recruit for three study opportunities for this past summer: a natural sciences and global security internship for which two students were matched with National Security Division (NSD) staff and projects; an independent study in global security for which four students from the University of Washington's Jackson School of International Studies were paired to NSD projects; and an arms control and nonproliferation internship entailing work in Washington, DC at PNNL's Washington Office and with the Nuclear Threat Initiative's management team.

Other outreach and education activities this year in the realm of security have included the presentation of lectures on nonproliferation at the University of Washington by Jim Fuller, Director of PNWCGS and of PNNL's Defense Nuclear Nonproliferation Programs, as well as Fuller's appearance this past spring on radio station KUOW with Laura Holgate, Vice President for the Nuclear Threat Initiative's Russia/Newly Independent States Program, to speak about United States-Russia cooperative nonproliferation efforts.

This summer, PNNL launched three programs offering work experience in the field of global security in cooperation with the UW.

The following pages contain the profiles of participants in this summer's internship and independent study program, conducted at PNNL's Richland campus and Washington, DC office.

Debt for Nonproliferation Update *(Continued from cover)*

guidelines, agreed to by all G-8 members, include monitoring, auditing and transparency measures for selected projects, as well as access to work sites for donor representatives.

The G-8 Summit was followed by another significant event, the July 25 House hearings on the use of debt reduction for nonproliferation. The hearing, entitled "Loose Nukes, Biological Terrorism, and Chemical Warfare: Using Russian Debt to Enhance Security," focused on the advantages to the United States of using debt reduction with Russia in order to finance and promote the securing of weapons of mass destruction. The hearing featured testimony from Representative Ellen Tauscher, the original sponsor of the House bill; Undersecretary of State for Economics, Business and Agricultural Affairs, Alan Larson; President of the Nuclear Threat Initiative, Charles Curtis; and Director of the Pacific Northwest Center for Global Security, James Fuller. There was a positive endorsement of the debt for nonproliferation concept by almost all attending House Representatives, and an acknowledgment of the need for a significant increase in funding for Russia nonproliferation programs. It is anticipated that the House and Senate will hold conference on their respective debt for nonproliferation bills in September, and that the bills will be authorized in FY03.

Even though there has been growing consensus on the importance of debt for nonproliferation, there has been limited discussion of how it will work in practice. First, the G-8 Global Partnership has not defined precisely how the financial commitments will be met, nor how the $10 billion commitment (remaining after the $10 billion to which the US is committed) will be divided. Also, while G-8 members have committed to ensuring accountability and transparency of program funds, there has yet to be a discussion on how this will be achieved. Secondly, the United States has not yet determined what, if any, mechanism will be needed to monitor and administer funds. Although the Debt Reduction for Nonproliferation Act of 2001 (S 1803) does refer to the establishment of a Russian Nonproliferation Investment Facility, and a US-Russian Board of Directors, it does not clearly state that there is a need for the establishment of an independent host-country fund, with a mixed Board of Directors, and authority to monitor use of funds. The success of debt reduction for nonproliferation will ultimately depend on how the funds are administered, the projects are selected, and implemented, and how results are verified.

Forging Alliances…

PNNL Summer 2002 Global Security Programs: Participant Profiles

This summer, PNNL launched three programs offering work experience in the field of global security in cooperation with the University of Washington. The Lab also gained management responsibility of the NA-20 Nonproliferation Graduate Program. The following are profiles of the individuals participating in the new Arms Control and Nonproliferation, and Natural Sciences Internships, and Independent Study Program.

NATURAL SCIENCES & GLOBAL SECURITY INTERNSHIP

Theresa Bullard

Background: MS Physics with emphasis on experimental research, UW. Also conducted research with the international Sudbury Neutrino Observatory (SNO) collaboration.

Internship Duties: "I am working… to design and put together a scintilator detector to measure gamma ray response… to be used with a neutron detector to prevent the smuggling of plutonium."

Remarks: "I'm certainly getting a lot of new experience with nuclear detection methods and how they apply to defense work… There's been a lot of getting up to speed and jumping in with both feet, but I expect that we will accomplish a lot in ten weeks. I think the experience has been really good as a change of pace and… would definitely encourage other graduate students to participate in the program."

Mat Lautenschlager

Background: Currently enrolled in Physics Ph.D. Program, University of Washington.

Internship Objectives: "I am working on developing a system to measure air flow under a wide range of velocity conditions, and in unconventional applications such as hallways and stairwells… the new technology could be used in ventilations systems to provide potentially more accurate measurements over a wider range of air velocities."

Remarks: "It *(the internship)* offered a lot of change from my life as a grad student for the past two years. A change in scenery, from Seattle to Richland. A change in daily activities, from mostly theoretical course work to a very hands on experimental project."

ARMS CONTROL & NONPROLIFERATION INTERNSHIP

Ryan Lander

Background: BA Foreign Policy and Security, University of Washington.

Internship Duties: "I am attempting to get the International Science and Technology Centers to provide several Russian scientists with grants to travel to a conference on fuel cells in the fall. Our overall project is to write an advocacy/analytical piece on the Department of Energy's Nuclear Cities Initiative (NCI)… I am also working with NCI on several projects."

Remarks: "In a short amount of time I have benefited tremendously from this internship. Besides learning more about nonproliferation, I have had the unique opportunity to begin to see how nonproliferation is affected by politics and other actors' agendas. Though most importantly, I have been able to get a sense of whether I would like to pursue a career in nonproliferation and/or civil service."

INDEPENDENT STUDY PROGRAM

Kathryn Naehrig

Background: BA International Studies, University of Washington with a concentration in foreign policy and security, and a focus on biological and chemical weapons.

Study Objectives: "I am preparing background research for the US delegation to the Biological Weapons Convention on multilateral organizations and biosecurity... *(and)* I am writing an article on the definition of the term "biosecurity" as it is used by multilateral organizations such as the World Health Organization and the UN's Food and Agriculture Organization. The concept of biosecurity varies widely among these organizations—from public health issues and

Forging Alliances…

weapons of mass destruction to food safety and animal health concerns. I shall attempt to find a cohesive objective among the organizations that can be viewed as a central definition of an approach to international biosecurity."

Remarks: "It has been rewarding to be producing an article independently of the others while making a contribution to such an important project."

Jim McKinney

Background: Currently graduate student in the Russian Eastern European and Central Asian Studies Program, University of Washington. Active Duty Major in US Army, Foreign Area Officer for Eastern Europe and Central Asia.

Study Objectives: To provide a report on proliferation and potential cross border trafficking of nuclear materials in the Caucasus, specifically Georgia… *(and)* gain a deeper understanding of former Soviet States' relationships and conditions with respect to control of their borders and, hopefully, of how the relationships between these states will effect the possibility of a terrorist organization trans-shipping nuclear, biological, or chemical weapons of mass destruction through the Caucasus to Europe or the US… The goal is to provide a web based report that outlines the customs and border controls in Georgia with analysis of their effectiveness in controlling counterproliferation goals."

Remarks: This has been a fun project and helped me to understand a lot about PNNL and the National Security Division. It relates directly to my professional and personal interests. I think the program is great and should be continued."

Oksana Pitner

Background: Currently pursuing BA in International Studies at the University of Washington with a focus on US foreign policy and international security. Second major in Arabic Language and Civilization.

Study Objectives: "To put to life a project that will assist American scientists/project managers to get acquainted with the cultural aspects of Russia as well as to better understand what to expect (challenges, differences) out of their business trips to Russia."

Remarks: "I am originally from Ukraine… the Chornobyl disaster deeply affected Ukrainian society, myself included, and furthermore spurred my interest in nuclear issues… I have an opportunity to combine my interest in political and technological issues of the field and gain some practical experience… I have had a wonderful experience with PNNL … and would encourage my colleagues at the Jackson School to take advantage of the opportunities PNNL has to offer."

Brian Lamson

Background: Currently graduate student in International Studies with a focus on South Asia, and Major in the US Army.

Study objectives: "Developing a theory for the most likely scenario for a nuclear exchange in South Asia… and to gain more specific knowledge of nuclear programs in India and Pakistan."

Remarks: "I am pleased to have this opportunity to conduct this research while interacting with an expert in nuclear technology… My research is nearly complete and my thesis seems to have well documented support."

PNWCGS Seminars

The Pacific Northwest Center for Global Security sponsors seminars, conferences and workshops to benefit the global security community and its leaders. These events promote interaction between policymakers, laboratory science and technology staff, and government officials, offering an opportunity for them to discuss and share ideas about the security issues of today.

8/07/02 Mr. Bill Chandler, Director of Battelle/ PNNL's Advanced International Studies Unit

Regional Security and Arms Control: Energy Security and Nonproliferation

Mr. Chandler has 29 years of experience in energy and the environment. He has written 11 books, including "Energy and Environment in Transition Economies," published in September 2000. Chandler addressed the role of energy in regional stability, arms control and nonproliferation, and the possibility of using energy related confidence building measures in strategic regions to foster transparency and engagement. Recommended regions include South, Central and Southeast Asia, the Caucasus and Middle East and would include cooperative sustainable energy projects, joint policy studies and market reform to facilitate the transfer of energy and environmental technologies. Chandler suggested that US involvement in such efforts could improve the nation's image and diplomatic relations, and would create market opportunities. Chandler also discussed the importance of transition economies' government involvement in energy reform, the AISU's energy efficiency center program, and the Regional Network for Efficient Use of Energy Resources (RENEUR).

Upcoming Events...

September 17-19
Seventh Annual AHWG Meeting, FRAEC
8:30 am-4:30 p.m., Sheraton Anchorage Hotel, Alaska
The Foundation for Russian American Economic Cooperation's (FRAEC), Ad Hoc Working Group (AHWG) is holding its Annual Meeting to discuss regional trans-border cooperation, resource development, and business opportunities in the Pacific-Russia energy markets. The event will be hosted by Alaska Governor, Tony Knowles. American and Russian business and government leaders will hold the following seminar discussions: Russia's Role in the Asia-Pacific Region; Rule of Law and Governance; US West Coast/Russian Far East Transportation Issues; Oil and Gas Development in the Russian Far East; USAID Grants for West Coast/Russian Far East Partnerships; Russian Far East Small and Medium Enterprise Development; and Training/Eco-Tourism/ Telemedicine. Simultaneous interpretation/ document translation services to be available.
Information: (206) 770-4001 AHW, or basiak@fraec.org

Coming in October
Concerns about Radionuclide Contamination in the Arctic and Subarctic Regions,
Dr. John J. Kelley
Dr. John J. Kelley is Professor of Marine Sciences at the University of Alaska Fairbanks and Chair of the North Slope Borough Science Advisory Committee. Kelley is also former Director of the Naval Arctic Research Laboratory, program officer of the National Science Foundation's Office of Polar Programs, and Director of the Naval Arctic Research Laboratory. Dr. Kelley, who specializes in air-sea-gas transfer and atmospheric chemistry, will discuss radionuclide contamination in the Arctic and Subarctic regions. Visual footage of major underground blasts on Amchitka Island, including the Cannikin test, will be featured.
Information: (509) 372-6986, PNWCGS

For information on upcoming PNWCGS events and seminars, see: http:pnwcgs.pnl.gov

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