

Russia's Future: The Precarious Balance between Russian Energy and Military Strategy

SUSAN S. VOSS

S. Voss has been a technical staff member at Los Alamos National Laboratory for the past 22 years and has recently left LANL to establish an engineering consulting company, Global Nuclear Network Analysis, LLC. Contact: svoss@gnna.net (LA-UR-08-0114)

ABSTRACT

The Russian government is currently at a cross roads between establishing their preeminence as a trusted supplier of world energy versus advancing an increasingly defensive military policy and greater government controls. Having survived the post Soviet Union breakup economic crisis and the pain that came with converting from a government-controlled system to privatization, Russia is on the verge of yet another transformation. Russia is now transitioning towards a hybrid of government/private ownership with key industrial and energy-related companies. Major financing and government support is being provided to support these strategic companies and to foster the Russian energy policy both domestically and internationally.

Russian policy may have a significant impact on the world's energy security. Further implementation of the Russian energy policy will require international trust in the Russian government and their ability to meet their commitments. It will require an overall trust in Russian industry and manufacturing to meet international standards for quality and safety. At the same time, and in an apparently contradictory fashion, the Russian government and the military are becoming increasingly defensive on the world stage. The Russian government is publicly touting the advancement of their strategic nuclear weapons and the need for tactical nuclear weapons. In addition, the reduction of personal freedoms and increased control of the government and secret service, the FSB, have raised concerns that Russia may be returning to a closed society. In turn, these changes raise doubts and concerns about Russia's ability to meet their international energy commitments.

This report provides an overview of the Russian energy policy with an emphasis on the changes within the Nuclear Energy Agency, Rosatom, and Russia's more aggressive international behavior. It includes a short presentation of the dichotomy that appears to be emerging within Russia between the desire to be an international provider of stable power versus their more threatening demeanor to the US and their neighboring countries. This apparent dichotomy opens new opportunities for the international community to support Russia's overall goals through their desire to join the World Trade Organization (WTO), the 123 Agreement and other instruments that support free trade and an open economy while at the same dealing directly with Russian fears. The time for providing international aid and support to Russia is ending and it is now time to define a new relationship as partners on the world stage. Timing is critical, as the issues facing the Russian government are of grave concern and could tip the scale in a negative direction.

RUSSIAN ENERGY STRATEGY

Russia accounts for 13% of the world's territory and roughly 2.1% of the world's population. They are the 9th largest country based upon population and have a negative growth rate of approximately 0.5%.¹ More importantly, Russia has some of the largest energy resources of the world's including¹:

1. The world's largest reserves of natural gas, estimated at 29% of the world's total,¹ and nearly twice the reserves of the next largest country, Iran.² They are also the world's top producer and exporter of natural gas.
2. An estimated 13% of the world's oil reserves, 8th overall and the 2nd largest producer and exporter. It is reported that they periodically produce more than the number one producer, Saudi Arabia.²
3. An estimated 20% of the world's coal reserves, 2nd largest amount of recoverable coal and 5th highest exporter in 2005.³
4. An estimated 14% of the world's uranium. Currently Russia is extracting approximately 3000- 3200 MT of natural uranium per year but has an annual requirement of 16,000 - 18,000 MT to meet both domestic and international needs.⁴

In 2003, the Russian government established an aggressive energy policy that provides guidelines for a long-term state energy policy including energy safety, energy efficiency, budget efficiency and environmental energy security.⁵ The energy goals also include increasing the export of energy resources by 45 to 64% by 2020. The energy strategy is identified as the "basis of economic development and the instrument of carrying out the internal and external policy."⁵ As the price of oil and gas increased, so has the impact of sales of these products on the Russian economy.

¹ CIA World Book, <https://www.cia.gov/library/publications/the-world-factbook/geos/rs.html>.

² Russia Energy Data, Statistics and Analysis - Oil, Gas, Electricity, Coal, EIA, 4/25/2007, <http://www.eia.doe.gov/emeu/cabs/Russia/pdf.pdf>.

³ Russia's Position, Summit 2006 G-8, <http://en.g8russia.ru/agenda/nrgsafety/russianrole/index-print.html>.

⁴ Kazakstan Nuclear Future, 8/14/2007, UPI.

⁴ Nuclear Industry Russia: Power Industry May Face Uranium Shortage by 2010, 8/15/2006, Mirovaya Energetika.

⁵ Summary of the Energy Strategy of Russia for the Period of Up to 2020, Ministry of Energy of the Russian Federation, 2003, http://ec.europa.eu/energy/russia/events/doc/2003_strategy_2020_en.pdf.

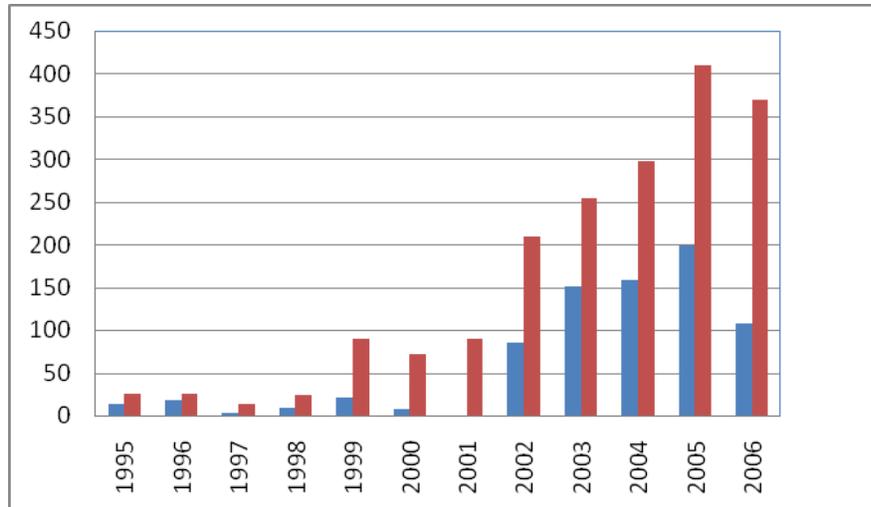


Figure 1: Net US Import of Russian of Petroleum into the US (1995-2005) ^{2*}

*Blue export of crude and red export of crude + products ('000 bbl/d)

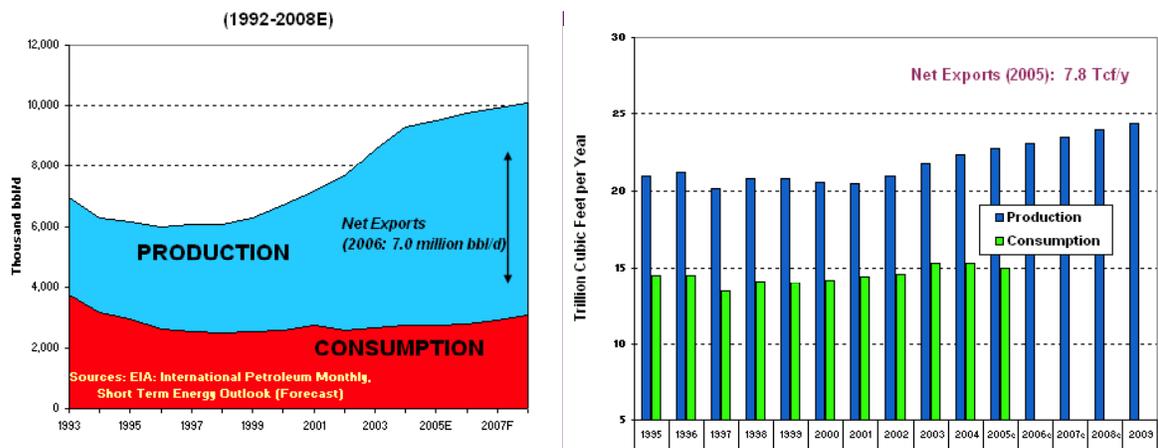


Figure 2: EIA Figures Showing Russian Export by Year of Total Liquids Production versus Consumption and Russian Natural Gas Production versus Consumption²

On December 13, 2006 V. Mezhevich, the First Vice Chairman of the Federation Council Commission on Natural Monopolies, estimated that the sale of oil and gas contributed to 30% of the gross domestic product (GDP), greater than 60% of the currency in-flow and 50% of the tax revenues stating that the fuel and energy complex remain the locomotive of Russia’s social-economic development.⁶ In December 2005, Russian President Putin presented the National Energy Strategy to the Russian Security Council and stated “Russia has a competitive, natural

⁶ Rosatom web site, Parliamentary hearings “Energy Strategy of Russia: Problems and Prospects” held in Federation Council Dec 12, 2006.

and technological advantage and must become an energy superpower to retain political leadership in the world.”⁷

Russian energy policy is integrated with their international policy and their desire to regain their status as a super-power within the world. To meet these goals, the Russian government has stated that it intends to increase the production of domestic power by nuclear and hydro-generation to allow for greater export of fossil fuels.⁸ Russian government officials have publicly acknowledged the importance of being reliable partners in the energy field by establishing trust. Some examples include:

1. Vladimir Putin’s speech at the G8 Energy Ministers meeting in March 2006, in which he stated, “Our country, as you know, is the world’s biggest gas exporter and the second-biggest exporter of oil and oil products, and we make a considerable contribution to ensuring global and regional energy security. We value our deserved reputation as a serious and responsible partner on the energy resources markets.”⁹
2. The summary of the 2003 Energy Strategy, which avers that “the State energy policy must be directed on the change from the role of supplier of raw resources to the role of substantive member of the world energy market....remaining the stable and reliable partner for the European countries and for the whole world community.”⁵

Based upon these two official comments from the Russian President and from documented official energy strategy, it is clear that the importance of maintaining a predictable partnership in energy is imperative for Russia. Yet Russia’s actions have cast doubt on their reliability and therefore, their ability to provide long-term energy supplies. Russia’s hardnosed negotiations with Ukraine, Belarus and Georgia over ownership of the key pipelines, gas prices and supply have made other countries nervous about partnering with Russia on critical energy supplies. Based upon statements by the Russian government, the negotiations were strictly in line with establishing contracts consistent with world pricing, but to others it was perceived as political maneuvering.

As an example, in response to Gazprom’s expansion into the countries of EU’s energy distribution networks and over fears that Russia may not be an entirely responsible partner, the European Union (EU) began to establish a unified energy policy in September of 2007. The new policy will cover 27 countries and it is represented as a means to boost competition by “breaking up utilities that control both the production as well as the delivery of energy.”¹⁰ This new policy will primarily impact Russia’s Gazprom, which has been systematically purchasing parts of the

⁷ RFE/RL, 2/15/2006.

⁸ Russia Electricity, EIA, <http://www.eia.doe.gov/emeu/cabs/Russia/Electricity.html>.

⁹ Vladimir Putin’s speech at Meeting with the G8 Energy Ministers, 3/16/2006, <http://en.g8russia.ru/news/20060316/1145793>.

energy distribution networks within EU countries. Gazprom provides 25% of Europe's gas. It is reported that Gazprom is present in 17 EU countries through joint ventures, subsidiaries or stakes.¹⁰ According to a report by J. Donovan, Gazprom gained control of Italy's energy distribution network in 2007 and obtained 50% ownership in Germany's Wingas, which controls 2,000 kilometers of pipelines in Germany and Europe's largest underground gas depot.¹⁰

The Russian state has been the primary share holder of Gazprom since the beginning of 2006 with 50.002% ownership. The Chairman of the Board of Directors is Dmitry Medvedev, the First Deputy Prime Minister¹¹ and recently named as the person Putin endorses to be his successor as president. . Gazprom produces nearly 90% of Russia's natural gas and operates Russia's gas pipeline network. The purchase of key energy distribution systems in other countries raises the question of whether or not this is political or business oriented? As world-wide energy prices rise, it will be interesting to note the political interplay between Russia and those countries that rely on Russia for a large percentage of their carbon-based energy.

According to the US Energy Information Administration (EIA), the following countries were the major recipients of Russian natural gas exports for 2005:

Rank	Country	Imports (bcf/yr)	% of Dom. Consumption
1	Germany	1291	43%
2	Italy	624	30%
3	Turkey	630	65%
4	France	406	26%
5	Hungary	294	62%
6	Czech Rep	252	84%
7	Austria	246	70%
8	Poland	226	47%
9	Slovakia	225	108%
10	Finland	148	105%
11	Romania	140	23%
12	Fmr Yugoslavia	134	57%
13	Bulgaria	101	89%

(bcf-billion cubic feet)

EIA estimates for sales to Baltic and CIS States for 2005:

Rank	Country	Imports (bcf/yr)	% of Dom. Consumption
1	Ukraine	2,113	79%
2	Belarus	710	100%
3	Baltic States	205	100%
4	Azerbaijan	120	36%
5	Georgia	46	100%

¹⁰ RFE/RL NEWSLINE Vol. 11, No. 175, Part I, 20 September 2007 EU THROWS DOWN GAUNTLET TO RUSSIA'S GAZPROM, J. Donovan.

¹¹ Gazprom Official Website, 12/29/2007, <http://www.gazprom.com/eng/articles/article8511.shtml>.

The Russian supply of natural gas provides for a large percentage of total domestic use for a number of key countries that will be discussed in other parts of the report. Two key countries are Poland and the Czech Republic, which receive 47% and 84% of their domestic gas from Russia, respectively. Given Russian concern over the US deployment of the Anti-Ballistic Missile (ABM) system in Poland and the Czech Republic, energy supplies to these countries could become embroiled in politics and used as a bargaining chip. Two of the major oil importers, Italy and France, have established nuclear manufacturing partnerships.

Implementation of Russian Energy Strategy

For Russia to achieve their goals as an energy superpower, the Russian government plans on investing in the internal energy infrastructure, oil and gas distribution network, and in increasing oil and gas production and export; coal production, power production from NPPs, and the number of hydro-electric stations.⁵ Their goal is to increase the energy production from nuclear power plants from 16% in 2000 to 23% in 2020 with up to 32% of the power production in the Western part of Russia.⁵ If Russia fails to implement a plan to replace nuclear power plants that will be shutdown, then by 2030 nuclear power will account for only 1 to 2% of the overall energy output.¹² As the overall production of oil and gas increases and the percentage of power produced domestically from gas is reduced through the construction of new NPPs, coal burning plants and hydro-electric plants, it will allow the higher export of gas internationally thereby providing hard currency back into the Russian economy.

The Russian government has reasserted control over key energy sectors and has created a new type of hybrid-corporation to achieve the national energy goals. This is also consistent with Putin's 1999 goals to vertically integrate power back to the central government. Two examples of this new type of government-owned, private corporation, are Gazprom and Rosatom. Gazprom is the "world's largest gas company and they possess the world's largest gas reserve."¹¹ Gazprom also appears to support the government policies through the purchase of private assets and companies. A second example is the Rosatom Corporation that was recently converted from a government agency to a government-owned, private corporation. This conversion enables Rosatom to act like a government agency with respect to establishing international and domestic government agreements and in implementing the government defense order for production of nuclear weapons and as a private corporation for the construction of nuclear power plants both domestically and internationally. Rosatom will also be allowed to reinvest their profits into the corporation as needed without direction from the State Duma.

¹² President Putin's Opening Remarks at Meeting with Heads of the Russian Nuclear Weapons and Nuclear Energy Complexes, 6/9/2006. www.Kremlin.ru.

Rosatom, Incorporated

When I first visited Russia in the early 1990's almost all oversight and funding from the Ministry of Atomic Energy, Minatom, to the nuclear institutes had ended. The institutes were left on their own to find means of survival with little financing or support. They were forced to find new partners that left them open to a myriad of new problems including technology transfer and nuclear diversions. The Soviet-era system was not designed to account, control or protect nuclear material within an open society. Given the large quantities of nuclear material stored at multiple sites including the 100's of metric tons (MTs) of materials that were converted from nuclear weapons for either storage or down-blended nuclear fuel, it is surprising that there were so few issues during this time.

Rosatom is now under-going a major transformation as one of the cornerstones of the Russian energy policy. The expansion of domestic nuclear power is one of the key ways that Russia will be able to export more oil and gas. Rosatom has established a plan to implement a series of critical steps including extending the lifetime of operating nuclear power plants, decommissioning older nuclear power plants and building replacement power plants for the decommissioned nuclear power plants. Currently Russia generates 16% of their power needs by nuclear power and a goal to expand to 25% by 2030 during a period of time in which 50% of their older nuclear power plants will be shutdown. To achieve the 2003 Russian energy goals requires a novel and radical means of addressing past problems. New leadership and vision is required. A second part of the proposed expansion is to target the international market for new nuclear power plants including the associated infrastructure and fuel, thereby gaining a prominent role in international manufacturing and construction. Currently Russia leads in new NPP construction world-wide with 2 under construction in China, 2 in India, 1 in Iran and 2 in Bulgaria. In addition, Russia maintains leadership internationally in supplying enriched uranium and nuclear fuel. Fifty percent of US low enriched uranium (LEU) for power NPPs and 40% of the world market is exported from Russia.¹³

To achieve its nuclear power goals, the Russian government has implemented a series of specific steps over the past two years: The clarity of purpose and speed of implementation that they have been able to reform, consolidate, acquire and align the nuclear power and nuclear weapons industry within Russia is simply amazing! Some of the key events for meeting the nuclear-related goals of the energy policy include:

1. 11/2005: Appointment of Sergey Kiriyenko as the head of Rosatom. Kiriyenko established a new team to take the leadership of Rosatom.

¹³ Today, First Vice Premier of Russia Sergey Ivanov and the head of Rosatom Sergey Kiriyenko are to visit Kovrov, 4/20/2007, Rosatom.ru.

2. 1/20/2006 Kiriienko and his team establish an aggressive plan to meet the domestic and international nuclear power goals. The plan was presented to President Putin. Under Kiriienko's leadership many of the key directors of the Rosatom organization, institutes and export companies are replaced with business-oriented experts and past associates.
3. 6/6/06 Approval of the Program for Russian Nuclear Industry Development was granted by President Putin. The umbrella plan covers both civilian and military nuclear programs.
4. 10/6/2006 Federal Target Program (FTP) for the Development of the Nuclear Power Industry Complex for 2007 to 2010 and Further to 2015 was approved by President Putin. The plan laid out 1,471 B-Ruble (~\$55.5B) spending for 9 years with 674.8 B-Rubles (~\$25.4B) to be provided from the Federal budget and 796.6 B-Rubles (~\$26.5B) from the nuclear sector budget and private investment. See Figure 1 for an overview of the funding by investment area. The plan covers:
 - a. Extending the lifetime of existing NPPs;
 - b. Building 26 new VVER-1000's and the next generation VVER-1200 reactors by 2030;
 - c. Building the next generation fast breeder reactor, the BN-800 by 2012;
 - d. Building new NPP's internationally;
 - e. Funding to advance uranium mining, uranium enrichment, fuel manufacturing;
 - f. Funding to advance spent nuclear fuel (SNF) reprocessing and MOX fuel manufacturing;
 - g. Consolidation and storage of SNF from RBMK-type reactors and VVER-1000 reactors; and
 - h. Advanced reactor concepts and technology.

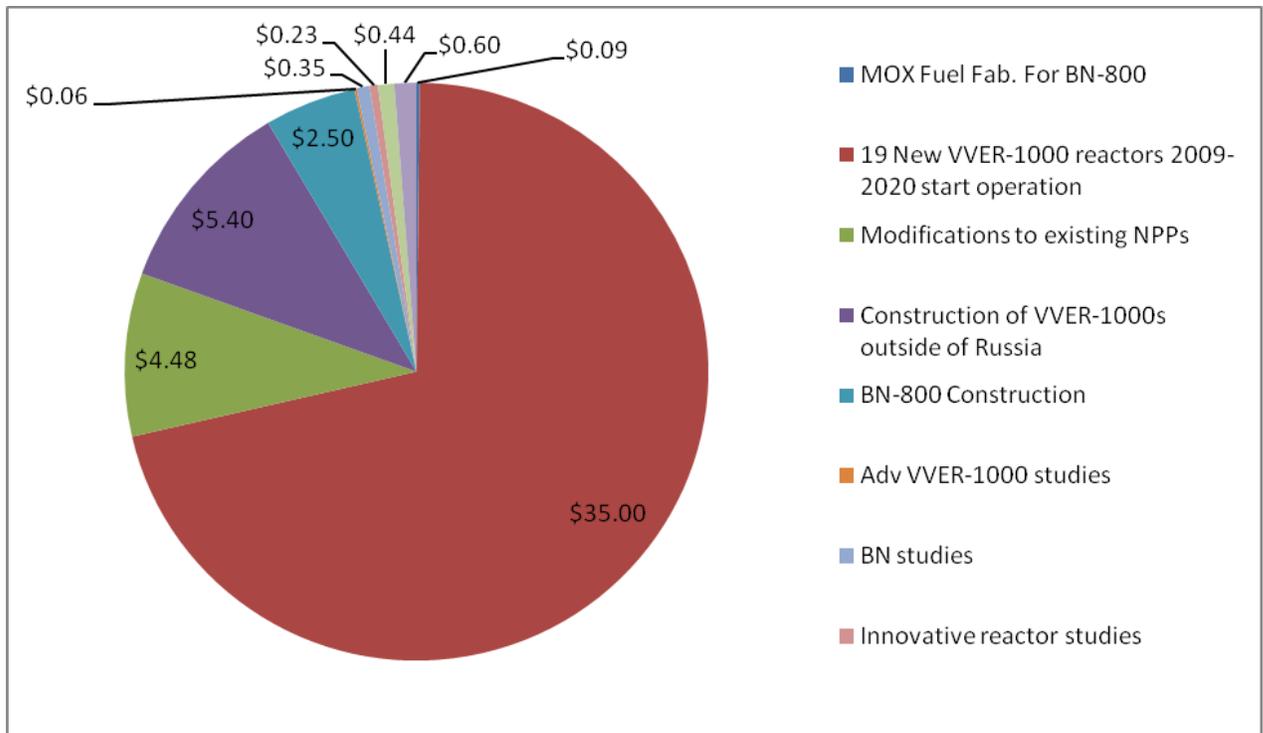


Figure 1: Overview of the Investment Strategy for the Russian NPP Development Program (\$B based upon a 26.5 R/\$)

5. 2/26/2007 President Putin approved the “Tunnel Law”¹⁴ approving the establishment of Atomenergoprom within Rosatom and the transfer of 55 State Unitary Enterprises (nuclear institutes) to become part of the corporation.
6. 2007: Development of the FTP for New Technologies Platform, i.e., funding for the next generation fast breeder reactor, reprocessing and mixed-oxide fuel manufacturing.
7. 2007 Possible approval of the FTP for Nuclear Weapons Development, described in the Nuclear Development plan as “implementation of Russia’s nuclear control policy until 2015 and further by means of: strengthening of research, experimental, and production bases of the nuclear defense complex within the FTP Development of the Nuclear Weapons Complex for 2007-2010 and until 2015.”¹⁵
8. 7/13/2007 Approval of the 132 B-Ruble (~\$5.5B) FTP on Nuclear and Radiation Safety. This is a key program that includes nuclear material accounting, control, protection, consolidation and reduction. It also includes site clean-up, spent nuclear fuel storage, and site restoration.

¹⁴ “Federal Law on the Special Terms of Management and Disposal of Assets and Shares of Organizations Operating in the Area of Atomic Energy Uses and Amendments to Certain Leg. Acts of the Russian Federation”

¹⁵ Russian Program for Russian Nuclear Industry Development, 6/8/2006.

9. 11/13/2007 Approval of law to convert Rosatom to a State corporation approved by the State Duma. 11/23/2007 Approval of law to convert Rosatom to a State corporation approved by the Federation Council. 12/3/2007 Approval of law to convert Rosatom to a State corporation approved by President Putin.
10. 12/12/2007 S. Kiriyenko appointed as the head of new Rosatom Corporation by President Putin. Approval State Corporation. Rosatom is only one of many new State Corporations created in 2007. The State Corporation came into being in 2004 and establishes an organization and its assets as fully State owned, reporting to the President of Russia. They are able to keep and reinvest their **earnings**. The State Corporations match up with the 49 strategic industries in which foreign investment and ownership is limited.
11. 12/12/2007 Rosatom announced plans to build a 30 B-Ruble (\$1.2B) office complex to house their new corporate headquarters within Moscow. The complex will house Rosatom and AtomEnergProm. Construction to start in 2008.
12. 3/1/2008 Structural reforms of Rosatom to be completed and the President of Russia to decree on the transfer of powers from the Federal Agency for Nuclear Energy to Rosatom State Nuclear Energy Corporation.¹⁶

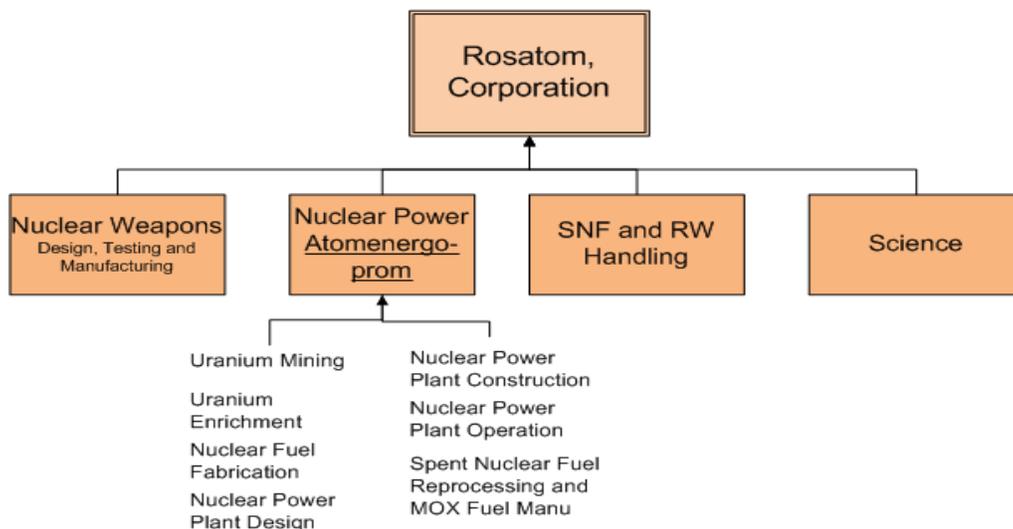


Figure 2: New Structure for Rosatom Corporation (based upon review of information)

The creation of State Corporations, such as Rosatom Corporation, creates a new type of position within the Russian government. S. Kiriyenko as head of the Rosatom Corporation has

¹⁶ Rosatom.ru, 12/19/2007.

the right to negotiate as a government entity, and yet, will be compensated as a corporate manager. This has led to the new term “State Oligarch.”

Within Rosatom a new corporation has been established, AtomEnergProm (AEP) which is the commercial entity that integrates all sectors of the Russian nuclear industry from uranium mining and purchases through spent nuclear fuel recovery and reprocessing. AEP is the vertical integration of technology and capability. In September, 2007 Vladimir Travin was appointed the new Director of AEP. Because AEP is a State Corporation, it has the full support of the Russian government, including the President, in establishing international agreements. It will be of great interest to see how this new type of entity – part Private Corporation and part State organization will fair in the international business arena.

More than half of the proposed budget for the development FTP on nuclear power is from sources other than the Federal Government and it is unclear from where this funding will come. One of the key sources of funding appears to be through the government-owned, private corporations including TVEL, TENEX and Gazprom. One example is the creation of Atomenergomash, which was founded under TVEL in 2006 for the purpose of manufacturing nuclear power plant equipment. It is reported that Atomenergomash spent over \$250M in 2007 acquiring new assets in Russia and internationally in an effort to expand their manufacturing capability.¹⁷ New assets include the acquisition of private companies that are needed to manufacture new nuclear power plants. The Atomenergomash Company is planning on manufacturing equipment for 4 nuclear power plants per year.

One of the key benefits in the Russian government exerting control over their nuclear institutes and companies is the increased emphasis on nuclear nonproliferation resulting in a decrease in nuclear diversions. Some of the important changes to nuclear safeguards and nonproliferation since 2000 include:

1. Establishment and implementation of Russian physical protection requirements;
2. Conducting audits of the sites against the physical protection requirements;
3. Large scale, multi-agency security exercises at the Rosatom sites;
4. Reported changes in management for noncompliance to MPC&A; and
5. New FTP for 132 B-Rubles (~\$6.5B) for 7 years to address nuclear safety and security.

It is, and always has been, Russia’s responsibility to secure their nuclear materials. The US and other countries provided Russian institutes with the means to account, protect, consolidate and eliminate their nuclear material by providing equipment, training, and funding. Providing support to Russia to safeguard, consolidate and eliminate their nuclear materials may be one of

¹⁷ By the end of this year Atomenergomash is going to get 100% of shares of Arako spol. s.r.o. (Czech Republic), 5/12/2007, Rosatom web site.

the greatest single investments made by the international community. But stewardship of their nuclear materials and weapons remained a Russian responsibility; and Rosatom has begun to place substantial financial resources to fund this activity. As a business man, S. Kiriyenko has emphasized the importance of ensuring security of Russia's nuclear materials. Rosatom is becoming financially independent as part of the energy strategy and it is therefore time to transition US interactions from support for material safeguards to interactions focused on the next generation of nuclear power, spent nuclear fuel reprocessing and advanced fuel manufacturing. Safe development of the future nuclear fuel cycle is in fact the next great challenge for nuclear nonproliferation. The US is behind Russia in the planning and implementation of future nuclear power capability; but while the US has focused on nuclear security, the Russians have focused on the advancement of nuclear power.

Russian Plans for Advance Nuclear Breeder Technology

As previously stated, Russia falls short in its ability to mine the natural uranium needed for their current and expanding nuclear program. Therefore, based upon their internal analysis, they have identified the need to move towards fast breeder reactors that use mixed-oxide (MOX) fuel composed of a plutonium-uranium mix. In the past year, the Russian government and Rosatom have negotiated a number of strategic agreements with the top uranium producers in the world to purchase uranium as a means of augmenting current and future short fall.

Russia has an established fast breeder reactor program and significant experience in this arena including the operation of the BN-350 (shutdown in Kazakhstan), the BN-600, the reprocessing of the BN reactor fuel at the Mayak RT-1 plant and the production of MOX fuel. In addition, the BN-800 is under construction at Beloyarsk with plans for completion in 2012, while the design and planned construction of the BN-1800 is currently underway. Within their established NPP program they plan on constructing a MOX fabrication facility at the Mayak plant and establish two to three pilot-scale reprocessing capabilities at the Mining and Chemical Combine.

If the Russian plan moves forward, it will mean the development of a plutonium-based economy resulting in new and significant international nonproliferation issues. The US has limited experience in fast breeder reactors and is starting behind the curve. Furthermore, much of the US experience in fast breeder reactor design resides with the "baby boomer" generation and those who worked on the US Clinch River Breeder Reactor have retired. If the US is to have an impact on the future nonproliferation regime for fast breeder reactors and the associated fuel structures, it will be important to establish a clear vision on future plans and goals in this area to find ways to team and move forward. The 123 Agreement, the Global Nuclear Energy Partnership (GNEP) and the Plutonium Disposition program offer the technical basis for the two countries to work together in this critical arena.

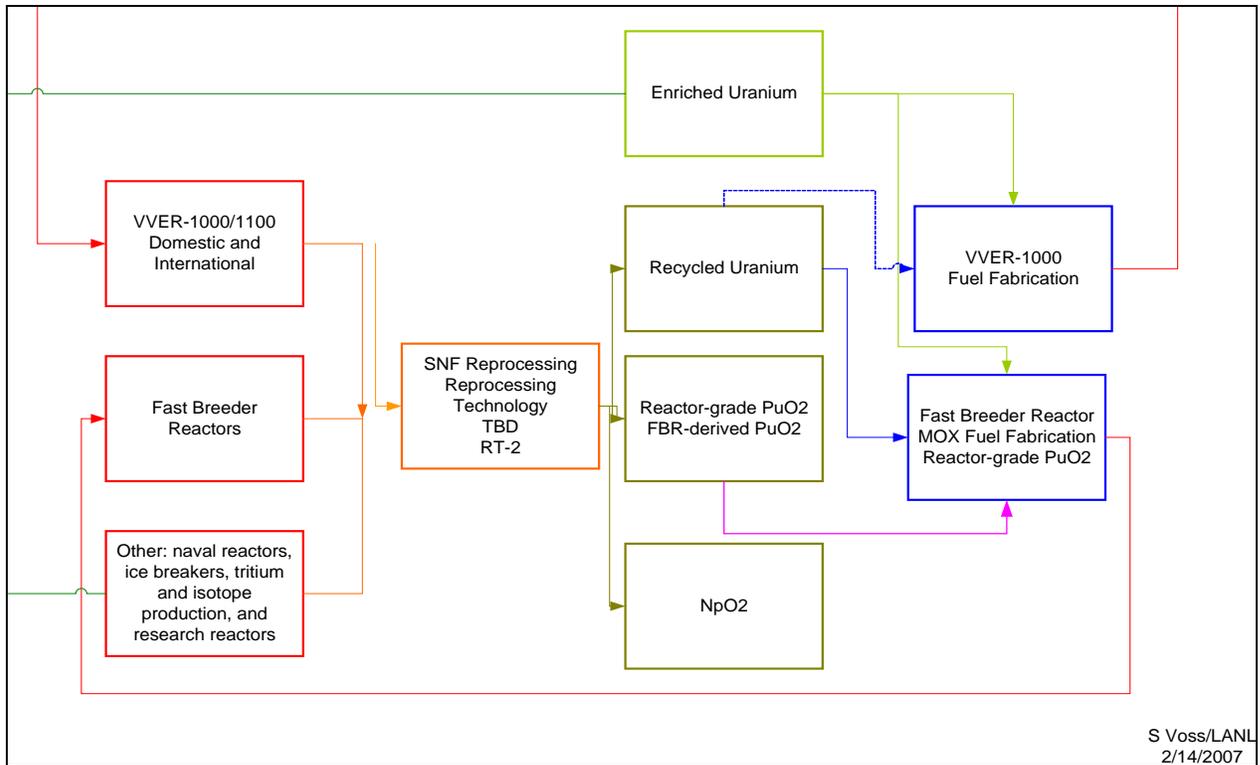


Figure 3: Russian Proposed Fuel Cycle Based upon Fast Breeder Reactor Technology and a Plutonium Fuel Cycle 2021-2026¹⁸

RUSSIAN NUCLEAR WEAPONS IN A UNIPOLAR WORLD

The Russian nuclear weapons complex has been included within the Rosatom Corporation. This will ensure the civilian and defense nuclear policies are self consistent. It will also alleviate issues associated with resources. For example, institutes such as Mayak support critical missions for both the civilian and the military.

The increased support and renewed direction for the Russian nuclear weapons complex appears to have begun after the April 29, 1999 National Security meeting chaired by then Secretary of the Security Council, Vladimir Putin. I. Korotchenko reported that the meeting on the Russian nuclear complex was held in response to the NATO bombings in Yugoslavia.¹⁹ The NATO bombings were perceived as unilateral action.

To put it simplistically, Russian sovereignty is considered paramount, sovereignty is ensured through national security, national security rests primarily on military defense through nuclear

¹⁸ Insights into the Russian Nuclear Program, 9/13/2007, S. Voss, (LAUR-07-6475).

¹⁹ Balkan Crisis Made N-Weapon Review 'Priority', FTS1999904300000599 Moscow Nezevisimaya Gazeta, 4/30/1999.

weapons, and nuclear weapons are dependent upon a strong nuclear weapons program including all necessary intellectual capability and facilities. It was around 1999 that the Russian government began a verbal campaign rallying against what they saw as a transition away from a multipolar world to a unipolar world dominated by the US and NATO. One of President Putin's primary premises is that under a unipolar world, countries such as Russia will not be heard until they have adequate military strength and therefore the Russian military must rebuild their nuclear forces. Since 1999, the Russians have been outspoken in their opposition to a unipolar world and have consistently emphasized the need to strengthen their military might, Their statements have been especially pointed in 2007.

The importance of national sovereignty is a consistent theme advanced by the Russian government. At the Valdai International Discussion Club in September of 2007, President Putin stated that "Russia cannot exist without defending its sovereignty . . . [and] will either be independent and sovereign or will most likely not exist at all."²⁰ He echoed these sentiments in his December interview with Time Magazine (now posted on the Kremlin website) asserting that "[g]overnment should be sufficiently strong to be able to guarantee sovereignty, security and defense capability . . . sufficiently strong to protect the country's territorial integrity."²⁶

In November 2007, President Putin discussed that members of the NATO alliance are building up their military potential close to their borders and that proposals to develop a common missile defense system have not gone without comment. He stressed that "we cannot remain indifferent to what is a clear case of muscle-flexing." And later in his speech he stressed that "Increasing the combat readiness of our strategic nuclear forces is one of our biggest tasks. These forces must be able to deliver a rapid and adequate response to any aggressor."²⁰ Since that time there have been repeated statements that the US Antiballistic Missile Defense (ABM) system to be deployed in Poland and the Czech Republic could be targeted by Russian strategic nuclear weapons as a defensive measure. Based upon comments by the Russian military, the ABM is considered a threat to the Russian strategic nuclear forces and, as asserted above, is therefore a threat to Russian security and sovereignty. The government's words regarding the expansion of their strategic nuclear weapons are not merely rhetoric but are being supported with actions through modernization and expansion of the Russian nuclear triad.

It is important to note that the role of nuclear weapons is perceived differently in the US than in Russia. In Russia, nuclear weapons are the cornerstone of the military defense against external threats. In contrast, the US has delegated nuclear weapons to a supporting role as defined in the 2000 US Nuclear Posture Review and therefore their importance to military strategic planning is significantly less than it is in Russia. As President Putin stated in June of 2006, "Our country's nuclear potential is of vital importance for our national security interests. The reliability of our 'nuclear shield' and the state of our nuclear weapons complex are a crucial component of

Russia's world power status.²⁰ Interestingly, while the US is significantly reducing funding for nuclear weapons research and development, it would appear that Russians are choosing to increase and maintain their prominence.

Differences in perspective between the US and Russia on the role of nuclear weapons in national security will result in differences in how specific systems, such as the ABM, may or may not affect each country's national defense strategy. These differences may also impact how the US and Russia view the follow-on negotiations for the START treaties. The US government has downplayed the need for a formal follow-on agreement, while the Russian government has already voiced a preference to have a formal treaty.

It is worth noting that the Russian government has maintained the ability to manufacture, assemble and disassemble a large number of nuclear weapons per year. It is reported that they rebuild their nuclear weapons every 10 to 15 years, which, assuming a stockpile of approximately 6,000 nuclear weapons,²¹ would imply the ability to manufacture around 600 nuclear weapon components per year and to disassemble approximately the same number of nuclear weapons per year. The US, by contrast, has limited capability to produce nuclear-related weapons components.

Russian Rhetoric or National Concern?

Over the past several years the Russian leadership has been perceived as more aggressive and hostile in their public statements concerning the US. In their official meetings with leaders of other nations, the Russian leadership has continually stressed the danger of a unipolar world and the need to move towards a multipolar world. President Putin and Foreign Minister Lavrov have stressed that a unipolar world does not work, as shown by the unilateral decisions to invade Iraq and Afghanistan, and that we must embrace a multipolar world.

Often the Russian comments are dismissed as rhetoric, but many of their concerns have been consistently stated over many years and have resulted in changes in Russian policy and military posture. Four of the primary concerns raised by the Russian government regarding a "unipolar world" along with corresponding statements by President Putin and Foreign Minister, Sergei Lavrov, are identified below.

²⁰ President Putin's opening Remarks at Meeting with Heads of the Russian Nuclear Weapons and Nuclear Energy Complexes, 6/9/2006, Kremlin.ru.

²¹ The Russian Notebook, Hans M. Kristensen FAS and Robert Norris NRDC, 5/9/2007, <http://thebulletin.metapress.com/content/d41x498467712117/fulltext.pdf>. (They estimate 5670 operational nuclear weapons, a rounded value of 6000 was chosen for simplicity).



Figure 4: Russian President Putin and Foreign Minister Sergei Lavrov 8/24/2004²²

1. US decision to withdraw from the ABM treaty and the US decision to deploy an ABM system in Czech Republic and Poland.
 - Foreign Minister Lavrov: “We have most serious assessments that the aim is not the creation of a system directed a neutralizing hypothetical threats from Iran, but at containing Russia.”²³
 - President Putin at the April 2007 Press Statements following Russian-Czech talks: “With regards to the missile defence system, I would like to call your attention to the fact that it is not simply a defence system. It is an element of the American strategic weapons system. For the first time in history -- and I would like to emphasize this -- for the first time in history, elements of American nuclear strategic weapons systems are going to be deployed on the European continent.”²⁴
2. The expansion of NATO to countries near Russia’s borders.
 - V. Putin: “Military resources are being built by some states and NATO countries next to our borders in violation of earlier understandings . . . resulting in suspension of Russia’s participation in the CFE treaty.”²⁵ Russia suspended participation December 12, 2007.

²² Sochi. Meeting with Foreign Minister Sergei Lavrov, President of Russia Official Web Portal, 8/24/2004. <http://www.kremlin.ru/eng/text/images/75816.shtml>.

²³ <http://www.russianembassy.org/>; Russian Foreign Minister Sergei Lavrov’s Interview with the Newspaper Vremya Novosti, Published on December 26, 2007.

²⁴ Press Statements and Answers to Questions Following Russian-Czech talks, 4/28/2007, Kremlin.ru.

²⁵ Putin Warns NATO Against Flexing Muscles Near Russian Borders, CEP20071120950268, Moscow ITAR-TASS, 11/20/2007.

- V. Putin: “I would not say that NATO is a stinking corpse of the cold war. But it certainly something that is a holdover from the past. There is no point in pretending otherwise.”²⁶
 - S. Lavrov: This is perhaps the chief irritant in our relations. We are certain that the expansion of the alliance is a project from the political past.”²⁷
3. A desire on the part of the Russian government to engage in formal arms control negotiations.
- V. Putin statements regarding US withdraw from ABM treaty December 13, 2001: “. . . we believe this decision to be mistaken . . . [the] ABM Treaty is one of the supporting elements of the legal system in this field. Now that the world has been confronted with new threats one cannot allow a legal vacuum to be formed in the sphere of strategic stability...(but rather) bilateral relations...should be used for working out a framework of strategic relations.”
 - V. Putin proposes on June 26, 2006 that the current START agreement be replaced with a new treaty and warned that “the stagnation we see today in the area of disarmaments is of particular concern.”²⁸
 - V. Putin speech November 28, 2007: “Objective development trends today, including the emerging multi-polarity and increasing role of multilateral diplomacy show that strategic stability can no longer remain an exclusive sphere . . . This was the logic behind our proposals on the missile defence issue, the Conventional Forces in Europe Treaty and the Intermediate Nuclear Forces Treaty.”²⁹
4. Issues surrounding the UN decision regarding Kosovo and the potential ripple effect if Kosovo becomes an independent nation.
- S. Lavrov December 26, 2007: “There can be no unilateral decisions, whether it is Kosovo, Iran or Lebanon or the Middle East problem as a whole.”²³

And yet, while there are significant and important differences between the Russia and US governments, there are also numerous areas of great cooperation and commonality such as:

²⁶ Kremlin web site - Interview with Time Magazine, 12/19/2007,

http://www.kremlin.ru/eng/text/speeches/2007/12/19/1618_type82916_154779.shtml.

²⁷ Russian Foreign Minister Sergey Lavrov’s Interview with Cyprus News Agency, 12/26/2007,

<http://www.russianembassy.org/>.

²⁸ Putin Seeks to “Replace” START I Treaty, 9/2006 WMD Insights.

²⁹ Putin Speech at a Reception for the Heads of Diplomatic Missions, November 28, 2007, kremlin.ru.

1. Global Initiative to Combat Nuclear Terrorism;
2. commitment to fight nuclear nonproliferation;
3. joint military exercises and exchanges; and
4. Global Nuclear Energy Partnership (GNEP).

Both the US and Russia have much at stake in ensuring that the level of cooperation between the two countries continues to grow. While there are numerous issues that need to be addressed between the two countries, there are also many areas of commonality. The US might state that the Russian government has become more hostile and aggressive and the Russian government might state that they have had to elevate their comments to be heard. It is an important time for dialogue between the two countries before the differences escalate to a Russian military stance that could have international repercussions similar to the US Naval blockage in Cuba.

CONCLUSIONS

The Russian government has established and is pursuing an aggressive energy strategy including the expansion of production and sales. The growth of the economy of the Russian Federation is dependent upon oil and gas exports with an estimated 30% of the GDP expectant upon oil and gas sale, greater than 60% of the current in flow and 50% of the tax revenue. Internationally, Russia is the top exporter of natural gas, the second highest exporter of oil and oil products, the 5th highest exporter of coal (2005) and a top exporter of enriched uranium for nuclear power plants (40% of the world's total). Russian energy strategy and policy have a global impact indeed.

In an effort to bring the revenues from the sale oil and gas up to established international levels, the Russian government has engaged in a series of difficult negotiations with neighboring countries including Ukraine, Belarus and Georgia. The threatening nature of these negotiations resulted in international debates about Russian reliability as an energy supply partner and the use of energy supply as a leveraging tool in international politics. However, the Russian government would plausibly argue that these negotiations were indeed strictly economic and not intended as a means to extend Russian defense policy. Based upon recent statements, the Russian government has heard the importance trust plays is in establishing long-term energy partnerships. For Russia, continued growth requires working as a reliable partner on the international stage.

To meet the planned increase in oil and gas exports, the Russian government has converted the Nuclear Energy Agency into a government-owned, private corporation, Rosatom Corporation. The goals are to significantly increase the construction of nuclear power plants both domestically

and internationally through the establishment of Atomenergoprom. Atomenergoprom is a fully vertically integrated company that encompasses uranium mining and enrichment, fuel fabrication, reactor design, manufacturing and construction, reactor operation, spent nuclear fuel storage and reprocessing, and MOX fuel fabrication. The expansion of the nuclear industry will provide support to advancements in the Russian education system, manufacturing and construction. Similar to the Russian energy policy, the realization of the Russian goals to meet their expanding nuclear capability goals requires international good will, partnerships and agreements. But this change also reflects the changes within the Russian government to gain control over key strategic sectors within Russia. The increased control of the State government and the loss of personal freedom remains an important issue.

The Russian government shows increasing frustration with the US over the US decision to withdraw from the ABM treaty and to change the strategic balance by deploying an ABM system in Czech Republic and Poland, the expansion of NATO to countries near their borders, and the US lack of will to negotiate the next arms control agreements including the START follow-on and the INF. On May 24, 2002 President Bush and Putin signed the Strategic Offensive Reductions Treaty (SORT) and issued a Joint Declaration on the same day stating “the era in which the United States and Russia saw each other as an enemy or strategic threat has ended.”³⁰

However, the strain on US-Russian relations was evident in President Putin’s interview with G8 Journalists on June 1, 2007:³¹

Kommersant: “Yesterday you said that, yes, there is an arms race -- you used precisely those words.”

Putin: “An arms race really is unfolding. Well, was it we who withdrew from the ABM Treaty? We must react to what our partners do. We already told them two years ago, ‘don’t do this, you don’t need to do this. What are you doing? You are destroying the system of international security. You must understand that you are forcing us to take retaliatory steps.’”
However, “We are interested in having a favorable atmosphere, environment and energy dialogue around Russia.”

During the past two decades, the US-Russian relationship has changed and evolved. But in the past five years, it has steadily grown more adversarial despite statements to the contrary. Regardless of significant gains and the establishment of partnerships in common interests such as nonproliferation and terrorism, it appears that both the US and Russia still view each other with great distrust stemming from the cold war. Yet in a sense, these military macerations do not take into account global economic realities including Russia’s prominent role as an energy exporter. It is the global economy and security that will suffer if the US and Russia move

³⁰ What are Nuclear Weapons For? Recommendations for Restructuring U.S. Strategic Nuclear Forces, 10/2007, S. Dress and J. Goodby, Arms Control Assoc Report.

³¹ Putin and Interview with Newspaper Journalist from G8 Member Countries, 6/4/2007, kremlin.ru web site..

towards a military conflict as a result in differences over the deployment of an ABM system and NATO expansion.

A new partnership cannot be easily established without the process of negotiations and agreements. The US has dismissed some key agreements in favor of freedom to act unilaterally, but has found that a partnership of nations, while difficult and time consuming, can create a stronger base. This has been true in the multi-country negotiations regarding the North Korean and Iran nuclear programs. The Iran and North Korean agreements represent what the Russians term multipolar agreements. These have been difficult negotiations, but they have the weight of the world's major powers behind them.

Conversely, the US has been increasingly concerned over the increase in Russian state control over key assets, including oil and gas reserves and the use of oil and gas sales and distribution in Russian government policy. Perhaps these are issues that can be discussed within the negotiations on the WTO and the 123 agreement that establish clear no-cross boundaries. It is interesting to note, that even within the increased hostility that has ensued between the US and Russia over the possible deployment of the ABM in Poland and the Czech Republic, the Russian government does not appear to have threatened to withhold the transfer of gas. Both Poland and the Czech Republic are dependent primarily upon Russia for their gas supply. As shown in Georgia, even short disruptions in gas supply can have an impact on the world gas prices.

Therefore, perhaps this is the right opportunity to negotiate with the knowledge that a new partnership and level of trust could be available now. It will mean give and take by all nations and could require yet another season of "trust, but verify" to ensure all parties are prepared to move forward. It is a time to acknowledge that the ghosts of the past still exist and find measures to build trust. Simplistic statements that the US and Russia are no longer enemies cannot erase years of mistrust. Specific steps toward addressing some of the issues between the US and Russia include:

- Work with the Russians to establish a fair and equitable international energy policy
- Listen to Russian security concerns regarding the US deployment of an ABM system. Are other deployment options available that will address Russian security concerns? And in ranking the risk of threats to the US, how does the threat of a missile launch from Iran or North Korea compare to that of terrorism and nonproliferation for which the partnership with Russia is so crucial?
- Work with the Russian government to begin the process of establishing greater openness and personal freedoms within their country while supporting their goals for economic growth through the WTO membership and the 123 Agreement. Identify key steps towards openness such as encouraging private ownership of television stations, allowing

open demonstrations, and other confidence building steps. Monitor Russia's new State Corporations – are they successful on the world stage?

- Reestablish formal discussions on new START, INF, CFE and ABM agreements that acknowledge the current world situation. Aim for simplicity based on a “meticulous system of verification.”³² Envision a future where suspicions on both sides are mitigated to the point where arms treaties are not required, by building a base of trust.
- Support of the EU-Russian Partnership as a means of working through regional issues.
- Within the framework of the 123 Agreement and GNEP, work together to advance nuclear technology and promote nonproliferation policies and technology. Advance the Russian concept of regional centers for uranium enrichment, fuel reprocessing and fuel manufacturing similar to the Angarsk International Uranium Enrichment Center.

If mutual trust is developed it could remove the pressure from the Russian government to continue their buildup and deployment of their strategic nuclear forces and focus on their badly deteriorating infrastructure. Russian government has stated that they want to move forward and become an energy super-power. They have learned, and will learn again, the fragility and importance of trust in establishing energy partnerships in their endeavor. They are a country operating in a new international arena but with cold war manners. If the US will listen, there is tremendous opportunity to work together to develop mutual trust in a way that will benefit all countries and support Russia's continued integration into the world community.

³² A Veteran Delivers Weapons Warning, 12/6/2007, The Moscow Times, S. Saradzhyan, M. Gorbachev's statements at the Harvard Belfer Center.