

Building
a Nuclear Safe World:
The Kazakhstan Way

Astana, 2014

“The threat of nuclear terrorism puts us in a race between cooperation and catastrophe. The kind of cooperation we see again and again from Kazakhstan on a continuing basis can help us win the race.”

Sam Nunn
Co-chairman and
Chief Executive Officer,
Nuclear Threat Initiative
Former U.S. Senator

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CONTENTS

Kazakhstan: Building a Nuclear Safe World <i>Foreword by Erlan Idrisson</i>	8
--	---

Chapter I. A Campaign against Nuclear Weapons: No Mountain Is Too High

Remarks at the International Conference “From a Nuclear Test Ban to a Nuclear Weapon Free World” <i>Nursultan Nazarbayev</i>	13
I call on all nuclear-weapon states to follow suit of Kazakhstan <i>Ban Ki-moon</i>	23
Message to the Fourth Observance of the International Day Against Nuclear Tests <i>Ban Ki-moon</i>	25
Remarks at a High-Level Panel on the Path to Zero: The Role of the United Nations in Nuclear Disarmament and Non-Proliferation <i>Lassina Zerbo</i>	27

Chapter II. The Tragedy on the Steppe: Living under the Nuclear Mushroom Cloud

Generations of tears <i>Richard Tomkins</i>	33
Why Kazakhstan is front and center at the Global Nuclear Security Summit <i>Al Eisele</i>	38
Tokyo International Conference on Semipalatinsk, 6-7 September 1999	41

**Chapter III. Not Pipe Dream, But Reality:
Proving Nuclear Disarmament is Possible**

Dispensing with a huge stash of nuclear fuels: The back story
to a historic international transfer
Martin Sieff51

Washington summit took hopeful new steps towards boosting
global nuclear security
Martin Sieff55

Kazakhstan leads by example in the nuclear arena
Michael Coleman61

Kazakhstan embraces NPT Review Conference goals
Martin Sieff67

IAEA sees great potential for cooperation with Kazakhstan
Geoffrey Shaw73

Central Asian Nuclear Weapon Free Zone strengthens
nuclear non-proliferation
William VanSwearingen75

**Chapter IV. Ensuring Security of Nuclear Materials:
A Key and Attainable Goal**

Fuel bank proposal gets international traction
Michael Coleman83

Kazakhstan prepared to host International Nuclear Fuel Bank,
Saudabayev says
Altair Nurbekov87

Kazakhstan seeks the honour, and responsibility, of hosting
International Nuclear Fuel Bank
Kirill Yeskarayev92

Remarks by President Nursultan Nazarbayev
at the 2nd Nuclear Security Summit in Seoul95

Talks over IAEA Nuclear Fuel Bank in Kazakhstan
Near Completion
Merey Kabiden98

World becomes Safer as Kazakhstan, US and
Russia Complete Degelen Project

<i>Artur Abubakirov</i>	101
NTI Report Notes Progress in Security of Global Nuclear Materials, Says Major Challenges Remain	
<i>Artur Abubakirov</i>	104

Chapter V. Atoms for Energy: Using World Class Reserves to Make Peace, Not War

Becoming a new nuclear power, a peaceful one	
<i>Kairat Kadyrzhanov</i>	111
Kazakhstan's Role as a Nuclear Leader	
<i>Vladimir Shkolnik</i>	114
Facilities of the National Nuclear Center	118
The Institute of Radiation Safety and Ecology, a critical element of peaceful research	121
Kazakhstan at the head of nuclear renaissance	
<i>Grahame Bennett</i>	124
Former Soviet state incubating high-tech businesses at former nuclear weapons site	
<i>W. David Gardner</i>	130
Kazakhs Will Boost Uranium Production, Build Nuclear Industry	
<i>Kirill Yeskarayev</i>	133
Nuclear technologies park at Kurchatov picks up new profitable projects	
<i>Kirill Yeskarayev</i>	136

Chapter VI. Views from both Inside and Outside: Learning from Kazakhstan's Example Is Critical

Political will, collective creativity needed to safeguard nuclear materials on a global basis	
<i>U.S. Senator Richard Lugar</i>	141
The hard nuclear threats	
<i>William Courtney</i>	143
New opportunities for nuclear security	
<i>J.D. Waverley</i>	146

The way towards a world free of nuclear weapons	
<i>Struan Stevenson</i>	149
A Model for Curtailing Nuclear Proliferation	
<i>Nursultan Nazarbayev</i>	151

Chapter VII. The ATOM Project: A Global Campaign to Ban Nuclear Tests and Build a Nuclear Weapons Free World

Kazakh President launches the ATOM Project	157
My experience of the nuclear horror	
<i>Karipbek Kuyukov</i>	161
The ATOM Project Seeks Minute of Silence to Commemorate Nuclear Weapons Testing Victims Worldwide	
<i>Altair Nurbekov</i>	164
UN General Assembly Commemorates International Day Against Nuclear Tests	
<i>Artur Abubakirov</i>	167
“If You Want Peace, Prepare For Peace,” Anti-Nuclear Weapons Activist Says	
<i>Jan Furst</i>	171
Parliamentarians Support ATOM Project’s Efforts to Ban Nuclear Testing	
<i>George D. Gleboff</i>	177
Kazakhstan Urges Nuclear Test Ban Treaty Entry into Force at Int’l Conference	
<i>Anuar Fazylov</i>	183
U.S. Senator Introduces \$100 Billion Nuclear Weapons Reduction Bill, As ATOM Project Is Presented in Senate	
<i>Altair Nurbekov</i>	188

List of Resolutions, Declarations and Statements:

Resolution adopted by the General Assembly 64/35 on International Day against Nuclear Tests, 2 December 2009	19
--	----

Decree of President of the Kazakh Soviet Socialist Republic
Nursultan Nazarbayev on closing the Semipalatinsk

nuclear test site, 29 August 1991	37
Resolution adopted by the General Assembly 63/279 on International cooperation and coordination for the human and ecological rehabilitation and economic development of the Semipalatinsk region of Kazakhstan, 13 May 2009	45
Parliamentary Appeal for Nuclear Abolition: From a Nuclear Test Ban to a Nuclear Weapons Free World, 29 August 2012	158
Final document of the international conference “Nuclear Security in the Modern World. Role of Parliamentarians in Nuclear Disarmament and Non-Proliferation”, 29 November 2013	180
Statement by the Ministry of Foreign Affairs of Kazakhstan to mark the 20th anniversary of Kazakhstan’s accession to the Treaty on the Nonproliferation of Nuclear Weapons (NPT) as a non-nuclear weapons state, 17 February 2014	192
 List of Boxes:	
Hundreds of N-Bombs of Material Secured in East Kazakhstan	65
National Commission on Non-Proliferation of Weapons of Mass Destruction	71
Key dates for the Central Asian Nuclear Weapon Free Zone Treaty	79
Kazakhs stay committed to nuclear disarmament	90
Kazakhstan’s National Nuclear Center, a Vehicle for Peaceful Nuclear Development	117
The Story of Kazakhstan’s Freeing Itself of Weapons of Mass Destruction Legacy and Working for a Nuclear Safe World	195

Kazakhstan: Building a Nuclear Safe World

“We built a new non-nuclear history for the country,
laying the foundation for a new narrative tradition
about how to rise above a world threat”.

Nursultan Nazarbayev, Epicentre of Peace

Twenty years ago, on February 14, 1994, our young country took a large step in the international arena with our accession to the Nuclear Non-Proliferation Treaty (NPT) as a non-nuclear weapon state. It was a formal sign of Kazakhstan’s determination to work for a world free of nuclear weapons – an ambition which has helped define our country since we first gained independence in 1991.

There were, of course, very good reasons for this commitment. The threat from nuclear weapons, as our President Nursultan Nazarbayev has said, strikes a deep chord within our country.

For forty years, Kazakhstan was a test site for Soviet nuclear weapons tests. The fall-out from these tests at Semipalatinsk – of which over 100 were above ground – has left a terrible legacy. A generation later, the deaths and deformities continue. The threat for us from nuclear weapons is not abstract but all too real.

This is why, in August of 1991, months before we attained full independence – and to the joy of our people – President Nazarbayev ordered the closure of the Semipalatinsk nuclear test site. At Kazakhstan’s urging, the date of August 29 has now been commemorated officially by the United Nations as the International Day against Nuclear Tests.

Kazakhstan followed this move with an even more historic initiative when we voluntarily renounced the world’s fourth largest nuclear arsenal, which we inherited on the break-up of the Soviet Union. Few countries have done more to bring the goals of the NPT closer.

Ever since those early days, we have continued to work tirelessly to achieve the goals of the treaty. We have encouraged countries across Cen-

tral Asia to come together to declare the region a nuclear weapons free zone – a model for wider progress. And we have used our influence in a wide range of international forums to improve nuclear safety.

Our increasing international authority in this field – and our good relations with all parties – also led to Kazakhstan being chosen in 2013 to host critical talks between Iran and the international community over its nuclear ambitions. We are glad that real progress has been made, which opens the way to reduce tensions across the wider region.

There is, however, a great deal more to do. We remain absolutely convinced that only a completely nuclear weapons free world can prevent the deliberate or accidental use of these terrifying weapons. With the spread of violent extremism over the past 20 years, the threat we face from the doomsday weapons is, in many ways, greater than it ever was in the darkest days of the Cold War.

It is why Kazakhstan has been an active partner in the Nuclear Security Summits in Washington and Seoul, and is thoroughly preparing for its participation in the third meeting in the Hague in March 2014. We need to step up global efforts against nuclear terrorism and prevent extremists gaining access to nuclear facilities, material and technology wherever they are sited.

But the recent talks with Iran also highlighted the importance of decoupling fears about the spread of nuclear weapons from the legitimate desire of countries for civilian nuclear power.

This ambition is, of course, recognized within the Non-Proliferation Treaty itself – which acknowledges the right of every country to develop nuclear energy for peaceful purposes.

Indeed, as the world struggles to meet the twin demands of spreading prosperity and tackling climate change, the low-carbon energy that nuclear power produces becomes more important. Our challenge is to balance this expansion while meeting fears about the spread and security of nuclear weapons.

So how can this best be achieved? Kazakhstan shares the views of the International Atomic Energy Agency that the safe production of enriched uranium must be at the heart of any solution. The difficulty is that the facilities needed to produce the fuel which powers civilian nuclear plants can be modified to turn out weapons-grade uranium.

The key to overcoming this challenge is to find ways to provide countries with a guaranteed supply of enriched uranium to power nuclear

plants. This is the aim of IAEA plans for an international bank of low enriched uranium fuel bank.

Kazakhstan not only supports this innovative approach to civilian nuclear power but has also offered to host the first such bank. We are, after all, the world's largest producer of uranium, and have proven expertise to provide the secure facilities needed. We also, crucially, have good relations not only with existing nuclear powers but also with those seeking to develop a civilian nuclear power sector.

But a nuclear fuel bank is only one step, although important, towards a world in which the threat from nuclear weapons and terrorism is removed. We need urgently to conclude the treaty banning the production of fissile materials and ensure the early entry into force of the Comprehensive Nuclear Test Ban Treaty (CTBT). To encourage the world to move toward ensuring the entry into force of the CTBT as the critical step towards a world free from the nuclear threat, President Nazarbayev launched an international education and online petition campaign, the ATOM Project (which stands for "Abolish Testing. Our Mission").

Encouraging progress in all of these areas would be at the top of our agenda if we are successful in our candidacy for a seat on the UN Security Council for the years 2017-2018. Over the past two decades, Kazakhstan has been a strong advocate of nuclear non-proliferation and disarmament. We are determined to step up our efforts to deliver a peaceful and stable world.

Erlan Idrissov

*Minister of Foreign Affairs of Kazakhstan
Astana, March 2014*

Chapter I

A Campaign against Nuclear Weapons: No Mountain Is Too High

President Nursultan Nazarbayev of Kazakhstan:

“From a Nuclear Test Ban to a Nuclear Weapon Free World”

*Remarks at the International Conference
in Astana on 29 August 2012*



Dear friends!

Today the world has been marking for the third time the observation of the International Day against Nuclear Tests.

The Day was established by the UN General Assembly resolution, which was presented at the initiative of Kazakhstan, the first country in history to have closed the nuclear test site on its territory.

This historical act made by the will of the people of our country 21 years ago has great civilization significance.

In this concern I would like to highlight three main points.

First, It was Kazakhstan's decisive step towards its real sovereignty and independence.

Nuclear weapons and radiation was far from being a distant theory for the people of Kazakhstan.

It was a terrible and inexorable evil that had been devastating our land for more than four decades.

A total of nearly 500 nuclear explosions of the so-called “peaceful purposes” were carried out in the atmosphere, underground and above ground on the test site.

This is half of all the tests carried out in the world during the existence of nuclear weapons.

Day-to-day radiation poisoned steppes, rivers and lakes, slowly destroying all life around.

The Nuclear Devil caused harmful damages to more than one and a half million of people who lived around the test site.

The tragic consequences of nuclear testing are felt to this day.

Broad popular movement to support my initiatives against nuclear tests gave me confidence and energy in promoting the interests of the people.

Despite the tough confrontation of the Soviet leadership and the military-industrial complex, I signed the decree to close the test site.

Second. The 29th of August has become the starting point in the process of acquiring by the whole Central Asia of the status of a nuclear-free zone region.

Kazakhstan voluntarily renounced the world's fourth largest nuclear potential, inherited from the Soviet military machine.

It was more than 110 ballistic missiles with 1200 nuclear warheads, able to reach any point on the earth.

At that time, we often heard opinions that “lowered” the significance of Kazakhstan's courageous step.

For example, some people argued that this step was explained by our inability and lack of capacity to support atomic arsenal.

I would like to remind that Kazakhstan is the second largest possessor of uranium reserves in the world and ranks first in its production.

The economic potential of the republic is equal or exceeds the GDP of some “threshold” countries.

After the collapse of the Soviet Union, we had both specialists and necessary infrastructure to conduct military nuclear programs.

Therefore, two decades ago the emergence of a new nuclear power in the name of Kazakhstan was only a matter of political will and time.

But we showed political will and unconditionally withdrew from the membership in the Nuclear Club.

In cooperation with the United States and Russia we eliminated the warheads and bombs.

In September 2006, together with other countries we signed the Semipalatinsk Treaty, which declared Central Asia a nuclear-free zone.

Third, the closure of the Semipalatinsk test site launched a new stage of the global nuclear non-proliferation and disarmament process.

Before August 29, 1991 mainly restrictive measures on nuclear safety had been taken.

Kazakhstan was the first to accomplish the act of complete and unconditional ban on the testing and on the development of weapons of the “judgment day”.

Sixteen years ago, by the UN decision the Comprehensive Test Ban Treaty was opened for signature.

And Kazakhstan was among the first to join it.

Now 183 countries have already joined the Treaty, and 157 states ratified it.

All the member states of the Nuclear Club observe moratorium on nuclear testing.

The closing of the Semipalatinsk nuclear test site was followed by other major test sites of the planet – in Nevada, Novaya Zemlya, Lop Nur and Moruroa.

That is why the 29th of August is a decisive moment that has shifted the danger of nuclear apocalypse for the whole world.

I am confident that with years and decades awareness of the significance of this date of the whole international community will only increase.

Ladies and Gentlemen!

The British magazine the Bulletin of the Atomic Scientists has been measuring the level of the global nuclear threat by the symbolic Doomsday Clock for sixty five years already.

In the beginning of this year the magazine moved the minute hand of the Doomsday Clock one minute closer to the date of possible nuclear disaster.

Why this decision was made?

The scientists wanted to attract urgent attention of the participants of the Global Nuclear Security Summit in Seoul to the array of problems in this field.

Nowadays we observe the reduction of the global nuclear security strengthening process, even despite the regular summits on this subject.

Firstly, we have not reached the universality of the non-proliferation regime. “New” nuclear and some “threshold” countries are still not included in the Treaty.

Secondly, two years ago, the United States and Russia signed the Prague Treaty which furthered a Strategic Arms Reduction process.

However, this did not become an example for other nuclear-weapon states.

Thirdly, the Comprehensive Nuclear Test Ban Treaty (CTBT) can't come into force.

Signatures of only a few "threshold" group countries are needed for it to become operative.

Fourthly, the issue of the global monitoring of the development of national nuclear power programs remains unregulated.

The lack of clear unambiguous rules casts a shadow of nuclear ambitions or even of support to nuclear terrorism, on almost any nation that seeks to use the peaceful atom.

This manifested injustice does not promote non-proliferation regime, but breeds mistrust in nuclear safety.

There are concerns that the amendments to the Convention on the Physical Protection of Nuclear Material will not come into force, as planned, in 2014.

The reason for these apprehensions is a stupor in their ratification by a number of countries.

Fifthly, the accident at Fukushima Nuclear Power Plant last year clearly outlined for the whole world the problem of technology gap in ensuring safety at the facilities of peaceful atom.

Here is an incomplete list of issues slowing down the formation of the global nuclear safety system.

But all these are only results, not reasons.

The sources of these problems are deeper.

The drawbacks of the modern global politics, largely inherited from the past epochs influence the current state of the global nuclear safety.

This is the inertia of block thinking, the lack of trust and openness in the relations between the countries, the lack of responsibility of individual states.

The chaotic nature of the objective course of a multi-polar world worsens the situation.

Some politicians and military men are still intoxicated with the opium of military atom.

There are forces in the world, which have a restricted vision of the global multi-polar world, first of all, as a combination of a number of centers of nuclear forces.

I am convinced that there is no place for exotica of «nuclear umbrellas» in the future.

It is immoral to make the issues on nuclear safety a small coin while solving the other problems of inter-state relations.

And at the same time the twenty-first century is impossible without nuclear power.

According to experts, the needs of the world economy in energy will be doubled by 2035. Today about 2 billion people on the planet have no access to electricity.

For many countries, the solution of problems of poverty, unemployment, lack of food is related to the implementation of projects of peaceful nuclear energy, of course, under the strict control of the UN and the IAEA.

That is why our idea of a nuclear-free world has nothing to do with the radio phobia or utopian desire to ever “forget” the secret of energy fission.

The nuclear-free world is a complete ban on the military use of nuclear energy.

This is the essence of my proposal on the development and adoption of the Universal Declaration of a nuclear-free world.

I remain a consistent supporter of this idea.

Distinguished participants of the conference!

From the standpoint of political realism it is necessary to recognize that the solution of key problems of the global nuclear security cannot be separated from the general process of transformation of the modern world order.

Recently, speaking at the Astana Economic Forum, I called to form a new world order in the format and on the principles of G-GLOBAL.

Acquiring of freedom from the fear of nuclear self-destruction should become an important initiative of the G-GLOBAL forum.

I am confident that the breakthrough in the global nuclear safety is also possible on the basis of five principles proposed by the G-GLOBAL.

First, a step-by-step plan of comprehensive arms reduction with participation of all nuclear states that should be drawn out and adopted by the UN is necessary.

First of all, the nuclear test ban treaty should be entered into force.

It is important to work out mechanisms of promotion of states that have cancelled their military nuclear programs.

But we have to do it gradually.

For example, we can use the practice of rejecting modernization and deactivate obsolete nuclear warheads and means of delivery.

The work should be obviously done along the process of nuclear

disarmament carried out by the nuclear-weapon states - the United States and Russia.

The measures to curtail the nuclear umbrellas are further seen realistic.

It is a question about the restriction of placing and storage of nuclear weapons only outside the national territory of the state, possessing them.

Second. Strong international security guarantees to all participants of regional nuclear-free zones are very important.

It is necessary to develop mechanisms to encourage states which principally refused from nuclear weapons programs.

The problems associated with the prospects of nuclear power in some countries can be solved only on this basis.

To date, 30 states have taken national commitments in the field of nuclear safety.

The international anti-nuclear law and practical politics should not have double standards and exceptions.

Third, nuclear disarmament and nuclear-free world is unthinkable without the trust of all parties involved in this process.

The principle of trust is a reasonable alternative to the military concept of deterrence, including nuclear ones.

In a month we will mark the 20th anniversary of Kazakhstan's initiative on the Conference on Interaction and Confidence Building Measures in Asia.

The CICA today is a developing promising structure for regional and global security.

It brings together 27 states with half of the world's population and produces more than a third of the global output.

The successful development of the CICA shows that in the twenty-first century the issues arising in relations between the states can be constructively resolved only on the basis of trust.

The global nuclear security system should use the potential of the regional structures such as the CICA, the OSCE, the Organization of Islamic Cooperation and others.

Therefore, it is necessary to expand their "baskets" with the issues on formation of a nuclear-free world.

Offering the idea of the G-GLOBAL, I called the global tolerance one of the fundamental principles of the new world order.

Unfortunately, we are still observing false messages to reinforce any religion by the power of nuclear weapons.



General Assembly

Distr.: General
12 January 2010

Sixty-fourth session

Agenda item 96

Resolution adopted by the General Assembly

[on the report of the First Committee (A/64/391)]

64/35. International Day against Nuclear Tests

The General Assembly,

Recalling that the promotion of peace and security is among the main purposes and principles of the United Nations embodied in the Charter,

Convinced that every effort should be made to end nuclear tests in order to avert devastating and harmful effects on the lives and health of people and the environment,

Convinced also that the end of nuclear tests is one of the key means of achieving the goal of a nuclear-weapon-free world,

Welcoming the recent positive momentum in the international community to work towards this goal,

Emphasizing in this context the essential role of Governments, intergovernmental organizations, civil society, academia and mass media,

Acknowledging the related importance of education as a tool for peace, security, disarmament and non-proliferation,

1. *Declares* 29 August as the International Day against Nuclear Tests, devoted to enhancing public awareness and education about the effects of nuclear weapon test explosions or any other nuclear explosions and the need for their cessation as one of the means of achieving the goal of a nuclear-weapon-free world;

2. *Invites* Member States, the United Nations system, civil society, academia, the mass media and individuals to commemorate the International Day against Nuclear Tests in an appropriate manner, including through all means of educational and public awareness-raising activities.

*55th plenary meeting
2 December 2009*

Let me remind you that 20 years ago Kazakhstan firmly rejected the advice of some “well-wishers” and the dubious honor to become the first Muslim nuclear power.

Nuclear weapons are suicidal for humanity.

Suicide as a direct challenge is proscribed by all regions of the world.

And from this point of view aspiration for possession of nuclear weapons power is an absolute blasphemy.

A nuclear weapon free world is our common goal to which the humanity should aspire.

Only by acting together, we can make our world safer and better.

We have the opportunity to remind the world once again of the tragic consequences of nuclear testing, to encourage the global community to more decisive actions on complete and unalterable prohibition.

For this reason, today Kazakhstan is launching its international project called the ATOM Project.

The name of the ATOM Project is an acronym formed of the first four letters in the English language which reads as “Abolish Testing. Our Mission.”

As part of this project, any person in the world who stands against nuclear weapons can sign the petition to the world’s governments online to call for a complete ban of nuclear tests and thus, to facilitate a sooner adoption of the Comprehensive Nuclear Test Ban Treaty.

I call the participants of the conference and all the people of the world to support the ATOM Project and make building of a nuclear weapons-free world our most important goal.

Fourth, I see the global transparency as one of the foundations of the future nuclear-free community of nations.

Kazakhstan through its antinuclear experience has demonstrated to the whole world the power of openness in nuclear disarmament and non-proliferation.

Recently, in transparent manner, we carried out the project of transportation of 210 tons of spent nuclear fuel to a safe storage.

And we continue transparent work on converting Kazakh reactors to low-enriched uranium fuel.

With the IAEA a unique automated system of accounting, control and physical protection of natural uranium is being created.

The work on Kazakhstan’s bid in the IAEA to place in our country the International Nuclear Fuel Bank is being carried out already at the practical level.

All these are examples of unconditional benefits for our country, which abandoned nuclear weapons.

And it is also an example for other states.

Fifth, the movement to the nuclear free world is the way to constructive multilateralism.

Positive cooperation for the sake of security of the mankind demonstrates involvement of many countries in the work of transforming the former Semipalatinsk nuclear test site to the “territory of peace.”

The high level of cooperation on this issue between Kazakhstan, Russia and the United States was marked in the joint statement of Presidents of the three countries, adopted during the Seoul Global Nuclear Security Summit.

Japan, Canada, the Netherlands, Switzerland, and a number of international organizations significantly contributed to the various rehabilitation projects.

We are grateful to all for this help.

Many different programs of the United Nations play an important role in overcoming the effects of nuclear testing.

Two years ago, Secretary-General of the United Nations Ban Ki-moon personally visited the area of the former Semipalatinsk nuclear test site.

I am thankful for his support and high appreciation of the anti-nuclear policy and initiatives of Kazakhstan.

Today, the humanity has a unique chance to get away from the endless brink of nuclear collapse.

And for that, more than ever it is important to bring together all nations and all people of good will!

I call you to actively participate in an interactive discussion in the format of G-global, and to work for a nuclear-free world, for our future and the future of our grandchildren.

Parliamentarians from all countries of the world are present at the conference today.

That is why this forum can be called a prototype of the global anti-nuclear parliamentary assembly.

I suggest considering the establishment of such international public institute.

Moreover, I would like to attract attention of the participants to the G-GLOBAL Internet forum call upon to actively participate in the interactive discussion under the G-GLOBAL format.

Within the framework of this format millions of users have a dialogue on a wide range of issues on formation in the twenty-first century a new, fair world order.

I have no doubt that an important component of this order will be a nuclear-free world.

I call upon you to actively participate in the interactive discussion under the G-GLOBAL format and to work for nuclear-free world for our future and for the future of our grandchildren.

Astana, Independence Palace
August 29, 2012

United Nations Secretary-General Ban Ki-moon:

“ I call on all nuclear-weapon states to follow suit of Kazakhstan ”

I have just overflowed ground zero and am standing on the ground zero, just two kilometers away from it, this is a very sobering experience for me.

More than 450 nuclear weapons were tested here with the terrible effect on people and on nature, which have totally destroyed our nature and environment, poisoned earth, rivers, the lakes, children suffering from cancer, birth defects.

In 1991, soon after independence of Kazakhstan President Nazarbayev showed an extraordinary leadership by closing this Semipalatinsk nuclear test site and banishing nuclear weapons from Kazakhstan. It was a visionary step, a true declaration of independence.

Today, this site stands as a symbol of disarmament and hope for the future. The Treaty on a Nuclear-Weapon-Free-Zone in Central Asia was signed here.

Now we have a good reason to believe that the promise of Semipalatinsk - the abolition of nuclear weapons – will become reality.

In just two days from now, President Dmitri Medvedev of the Russian Federation and President Barack Obama of the United States are going to sign a successor to the START treaty – that is a really due fresh start.

Today, U.S. President Obama has announced a very important announcement on the Nuclear posture review. That is an important initiative.

By banishing nuclear weapons and joining in creating a nuclear-weapon-free zone in Central Asia, Kazakhstan has helped us to see that a world free of nuclear weapons is achievable.

*Ban Ki-moon, A message to General Assembly event on the International Day against Nuclear Tests,
9 September 2010*

Semipalatinsk has become a powerful symbol of hope.

*Ban Ki-moon, A message to High Level Thematic Conference on the International Day against Nuclear Tests,
26 August 2010*

To lead by example, the United States would renounce the development of new nuclear weapons. And for the first time, the United States explicitly committed not to use nuclear weapons against any non-nuclear-weapon state which is in compliance with the Nuclear Non-proliferation Treaty even if the United States were attacked.

I cannot think of a more fitting - even poignant - place to hear this news.

All this encouraging development of situation will add significant momentum to the forthcoming NPT Review Conference which will take place at the UN in May.

At next week's nuclear security summit in Washington, DC, I will urge the leaders of the Russian Federation, the United States and other nuclear weapon states' leaders to abandon all nuclear weapons.

To realize the world free from nuclear weapons is the top priority for the United Nations, and most ardent aspiration of the mankind.

Here, in Semipalatinsk, I call on all nuclear-weapon states to follow suit of Kazakhstan. For inspiration, they can look to Kazakhstan.

Kazakhstan has led by example. They encouraged the United Nations General Assembly to establish August 29 as the International Day Against Nuclear Tests. And they are working to help people experiencing the adverse effects of nuclear testing.

As Secretary-General, I will spare no effort to realize, together with the whole international community, a world free from nuclear weapons. As you may know, on October 24, 2008, I introduced my 5 point action plan for nuclear weapon disarmament.

The United Nations is working in Semipalatinsk to restore the area, to improve the health of the people, and to provide an environment for economic growth.

Again, I urge all the leaders of the world, particularly nuclear weapon states, to work together with the United Nations to realize the aspiration, the dream of the world free from nuclear weapons.

Statement made by the UN Secretary General Ban Ki-moon
at the former Semipalatinsk Nuclear Test Site in Kazakhstan
on April 6, 2010

United Nations Secretary-General Ban Ki-moon:

Message to the Fourth Observance of the International Day Against Nuclear Tests

I am pleased to convey my greetings to this fourth annual observance of the International Day against Nuclear Tests.

Eighteen years after the closure of the Semipalatinsk nuclear test site in Kazakhstan, the United Nations General Assembly unanimously adopted a resolution declaring 29 August as the International Day against Nuclear Tests.

This event offers the world community an opportunity to reflect on the dangers posed by such tests and on the urgent need for additional efforts to prohibit them everywhere.

This Day also provides a moment to recognize the contributions of the government and people of Kazakhstan in seeking to outlaw all such tests and to advance global nuclear disarmament.

We should all remember the terrible toll of nuclear tests. A total of 456 nuclear tests were carried at Semipalatinsk since the first explosion there more than 64 years ago. Nearly one and a half million people were affected by the consequences of nuclear testing, and an immense territory has been contaminated with radiation.

With the adoption of the Partial Test Ban Treaty in 1963, the international community completed its first step towards putting an end to all nuclear weapon test explosions. This objective remains a serious matter of unfinished business on the disarmament agenda.

Today, 183 countries have signed the Comprehensive Nuclear-Test-Ban Treaty and 159 have ratified it. I once again urge all States to sign and ratify the CTBT without further delay. Eight States whose ratifications are necessary for the Treaty to enter into force have a special responsibility: China, the Democratic People's Republic of Korea, Egypt, India, Iran, Israel, Pakistan and the United States. None should wait for others to act first. In the meantime, all States should maintain or implement moratoria on nuclear explosions

There are no justifiable grounds for further delay in achieving this great goal. It is time to address the horrific human and environmental effects of nuclear tests through a global ban, the most reliable means to meet these challenges.

Throughout its history, efforts have also been underway at the United Nations to achieve an even bolder goal: a world free from nuclear weapons. This is one of my highest priorities and one that is shared by virtually all our Member States and that has broad public support.

Kazakhstan has shown through its actions what a determined people and a committed government can accomplish in eliminating grave nuclear threats. On this International Day against Nuclear Tests, let us resolve to build on that commitment to outlaw all nuclear tests, everywhere, for all time. Let us continue our historic journey to a world free of nuclear tests and nuclear weapons.

Thank you for your support for this vital effort.

New York, 5 September 2013

Remarks at a High-Level Panel on the Path to Zero: The Role of the United Nations in Nuclear Disarmament and Non-Proliferation

Dr. Lassina Zerbo,
Executive Secretary,
Preparatory Commission for the Comprehensive
Nuclear-Test-Ban Treaty Organization

*Excellencies,
Distinguished Panellists,
Ladies and Gentlemen,*

It was on 29 August, 1949, that the first nuclear device, “First Lightning” was detonated at the Semipalatinsk test range in Kazakhstan. As we commemorate this fourth International Day against Nuclear Tests, we celebrate that 22 years ago President Nursultan Nazarbayev opened a new chapter of nuclear disarmament by shutting down the Semipalatinsk Nuclear Test Site. On 29 August 1991, a chapter opened and led to the dismantlement of the world’s fourth largest nuclear power.

Fourteen-hundred nuclear warheads, intercontinental ballistic missiles, cruise missiles and heavy bombers were returned to Russia for disposal under the START 1 Treaty. Weapons grade uranium was downblended into commercial reactor fuel and weaponisable plutonium was also safely disposed of. Reactors that had provided weapons material were de-commissioned. The Semipalatinsk test site, also known as the Polygon, was spiked.

Kazakhstan acceded to the NPT in 1994 as a non-nuclear weapon state. In 1996, four days after the Comprehensive Nuclear-Test-Ban Treaty (CTBT) opened for signature, it was signed by Kazakhstan. Kazakhstan’s nuclear disarmament established that states can abdicate their nuclear crowns without it impinging on their security. Belarus,

South Africa and Ukraine, who had also possessed nuclear weapons and renounced their nuclear arsenals, set the same example.

We need to observe 29 August as a time to act and not to wait. The desire to pursue a nuclear weapons free world is evident. The Comprehensive Nuclear-Test-Ban Treaty is the obvious indispensable instrument, which brings us closer to this goal. Nuclear testing is the final barrier to the development of nuclear weapons. Finally closing the door on nuclear testing is a critical step towards the elimination of nuclear weapons. Ending nuclear explosions is a goal on the road to nuclear disarmament that must be reached. Now is the time for the eight states whose ratification of the CTBT will bring it into force to show the political will and fully endorse it.

By its very existence and through its many achievements, the CTBT has created a new paradigm in the field of disarmament and non-proliferation. The CTBT has created an all-inclusive, multilateral, and democratic legally binding framework; a prohibition regime of equal obligations. It has a verification regime that relies on its parties, and serves all of them in an equal and transparent manner. Technically, 85% of the unprecedented monitoring system made up of 337 facilities is in place. Technologies have been made to work together. The seismic, infrasound, hydro-acoustic, radionuclide, and noble gas technologies have the support of atmospheric transport modelling, information and communication. We have mastered working with these technologies each in its own right. The three DPRK declared tests of 2006, 2009, and 2013 have put our political, scientific, technical and human capabilities to the test. We managed to prove beyond doubt the capabilities of the verification regime even at this stage of build-up of the monitoring system. We have also learned how best to work them together into an integrated system. A system that not just detects nuclear test explosions, but one that can contribute to disaster risk reduction and mitigation, tsunami warning, and environmental and scientific research.

As long as any state has nuclear weapons, others will want them. We cannot be complacent to the threats and risks of the failure to reduce existing nuclear weapons, the prevention of new states acquiring nuclear weapons, stopping terrorist actors from gaining access to such weapons, and properly managing the rapid expansion in civil nuclear energy.

The CTBT verifies the silence of nuclear weapons, for the existing

possessors and for the newcomers. The CTBT, however, is not a stand-alone treaty. It is part of the larger disarmament and non-proliferation regime. It is historically linked to the campaign for nuclear disarmament. It has direct linkage to the NPT and its review process. Progress on the CTBT is an indicator of the health of the NPT, and a litmus test of commitments to nuclear disarmament. It is hard to imagine any further progress on nuclear disarmament, including a fissile material treaty, without the CTBT in force. The CTBT and its verification regime constitutes the qualitatively constraining component of the nuclear disarmament framework, while a fissile material treaty represents the quantitative element.

While the Treaty effectively prevents the quantitative and qualitative improvement of nuclear weapons, it also enhances confidence-building and transparency. Nuclear Weapon Free Zones (NWFZs) and the CTBT share a common history. NWFZs and the CTBT complement each other. Both contain legal obligations to prohibit nuclear tests. The CTBT and its implementing organisation bolster NWFZs by providing states covered by these zones with a powerful verification mechanism. The CTBT can contribute to the building of NWFZs in the ME and South Asia. The CTBT with its multilateral democratic nature and highly effective verification technologies stands as a practical and confidence building tool for the establishment of these Zones.

As you know, the 2010 NPT Disarmament Action Plan listed 22 actions that, if implemented, would bring us closer to a world without nuclear weapons. Five of these actions are related to the CTBT and nuclear testing. These actions are the most achievable and they should be taken as a priority by UN members. The 2010 NPT Action plan recognized the legitimate interests of NNWS in constraining nuclear weapon development by NWS. It should be emphasized that the entry into force of the CTBT would constitute the legal constraint to such development; therefore, bringing the test ban into legal standing should be advanced by all NPT Member States.

Action 22 of the same plan promotes disarmament and non-proliferation education as a means to progress towards a world without nuclear weapons. Promoting disarmament and non-proliferation education and training is a key priority for the CTBTO. Over the last years, CTBTO has utilized both 'deep' and 'broad' training to instruct technicians, professionals, diplomats, academics, students, journalists

and members of civil society in hundreds of courses, developing capacity in all aspects of the Treaty's verification system. The CTBTO deep training approach, also referred to as capacity building, consists of focused and intensive technical training for individuals from States Signatories working directly with the infrastructure that comprises the CTBTO verification system. Broad training engages a wider spectrum of stakeholders, including diplomats, academia, think tanks and journalists, on the policy and technical underpinnings of the CTBT and its multilaterally established verification system. Taken together, CTBTO training, education and outreach initiatives serve to enhance international efforts towards disarmament, non-proliferation and international peace and security by bringing together ideas, concepts, individuals, groups and institutions to bridge political, regional and technological divides.

Ladies and Gentlemen,

It is my strong conviction that instead of remembering the first nuclear test, the first hydrogen bomb test, or the largest nuclear test, we shall soon be able to celebrate the day when nuclear tests are outlawed once and for all. I look forward to working with all of you to reach that day.

But the international community needs to decide the direction it wants to take. Are we serious about our calls for nuclear disarmament and non-proliferation? Are we willing to work on realizing the vision of a world free of all nuclear weapons? It shall be up to leaders of the international community to seize the moment and to determine the action necessary to go the extra mile; to realize the dream.

Thank you for your attention.

New York, 5 September 2013

Chapter II

The Tragedy on the Steppe: Living under the Nuclear Mushroom Cloud

Generations of Tears

By Richard Tomkins

SEMEY, KAZAKHSTAN – On a hill in East Kazakhstan stands an oblong monument with its center cut out to portray a mushroom cloud from a nuclear explosion. At its base is a statue of a woman shielding her child; nearby is a wall inscribed with the names of those for whom protection never existed or proved utterly useless.

“Stronger than Death,” as the monument is called, is a remembrance to victims of a world askew. For 40 years, residents of East Kazakhstan lived beneath the cloud of nuclear fallout and contamination as the former Soviet Union tested its weapons of mass destruction in the region.

Those tests ended in 1989, but their flesh-and-blood legacy continues.

“This is a tragedy, not just for my family but for everyone in the whole polygon (test site area),” said Bolat Aysholpanov, 70. “I’m angry, but there is nothing I can do about it.”

Aysholpanov, a former Communist Party official, grew up in the village of Kyzyltu close to the nuclear test site. He remembers being temporarily evacuated with his family for a test in 1953, but was still close enough to see the cloud, feel the earth shake, feel the hot wind before returning home.

Other tests followed in later years – “the earth would shake two, three times a week” – and his family’s fate was sealed.

“My younger brother died of leukemia. He was 19,” he said. “My sister’s eldest son died of cancer at 33. My third son is an invalid; the wife of another son died of cancer. My daughter died of cancer two years ago and her husband died of cancer last month. One of my sisters died of cancer at age 53; her son now has cancer,” recited the horrors Aysholpanov.

“We worry about our grandchildren and their children. Will they become sick also?” wondered Aysholpanov, who suffers from anemia and heart disease.

Physicians and scientists in the city of Semey, about 160 kilometers (100 miles) from Ground Zero, the site of a lot of explosions, say it is likely. Between 1949 and 1989, a total of about 456 nuclear tests were conducted. Of those, 116 were conducted above ground and 340 underground. The effects of radiation exposure, they said, will be felt for decades.

“There are more than 89,000 people on our register of test-site victims in the Semey area,” said Dr. Kazbek Absalekov, director of the Scientific Research Institute for Radiation Medicine and Ecology. “We’re now working with first, second and third generation patients and doing DNA analysis to try to predict the problems for the fourth and fifth generation victims.”

According to statistics from the Kazakh Ministry of Health, about 1.5 million people have been exposed to ionized radiation, 700,000 were still in East Kazakhstan in 2009. In the Semey area the cancer rate was 263.6 per 100,000 people compared to the national rate of about 184 per 100,000 people.

Incidence of cardiovascular diseases in Semey in 2008 was 2,079 per 100,000 people, more than 2.8 times higher than the national average. Endocrine system illnesses, blood system illnesses and musculoskeletal system illnesses were also higher than average, while mental/cognitive illnesses were four times the national level.

But those are just statistics, interesting to scientists but of little import to those who make up the statistics.

“I brought my daughter here for classes and to socialize,” said Natalia Bratishkina. “Alexandra is 17 and suffers from tremors and convulsions. The doctors had said her mental problems were so bad, never mind about school, it would be a waste of money.”

“All the three doctors who have seen my daughter since the age of three believe her sickness is caused by the tests.”

The “here” Bratishkina spoke of was a non-governmental organization office in the Semey Town Hall where second and third generation victims of radiation exposure socialize, receive some schooling and are helped to learn coping skills. With her and Alexandra were Karshygia Iemberdina, 41, and her 16-year-old son Maksat. Iemberdina grew up in the test site area. Her son was born partially blind, suffers from tremors, convulsions and developmental delay.

Like Alexandra, musculoskeletal problems make walking difficult for him.

A third member of the group was 14-year-old Saltanat Katchanova, who barely speaks above a whisper; she has a throat tumor that despite nine operations continues to recur. Her grandmother, who grew up in the test area and has a brain tumor, accompanied her.

“We don’t have time to grieve,” Bratishkina said. “We are too busy taking care of our children, trying to give them some kind of good life. But I hope this (testing) never happens again.”

When the test site was established, political practicalities overrode humane concerns and that narrow focus continues to haunt this region.

During a visit on April 6, 2010, to Ground Zero, 100 miles from Semey and 37 miles from Kurchatov, once the secret center of nuclear test monitoring, UN Secretary General Ban Ki-moon stood and surveyed the desolate, flat steppe around him. He hailed the new nuclear weapons treaty between the United States and Russia and expressed the hope for a world one day without nuclear weapons of any kind.

The Secretary General praised Kazakhstan’s President Nursultan Nazarbayev for closing the Semipalatinsk Nuclear Test Site and banishing nuclear weapons.

“It was a visionary step, a true declaration of independence. Today, this site stands as a symbol of disarmament and hope for the future,” he said. “Now we have a good reason to believe that the promise of Semipalatinsk - the abolition of nuclear weapons - will become reality.”

He also challenged nuclear weapon states to follow Kazakhstan’s footsteps. “Here today in Semipalatinsk, I call on all nuclear weapons states to follow suit of Kazakhstan,” he said. “For inspiration, they can look to Kazakhstan. Kazakhstan has led by example.”

Except for dignitaries, no one else was present at Ground Zero, nor was there any sign of life around it. That was appropriate.

According to Kairat Kadyrzhanov, director general of the Kazakh National Nuclear Center in Semey – formerly named Semipalatinsk – Ground Zero will remain uninhabitable for decades to come because of radiation contamination.

The nuclear center, which is overseeing a number of enterprises on the peaceful use of nuclear energy, is involved in mitigating the effects of radiation exposure to humans and the environment.

Kadryzhanov said he is confident that about 85 percent of the more than 18,000 square kilometer area of the former test site will be returned to productive use within five years. But that is only a small portion of the landmass which, according to various estimates, was contaminated by radiation in one way or another. Some experts say radiated particles were carried by winds to a total area of 300,000 square kilometers, or roughly one tenth of Kazakhstan and the size of Germany. Assessing the damage this caused to the land and people is an extremely complex task.

“We can surely say the Semey test site is still a monster,” Kadryzhanov said.

Nursultan Nazarbayev:

I resolve to shut down the Semipalatinsk nuclear test site

Decree No. 409

Since 1949, nuclear weapon tests were conducted on the territory of the Semipalatinsk region of the Kazakh SSR. Around 500 nuclear explosions were carried out which caused damage to the health and lives of thousands of people.

Taking into account that the Kazakh SSR has fulfilled its duty regarding the creation of a nuclear potential that has ensured the strategic parity between the USSR and the USA, and taking into consideration the demands of the people of the Republic,

I RESOLVE:

1. To shut down the Semipalatinsk nuclear test site.
2. That the Cabinet of Ministers of the Kazakh SSR, in coordination with the Ministry of Defense of the USSR and the Ministry of Atomic Energy and Industry of the USSR, transform the Semipalatinsk test site into a Union-Republic research center and develop and approve its status and a list of main directions of scientific research.
3. Taking into account that during the air and ground tests in the period from 1949 through 1962, harm was done to the health of the people in areas bordering the Semipalatinsk nuclear test site, to define jointly with the agencies of the Union the scale and mechanisms of compensating the citizens of the Kazakh SSR who have suffered such harm.
4. That the Cabinet of Ministers of the Kazakh SSR, together with the ministries and agencies of the Union that were involved in conducting nuclear explosions on the territory of the Republic, approve a program of social and economic development to improve living standards and healthcare of the people in the districts of the Semipalatinsk, Karaganda and Pavlodar regions bordering the test site, to be funded from the Union budget.

This Decree enters into force from the moment of its signing.

Nursultan Nazarbayev
President of the Kazakh Soviet Socialistic Republic

Almaty, 29 August 1991

Why Kazakhstan Is Front and Center at the Global Nuclear Security Summit

By Al Eisele

SEMEY, KAZAKHSTAN – Praskoviya Koloskova is 85 now, a widow living in a retirement home in this forlorn city on the vast windswept steppes of northeast Kazakhstan that was formerly known as Semipalatinsk, and she admits that her memory sometimes fails her.

But she has no problem remembering what she witnessed 57 years ago, on the morning of August 12, 1953, when the Soviet Union detonated its first thermonuclear bomb at the Soviet Union's main test site for atomic bombs some 90 miles to the west.

"Usually, before a test, they recommended that we open our windows and doors and wait outside of our house," she said, referring to the warnings the local citizenry received when Soviet scientists began testing atomic bombs four years earlier in a frantic effort to catch up with the United States.

"But this was different," she said through an interpreter. "I felt the [pressure] wave and then it was like a cup with smoke and tongues of fire, and after that, the fire was going up and I saw the mushroom and then breathed the air, which was full of ash. It seemed like it was only a hundred meters away."

Mrs. Koloskova's husband, a carpenter, was at work and their three sons, who were in school, also witnessed the blast, only the fifth of 456 nuclear devices – 113 of them above ground or atmospheric – detonated at the Semipalatinsk test site between 1949 and 1989. It was a relatively small explosion, 400 kilotons, but it paved the way for first true Soviet hydrogen super bomb, a 1.6 megaton monster, two years later.

The radioactive fallout from all the above ground and atmospheric tests left Mrs. Koloskova with health problems and occasional nightmares. "I don't know what happened with me, but from that moment, I felt headaches and nervous disorders, and I imagined it many times," she said.

But she was one of the lucky ones. Still vigorous and able to walk with aid of a cane, she was not afflicted with any of the horrific tumors or the radiation-caused genetic mutilations and birth defects that affected many residents of Semey and other settlements near the 7,000-square-mile test site known as the Polygon, Russian for “firing range.”

Her story, and those of thousands of others like her, is the reason why Kazakhstan, a Central Asia country unknown to most Americans, is standing front and center among the 47 nations represented at the two-day Global Nuclear Security Summit beginning Monday in Washington.

Indeed, Kazakhstan President Nursultan Nazarbayev was the second foreign leader, after India Prime Minister Manmohan Singh, that President Obama met with the day before the conference opened. Obama praised Nazarbayev, the former head of the Communist Party of Kazakhstan who was elected president when Kazakhstan became the last of the former Soviet republics to declare independence in 1991, as “one of the model leaders in the world”. He added, “We could not have this summit without his presence.”

Obama’s words of praise reflected the fact that even though Kazakhstan is hardly a shining example of democracy – Kazakhstan’s parliament made Nazarbayev de facto president for life in 2007 with veto powers over any legislation and immunity from criminal prosecution – he was the first foreign leader to renounce the possession and use of nuclear weapons.

On August 29, 1991, four months before the Soviet Union collapsed and 38 years after Mrs. Koloskova witnessed the Soviets’ first thermonuclear explosion, Nazarbayev shut down the Semipalatinsk Nuclear Test Site.

And in 1995, after his country inherited the world’s fourth largest nuclear arsenal, he declared that Kazakhstan was a nuclear free country and returned 40 heavy bombers and more than 1,400 nuclear warheads for intercontinental and intermediate range missiles to Russia for destruction. He later destroyed 148 ICBM silos across Kazakhstan and underground test tunnels at Semipalatinsk, as part of the Nunn-Lugar Program.

At the same time, he approved a secret joint operation with the U.S. code named Project Sapphire, which removed 1,278 pounds of highly enriched uranium to the U.S.

Obama's warm words for Nazarbayev also reflected the geopolitical realities of the 21st century. Kazakhstan, a country larger than all of western Europe with only 16 million people, is sandwiched between Russia and China, and borders on Kyrgyzstan, where recent uprisings threaten the status of a major U.S. air base supporting U.S. troops in Afghanistan.

Kazakhstan also has the Caspian Sea region's largest recoverable oil and gas reserves as well as the world's second largest deposits of uranium.

And it is flexing its diplomatic muscles as it became in January the first predominantly Muslim nation and the first former Soviet Union state to assume the chairmanship of the Organization for Security and Cooperation in Europe (OSCE).

Few Americans may have heard of it or even know where it is, but Kazakhstan appears ready to awaken from its role as the sleeping giant of Central Asia.

Note: This essay was originally published in April 2010 in the Huffington Post.

Tokyo International Conference on Semipalatinsk 6-7 September 1999

Co-sponsored by: International Atomic Energy Agency (IAEA), Office for the Coordination of Humanitarian Affairs (OCHA), United Nations Children's Fund (UNICEF), United Nations Population Fund (UNFPA)

SUMMARY by the Chairmen

In recognition of the grave legacy and consequences of 40 years of nuclear testing upon the people, environment, and economy of the Semipalatinsk region of Kazakhstan, an International Conference was organised in Tokyo on 6 and 7 September, 1999.

The Conference was organised and chaired jointly by the Government of Japan and the United Nations Development Programme (UNDP), with high level participation from the Government of Kazakhstan. The meeting was enhanced by the co-sponsorship of four other UN organisations and specialised agencies: OCHA, IAEA, UNICEF and UNFPA.

Reflecting international interest, a total of more than 200 persons representing about 80 organisations participated in the conference, representing 24 governments, 12 multilateral organisations, including the co-sponsors as well as the World Bank, UNESCO, WHO, FAO, EBRD, EU, OSCE and NATO. Six international NGOs and 38 Japanese organisations, institutions and agencies also participated. There was particularly strong interest demonstrated by the involvement of community and professional leaders from Nagasaki, Hiroshima and Semipalatinsk. The conference also attracted the interest of the international media which has already raised awareness about Semipalatinsk and the Tokyo Conference.

The Tokyo Conference was one of the principle follow-up actions after a special Report was submitted by the Secretary-General to the UN

General Assembly (UNGA), in November 1998. This Report assessed the humanitarian and development needs of the Semipalatinsk region and its people, proposing a programme of action. On the occasion of the UNGA's consideration of the Secretary-General's Report, the Government of Japan offered to host an international conference to consider ways of taking the Secretary-General's Report and its recommendations forward.

Welcoming the Secretary-General's Report, which had been initiated by a UNGA Resolution in 1997, a UNGA 1998 Resolution was unanimously adopted on that occasion. UN member states stressed the need for greater international attention, cooperation and coordination in responding to the circumstances of the Semipalatinsk Polygon; urged the international community to share its knowledge and experience of these problems; and sought the mobilisation of support for those affected by, and cumulatively exposed to, decades of radiation.

At its opening, the Conference attentively received the messages of Prime Minister of Japan Mr. Obuchi, President of Kazakhstan Mr. Nazarbayev, and the Administrator of UNDP, Mr. Malloch Brown. Prime Minister Obuchi emphasized the importance of solving the problems in Semipalatinsk from the viewpoint of Human Security. They drew attention to the significant and dreadful consequences of Semipalatinsk during the period of nuclear development and testing, and the importance of Semipalatinsk (along with Nagasaki and Hiroshima) as symbols about the need for peace.

In addition, the Japanese and Kazakhstan Ministers of Foreign Affairs warmly recognised their close bilateral relations. They also acknowledged the prior support of Japan and other international partners to the affected population and the Semipalatinsk region. Finally, they also invited the international community and participants at the Tokyo Conference to give due attention and to consider additional support. Dr. Keizo Takemi, State Secretary for Foreign Affairs of Japan, in his Keynote speech, underscored that Japan was the only country that had suffered from nuclear bombing and cannot be indifferent to the issue of nuclear weapons. In addition, he reemphasized the perspective of Human Security in addressing these problems. The UNDP Assistant Administrator described the relative importance and justification for a strong international response and explained how the highly prioritised proposals for action emerged from a participatory international process.

The presentations and deliberations of the first day, devoted to the health and medical care of the population of the Semipalatinsk region, conveyed three important messages aimed at improving effectiveness:

- there is an urgent need for improving the scientific-based evidence on which to refine priorities and take actions;
- the need for transparency and accountability, which include an improved communication strategy and involvement with the public, as well as better coordination of all national and international actors;
- handling the health consequences of people affected from nuclear testing should be seen as part of the broad public health strategy and reforms in Kazakhstan, and should be balanced with other health needs in the region including mother and child health, environmental health, mental health, reproductive health and communicable disease prevention.

For its part, the Government of Japan will study assisting the establishment of screening and treatment systems in order to improve medical infrastructure for the affected population, together with the collection of basic data and the transfer of knowhow about administrative measures. Finally, Japan agreed with other participants about the importance of “ownership” and coordination by the Kazakhstan Government in addressing the problems.

On the second day of the Conference, attention was focused on the full range of needs reflected in the 38 projects prioritised by international and Kazakhstani experts for the UN Secretary General’s Report. A wide range of participants were involved in the deliberations which gave attention to the following:

- a) the need to complete a comprehensive radiological assessment of the Semipalatinsk region; also to strengthen monitoring;
- b) support to rehabilitate the economy in order to improve prospects for self-help and sustained recovery for both urban and rural populations with special attention to those measures which support small business development;
- c) humanitarian assistance for the poor and most vulnerable population group in the region;
- d) the necessity to strengthen the capacities of government and other local institutions, particularly including Kazakhstani NGOs, so that they can better administer programmes for action and ensure their impact on the most affected population;

e) the necessity to enable people to have access to information to avoid risks, reduce psycho-social insecurity, receive guidance, and to enhance their knowledge for action.

The presentations by the Kazakhstani officials and participants, and the inputs of experts with direct experience, was welcomed. Several participants concurred that the programme for action correctly focuses on the provision of immediate and direct assistance to the affected populations. The other components for study and applied research to improve targeting and mitigation efforts were also regarded as well justified to address the continuing needs. Capacity building and information support services were also judged as a reasonable, smaller, but very desirable component.

Following these presentations and discussions, many Conference participants took the opportunity to reaffirm their overall concurrence with the priority programme, its justification, scope and magnitude. About 30 delegations expressed their appreciation about the conference and its organisers, and conveyed their overall support for the priority programme of action. Eighteen made specific commitments or confirmed pledges of assistance. More than \$20 million was pledged from Japan, the World Bank, GBGM, and several United Nations organisations and agencies. Japan announced a special contribution of \$1 million through the Japanese/UNDP Funds.

The Kazakhstan delegation's leaders, representing the people and Government, expressed their profound gratitude for the understanding and responsiveness of the international community, and to the hosts of the Conference. They also elaborated on how the incremental humanitarian, rehabilitation and development assistance would be utilized, coordinated and managed in order to have its intended benefit for the affected people in the region. They also offered to report on the overall progress and consult with interested partners in the year 2000, prior to and also in conjunction with the Report to the UN General Assembly. At the conclusion, the Deputy Prime Minister and Foreign Minister expressed the Kazakhstani Government's gratitude to the Japanese Government and people, to the UNDP and UN co-sponsors, and to all participants at the Tokyo Conference.

The Tokyo International Conference on Semipalatinsk concluded successfully by responding to the priority needs of the affected population, and to the spirit and the practical intent of the UN General Assembly Resolutions.



General Assembly

Distr.: General
13 May 2009

Sixty-fourth session

Agenda item 65 (b)

Resolution adopted by the General Assembly

[without reference to a Main Committee (A/63/L.67 and Add.1)]

63/279. International cooperation and coordination for the human and ecological rehabilitation and economic development of the Semipalatinsk region of Kazakhstan

The General Assembly,

Recalling its resolutions 52/169 M of 16 December 1997, 53/1 H of 16 November 1998, 55/44 of 27 November 2000, 57/101 of 25 November 2002 and 60/216 of 22 December 2005,

Taking note of the report of the Secretary-General, (A/63/659) and the information contained therein on measures taken to address health, environmental, economic and humanitarian development problems and satisfy the needs of the Semipalatinsk region,

Recognizing that the Semipalatinsk nuclear testing ground, inherited by Kazakhstan and closed in 1991, remains a matter of serious concern for the people and Government of Kazakhstan with regard to the long-term nature of its consequences for the lives and health of the people, especially children and other vulnerable groups, as well as for the environment of the region,

Taking into consideration the results of the international conference on the problems of the Semipalatinsk region, held in Tokyo in 1999, which have promoted the effectiveness of the assistance provided to the population of the region,

Recognizing the important role of national development policies and strategies in the rehabilitation of the Semipalatinsk region, and taking note with satisfaction of the successful implementation of the Kazakhstan national programme entitled “Complex solution of the former Semipalatinsk nuclear test site problems for 2005-2007” and the elaboration of the new cycle of the programme for 2009-2011,

Recognizing also the challenges Kazakhstan faces in the rehabilitation of the Semipalatinsk region, in particular in the context of the efforts by the Government of Kazakhstan to ensure the effective and timely achievement of the internationally agreed development goals, including the Millennium Development Goals, in particular with regard to health care and environmental sustainability,

Recognizing further that the Government of Kazakhstan may call upon the United Nations Resident Coordinator in Kazakhstan to render assistance conducting consultations for establishing a multi-stakeholders' mechanism, with the participation of various government bodies, local governments, civil society, the donor community and international organizations, to improve governance and enable the more efficient use of resources allocated for the rehabilitation of the Semipalatinsk region, in particular regarding the areas of radiation safety, socioeconomic development, health and environmental protection, and for the provision of information on risks to the population,

Expressing profound concern regarding the negative effects of nuclear testing on the sustainability of the ecosystem in the region and about the accumulation of radioactive substances in the soil, which result in wide-ranging and complex consequences that create humanitarian, environmental, social, economic and health problems,

Taking note of the need for the utilization of modern technologies in minimizing and mitigating radiological, health, socio-economic, psychological and environmental challenges in the Semipalatinsk region,

Taking into account the fact that a number of international programmes in the Semipalatinsk region have been completed since the closure of the nuclear testing ground, but serious social, economic and ecological problems continue to exist,

Expressing deep concern that the current efforts are not sufficient to alleviate the consequences of nuclear testing, and regarding the fact that only five of the thirty-eight projects identified by the international conference held in Tokyo in 1999 were implemented,

Emphasizing the importance of support by donor States and international development organizations for the efforts by Kazakhstan to improve the social, economic and environmental situation in the Semipalatinsk region, and in this regard stressing the need for the international community to continue to pay due attention to the rehabilitation of the Semipalatinsk region,

Emphasizing also the importance of the new development-oriented approach in tackling problems in the Semipalatinsk region in the medium and long term,

Stressing the importance of the commemoration, in 2011, of the twentieth anniversary of the closure of the Semipalatinsk nuclear test site,

Expressing appreciation to donor countries, especially Japan, United Nations agencies, in particular the United Nations Development Programme, the United Nations Children's Fund, the United Nations Population Fund, the International Atomic Energy Agency and the World Bank, and the Organization for Security and Cooperation in Europe and the Global Environment Facility for their contribution to the rehabilitation of the Semipalatinsk region,

1. *Welcomes and recognizes* the important role of the Government of Kazakhstan in providing domestic resources to help to meet the needs of the Semipalatinsk region, including for the implementation of the Kazakhstan national multi-year programme entitled "Complex solution of the former Semipalatinsk nuclear test site problems for 2005-2007";

2. *Calls upon* the international community, including all Member States, in particular donor States, and United Nations institutions to continue to support Kazakhstan in addressing the challenges of the rehabilitation of the Semipalatinsk region and its population, taking additional actions, including by facilitating the implementation of the Kazakhstan national programme on addressing the problems of the former Semipalatinsk nuclear testing ground in a comprehensive manner, and stresses the importance of regional cooperation in this regard;

3. *Urges* the international community to provide assistance to Kazakhstan in the formulation and implementation of special programmes and projects for the treatment and care of the affected population as well as in efforts to ensure economic growth and sustainable development in the Semipalatinsk region;

4. *Calls upon* Member States, relevant multilateral financial organizations and other entities of the international community, including academia and non-governmental organizations, to share their knowledge and experience in order to contribute to the human and ecological rehabilitation and economic development of the Semipalatinsk region;

5. *Welcomes* initiatives commemorating the closure of the former Semipalatinsk test site and the twentieth anniversary of the international anti-nuclear movement “Nevada-Semei”, and the international conference of the International Atomic Energy Agency on the remediation of land contaminated by radioactive material residues, to be held in 2009 in Kazakhstan, and invites the international community to participate in these events;

6. *Invites* Member States to observe, in 2011, the twentieth anniversary of the closure of the Semipalatinsk nuclear test site by conducting events and functions to provide to the international community information on the deteriorating consequences of nuclear testing on human health and the environment;

7. *Requests* the Secretary-General to continue his efforts in implementing relevant resolutions of the General Assembly and to encourage the donor community and international and regional organizations to fulfil their commitments declared at the Tokyo international conference;

8. *Also requests* the Secretary-General to pursue a consultative process, with the participation of interested States and relevant United Nations agencies, on modalities for mobilizing and coordinating the necessary support to seek appropriate solutions to the problems and needs of the Semipalatinsk region, including those prioritized in his report ; (A/63/659)

9. *Calls upon* the Secretary-General to continue his efforts to enhance world public awareness of the problems and needs of the Semipalatinsk region;

10. *Requests* the Secretary-General to report to the General Assembly at its sixty-sixth session, under the item entitled “Sustainable development”, on progress made in the implementation of the present resolution.

Chapter III

Not Pipe Dream, But Reality:
Proving Nuclear
Disarmament Is Possible

Dispensing with a Huge Stash of Nuclear Fuels

By Martin Sieff

The general public assumes that the storage of weapons-grade nuclear material is always carried out with flawless precision - at least by the military forces of major powers.

Smaller nations, especially newly independent ones, are universally assumed to be less responsible. The public also assumes that when nuclear non-proliferation or weapons transfer agreements are made, they are implemented in a smooth, impersonal manner, like an anonymous piece of machinery whose unfailing reliability can be taken for granted.

But the story of how Kazakhstan transferred its remaining fissile, weapons-grade uranium to the United States in 1994 confounds all those assumptions. It also startlingly revealed that a newly independent state in Central Asia was prepared to act more responsibly in the matter of nuclear storage than the gigantic Soviet communist super-state it succeeded.

When President Nursultan Nazarbayev of Kazakhstan paid his first state visit to the United States on February 14, 1994, he was warmly embraced by then-U.S. President Bill Clinton. Clinton publicly applauded what he called Nazarbayev's "great courage, vision and leadership."

Ostensibly, issues of new initiatives in nuclear non-proliferation and weapons control were not on the agenda of the two leaders at that time. In fact, U.S. leaders were already highly pleased with Nazarbayev's energetic willingness to divest Kazakhstan of the enormous nuclear arsenal and advanced weapons systems it had inherited from the Soviet Union.

These were sufficient in power and extent to make the Central Asian republic the fourth most powerful nuclear power in the world, with nuclear weapons and delivery systems far in excess of what the nuclear weapons programs and strategic delivery systems of China, Britain or France could deploy at that time.

But issues of nuclear proliferation did quietly surface at the Clinton-

Nazarbayev meeting. At a meeting with U.S. diplomat Andy Weber and William Courtney, the U.S. Ambassador to Kazakhstan before that, the Kazakh president quietly gave the go-ahead for U.S. officials to visit and check out the U-235 supplies at the Ulba Metallurgical Plant in Ust-Kamenogorsk that his government had inherited from the Soviets, provided that this was done under conditions of great secrecy.

The Kazakh willingness to send all nuclear warheads and nuclear-capable delivery systems back to Russia was already well-documented by the spring of 1994. By the end of February that year, all 40 of the Tupolev Tu-95 Bear long range strategic bombers abandoned in Kazakhstan at the collapse of the Soviet Union at the end of 1991 had been returned to Russia from their operational base in Semipalatinsk. So had all of the 370 AS-15, nuclear-armed, air-launched cruise missiles (ALCMs) with which those bombers were armed.

However, just before Nazarbayev's visit, the U.S. government had received an unexpected revelation about the scale of nuclear material still in Kazakhstan, and the remarkably sloppy storage system that the Soviet military authorities had kept it in during the last years of their regime.

Kazakh officials, with the cooperation of Vitaliy Mette, a Kazakh and a former Soviet official who ran the Ulba plant in the north-eastern region of the country, sought and received the cooperation of the U.S. government in removing all the weapons-grade Uranium U-235 stored at that plant.

The Clinton administration was at first taken by surprise when its officials were shown the uranium supplies housed at Ulba. In all, 600 kilograms (1,320 pounds) of U-235 were kept there. That was sufficient weapons grade highly enriched uranium (HEU) to make at least 24 nuclear weapons. The uranium was all enriched to or in excess of 90 percent. There had been no previous serious intelligence circulating in the U.S. government about their existence. In January 1994, Assistant Secretary of Defense Ashton B. Carter was charged with setting up an inter-agency task force to supervise the evacuation of all of that uranium to safekeeping within the United States.

In the spring of 1994, U.S. officials, operating with full cooperation of the Kazakh authorities, were astonished to discover the arguably primitive conditions in which the weapons-grade U-235 was stored at Ulba.

It took several months, until October 1994, before the U.S. Air Force, diplomats and other operatives were ready to move the uranium. Operation Sapphire was then finally launched. It was ordered by President Clinton in a classified presidential directive that was accompanied by more than a little cloak and dagger.

A convoy of trucks transported the uranium to the Kazakh airport at Ust-Kamenogorsk base where three U.S. Air Force Lockheed C-5 Galaxy super-transporters were waiting. The C-5s flew non-stop to Dover Air Force Base in Delaware, a trip of 20 hours that required several re-fuelings in flight. To that point, they were the longest single flights without landing ever undertaken by any C-5.

From Dover, the U-235 was then transported overland to the U.S. Department of Energy's Oak Ridge nuclear complex in Tennessee where the Y-12 laboratory had built a mobile processing facility. The U.S. government paid the Kazakh government \$27 million for the material and cooperation in the operation.

Operation Sapphire, as the secret operation was dubbed, proved to be the prototype for a later, far larger operation that was approved by Clinton's successor, President George W. Bush, again with the full approval and cooperation of the Kazakh government.

In that later operation launched in 2001, some 2,900 kilograms (6,380 pounds) of significantly less enriched, but still usable (enriched to 26 percent) nuclear fuel was moved from the Mangyshlak Atomic Energy Combine in Aktau in western Kazakhstan to the Ulba plant where it was rendered down to relatively innocuous non-weapons usable types of uranium that could be applied in commercial and scientific operations. This project, completed successfully in 2005, was carried out in partnership between Kazakhstan's national atomic company KazAtomProm, U.S. Department of Energy and Washington-based Nuclear Threat Initiative, an NGO co-chaired by U.S. Senator Sam Nunn (retired) and Ted Turner.

It should be noted that uranium continues to be stored in Kazakhstan to the present day, including previously-used nuclear fuel and fresh nuclear fuel. Discussions are now underway about moving some of this fuel to more secure facilities at Semipalatinsk and Ust-Kamenogorsk.

More, therefore, remains to be done in the field of nuclear non-proliferation in Kazakhstan. However, the overall record of the Kazakh

government since national independence just over 18 years ago remains remarkably consistent and impressive.

The joint operations between the two countries laid the groundwork and set the precedents for future such activities both between Kazakhstan and the United States, and between the United States and other nations in the field of nuclear non-proliferation.

Central to the success of Operation Sapphire and subsequent joint activities has been the commitment of Kazakhstan's President Nursultan Nazarbayev.

To ensure both secrecy and the energetic cooperation of the national government and bureaucracy, the commitment of the nation's president was absolutely crucial. Similarly, the success and smooth implementation of Operation Sapphire on the American side could not have been possible without the hands-on commitment by President Clinton in the early spring of 1994.

Kazakhstan's record of cooperation in nuclear non-proliferation activities serves as an example to other developing nations. Similarly, the examples of Presidents Nazarbayev, Clinton and Bush and the inter-agency cooperation within both the Kazakh and U.S. governments ensured the success of their joint anti-proliferation operations.

The way these operations were carried out needs to be studied by other national governments as examples of how to conduct such activities.

Finally, the United States and Kazakhstan both set the example of transparency in their dealings with each other on this most sensitive, confidential and strategically important issue.

That precedent bodes well for the future cooperation of these two countries, especially on the issue of the proposed international nuclear fuel bank.

The administration of U.S. President Barack Obama has made clear that it is ready to consider having an international nuclear fuel bank under IAEA auspices based in Kazakhstan.

Such a position on the part of the current U.S. administration would not have been possible if the United States and Kazakhstan had not already achieved an impressive record of successful cooperation in joint and coordinated nuclear non-proliferation activities over the past 18 years.

Washington Summit Took Hopeful New Steps Towards Boosting Global Nuclear Security

*U.S. President held up Kazakhstan as model to world
for unilateral nuclear disarmament*

By Martin Sieff

The Washington nuclear summit of April 12-13 achieved no binding agreements. Nor did it attempt to. But it was nevertheless a major success that marked a large and significant step forward in the crucial fields of global nuclear security, non-proliferation, and international cooperation against terrorists and rogue states seeking to acquire nuclear weapons.

Leaders of some 47 nations as well as top officials of the United Nations, the International Atomic Energy Agency and the European Union attended the summit in Washington, D.C, hosted and organized by U.S. President Barack Obama. It was the largest gathering of heads of state and government in Washington's history.

“Our objective is clear: Ensure that terrorists never gain access to plutonium or highly-enriched uranium – the essential ingredients of a nuclear weapon,” the U.S. government said in its policy statement for the summit. “The challenge we face is how to lock down the over 2000 tons of plutonium and highly enriched uranium existing in dozens of countries with a variety of peaceful as well as military uses.”

The Obama administration prepared a detailed list of measures that were already being taken by each country to ensure the security of its nuclear installations and material. It also drew up a detailed list of the additional measures that administration experts regarded as necessary and practical for each of those nations to ramp up its nuclear security.

President Obama discussed these issues with each leader and took the initial steps to providing U.S. assistance where necessary to help achieve them. The summit, therefore, while not producing any sweeping formal diplomatic agreement, laid down the template for

a new structure of international cooperation on improving nuclear security with the United States at its centre.

“Leaders in attendance have renewed their commitment to ensure that nuclear materials under their control are not stolen or diverted for use by terrorists, and pledged to continue to evaluate the threat and improve the security as changing conditions may require, and to exchange best practices and practical solutions for doing so,” the White House said in a statement.

Three visiting world leaders stood out from the rest, both in the honour Obama went out of his way to afford them and in their contributions to the proceedings. They were President Nursultan Nazarbayev of Kazakhstan, President Dmitry Medvedev of Russia and Prime Minister Manmohan Singh of India.

President Jacob Zuma of South Africa and Brazilian President Luiz Inacio Lula da Silva were also feted as leaders of major regional powers who had maintained their countries’ commitments to developing peaceful nuclear energy.

Kazakhstan, the world’s ninth largest country with a population of 16.5 million, is far smaller in population and even size than the United States, Russia or India. But Nazarbayev took centre stage at the summit, with the full approval and encouragement of Obama, because the U.S. government wanted to present Kazakhstan as a model nation for the cause of unilateral nuclear disarmament.

Albert Eisele, writing in *The Hill*, the influential Capitol Hill newspaper, noted that Nazarbayev ranked second among the 47 leaders on Obama’s intense schedule. Giving Nazarbayev the floor as one of the first speakers at the summit, Obama praised him as “one of the model leaders in the world” and said that “we could not have this summit without his presence.”

Medvedev stood out because only four days earlier, on April 8, he had signed a new Strategic Arms Reduction Treaty with President Obama. The new treaty will replace the 1991 START treaty that was signed between U.S. President George Herbert Walker Bush and then-Soviet President Mikhail Gorbachev. Medvedev was an affable and positive presence at the Washington nuclear summit. He praised it as “absolutely timely” and a “total success.”

Medvedev’s presence was also crucial because Russia still ranks with the United States as one of the two preeminent strategic nuclear

military powers in the world. Prime Minister Singh of India was also a crucial presence because India has been vigorously developing its own nuclear deterrent over the past 12 years.

But the primary U.S. concern is to attempt to diffuse tensions and a potentially ruinous nuclear arms race between India and its traditional rival, neighbouring Pakistan. Between the two nations, India, predominantly Hindu, and Pakistan, almost completely Muslim, account for 1.2 billion people, or almost one fifth of the human race.

Kazakhstan was the fourth largest nuclear power in the world with the warheads and strategic delivery systems it inherited from the defunct Soviet Union when the Central Asian nation became independent at the end of 1991.

But President Nazarbayev took the courageous – and at the time unparalleled – decision to unilaterally return all those weapons systems to Russia and dismantle the entire infrastructure that was used to support them, including the infrastructure of the former Semipalatinsk nuclear test site. It was a decision that assured him the goodwill, protection and strategic support of both the U.S. and Russian governments.

Kazakhstan thus voluntarily gave up nuclear delivery systems that were more numerous and formidable than any that China, Britain or France, put together, had at the time.

It was also striking that the very first nation in the world to carry out full unilateral nuclear disarmament was a Muslim one, and a former Soviet republic. Ukraine and Belarus, another former Soviet republics with nuclear arsenals from the ex-USSR, followed the same route.

President Nazarbayev used his chance to address the leaders at the summit to highlight several of the key proposals Kazakhstan has brought to the table. These include creating an international nuclear fuel bank; strengthening the legal norms for nuclear-weapon free zones, and establishing new ones, including in the Middle East; the soonest signing of a Fissile Material Cut-Off Treaty and the soonest entry into force of the Comprehensive Nuclear Test Ban Treaty; and the development of a new universal treaty on vertical and horizontal non-proliferation of nuclear weapons.

The Kazakh President then went much further. Noting the weaknesses of the existing system of international legal documents which were meant to contain nuclear proliferation and achieve nuclear disarmament, he declared: “It is time to legalize the new format of the

‘nuclear club’ by including there countries which de-facto have nuclear weapons. This club and each of its members should undertake to act only in agreement with the UN Security Council. At the same time, countries nurturing nuclear ambitions should fully renounce them. In return, they should receive guarantees from the entire ‘nuclear club’, confirmed by the UN Security Council, of non-use of nuclear weapons against them and their protection in case of attack. As far as those who would not join the process, the UN Security Council should apply decisive measures, including sanctions and coercion.”

President Nazarbayev went on to praise the recent progress in nuclear nonproliferation, including the new US nuclear doctrine and the U.S.-Russian agreement, and said “this historic step should be supported by all and should serve as an example. The work by all nuclear weapon states on reducing their nuclear arsenals should not be interrupted until their complete eradication for the sake of peace on Earth.”

“It is time already to start discussing the adoption of a Universal Declaration of a Nuclear-Weapons Free World,” President Nazarbayev stressed.

Saying Kazakhstan supported fully the summit and its goals, the Kazakh leader said this year Astana will host a conference of the Global Initiative to Combat Acts of Nuclear Terrorism, slated for September 2010. Given the persistent efforts of terrorist organizations to acquire financing and nuclear weapons, the President said that this conference will be used to discuss developing measures and mechanisms of reaction to such efforts across the board, including all the way up to establishing a special body under UN auspices.

Kazakh-U.S. cooperation in nuclear area to continue

In their joint statement after their April 11 meeting at the U.S. official guest residence, Blair House, on the eve of the nuclear summit, Presidents Obama and Nazarbayev praised the ongoing cooperation between Kazakhstan and the United States in securing nuclear materials and operations in the central Asian nation.

“The Presidents underlined the 15-year track record of close cooperation between Kazakhstan and the United States and success in reducing nuclear threats in Kazakhstan and around the world.

They share the vision of a world without nuclear weapons. 'The U.S. appreciates the leadership of President Nazarbayev and the contribution of Kazakhstan to nuclear disarmament and non-proliferation,' the statement said.

"The leaders noted with satisfaction the successful implementation of the Cooperative Threat Reduction program and continued cooperation, including on the decommissioning of the BN-350 nuclear reactor at Aktau and the construction of a central reference laboratory [for biological pathogens] in Almaty. Cooperation also proceeds on the conversion of the research reactor in Alatau and the elimination of highly enriched uranium stored there, as called for in the Nuclear Security Summit Communiqué," the joint statement said.

President Obama thanked President Nazarbayev for his offer to host the International Nuclear Fuel Bank and expressed his support for Kazakhstan's intention to become a member of the IAEA Board of Governors.

Securing the U.S. support for these two initiatives is an important diplomatic success President Nazarbayev was able to achieve at that meeting. The U.S. administration's support for Kazakhstan to host the international nuclear fuel bank in Kazakhstan is important for making this happen.

President Nazarbayev told The Washington Times newspaper in an interview published April 13 that the goal of the uranium fuel bank was to close potentially dangerous loopholes in the international nuclear non-proliferation regime.

"Our initiative to host the international nuclear fuel bank is a concrete contribution to strengthening the nonproliferation regime, and elimination of the 'blind spots' that exist in the international legal area with regard to the development of national peaceful nuclear programs by a number of states," the Kazakh president said.

"Kazakhstan supported the proposal put forward by (former U.S. Sen.) Sam Nunn, co-chairman of the Nuclear Threat Initiative on creating the international nuclear fuel bank. We believe Kazakhstan fully complies with requirements to host the international nuclear fuel bank. Kazakhstan is ready to host the facility and is intent on going into the issue in detail together with the IAEA. While in Astana in April 2009, President of Iran Mahmoud Ahmadinejad approved the idea of establishing the bank," Nazarbayev said.

Back at the summit, Obama received pledges from the governments of Chile, Ukraine and Canada to cut back on their stockpiles of enriched uranium that could be utilized to make nuclear weapons. As a result of the summit, Obama concluded that “the American people will be safer and the world will be more secure.”

The U.S. president had all along intended that the Washington gathering be just the first step on what he recognized would be a long and complex path for the major nuclear nations of the world.

With his approval, U.S. planners of the summit arranged that every participating nation appoint one key official (a Sherpa) to arrange and coordinate their involvement in the meeting and to direct the measures that their individual governments would undertake to achieve the conference’s goals.

Together, the Sherpas from the 47 participating nations have created their own global network to further the cause of nuclear non-proliferation. They have scheduled a meeting of their own or “Sherpa mini-summit” to take place in December when they will assess the progress that has been made since the Washington summit in achieving its goals.

The Sherpas will also work towards achieving another diplomatic milestone that President Obama has planned: a second global non-proliferation and nuclear summit to be held in South Korea in 2012 before the end of his first term of office. At that meeting, world leaders will assemble again to see how far they have come since their Washington meeting to present their own governments with the next round of goals to boost global nuclear security. One of the countries which is set to have a lot to show for its work over these two years will surely be Kazakhstan.

Kazakhstan Leads by Example in the Nuclear Arena

By Michael Coleman

After renouncing nuclear weapons and relinquishing a Soviet-era stockpile of more than 1,400 warheads in 1991, newly-independent Kazakhstan could have rested on its laurels as a peaceful, nuclear weapons-free nation.

Instead, Kazakh officials have worked steadily to cement the Central Asian nation's position as a leader in the global nuclear arena. The effort appears to be working.

Kazakhstan's offer to host a new international nuclear fuel bank has been well-received by the international community, including President Obama. The nation recently surpassed Canada and Australia to become the world's largest producer of uranium, a resource growing in demand as nuclear power experiences a global renaissance in the face of dwindling oil supplies and fears about climate change. And Kazakhstan is rapidly collecting agreements with other nations to supply them with uranium and/or partner in the processing of nuclear fuel.

Meanwhile, Kazakhstan's tragic history as a nuclear testing ground during the Cold War infuses it with an unimpeachable moral authority on nuclear issues. Former Soviet leaders used Kazakhstan's arid steppes and deserts for hundreds of nuclear tests, leaving a painful legacy in the form of mysterious illnesses among people living near the sites and large swaths of land and water that are deemed environmentally hazardous to this day.

At the end of the Cold War, Soviet weapons stashed around Kazakhstan were either dismantled or transferred to Russia. Kazakhstan shuttered the Semipalatinsk nuclear testing site in the eastern part of the country and destroyed all of its intercontinental ballistic missile silos.

Such unwavering commitment to renouncing nuclear weapons has earned Kazakhstan admiration and respect from anti-proliferation leaders. Former U.S. Sen. Sam Nunn, now co-chairman of the Nuclear

Threat Initiative in Washington, told the Washington Times during an interview in Kazakhstan in 2005 that the country should be given more credit on the international stage relinquishing its nukes. Kazakhstan's decision to secure and relinquish its nuclear arsenal is widely believed to have influenced similar decisions by Belarus and Ukraine.

"Kazakhstan's diplomacy could be brought to bear in places like North Korea and Iran," Nunn said. "I don't think Kazakhstan's leadership has been given enough recognition by our country and the G8, nor do I think we've used the power of their example nearly to the degree we could."

While some might criticize the fledgling democracy's human rights record, it's hard to dispute Kazakhstan's commitment to a nuclear-safe world. The country has joined the Nuclear Non-Proliferation Treaty and the Nuclear Suppliers Group. It also holds a membership in the International Atomic Energy Agency and has signed off on the IAEA Safeguards Protocol, as well as the IAEA's Additional Protocol, under which Kazakhstan opens its nuclear facilities to stringent IAEA oversight, including comprehensive declarations, reporting, and site-access obligations.

With the cooperation of Kyrgyzstan, Uzbekistan, Tajikistan and Turkmenistan, Kazakhstan established a nuclear-weapon-free zone in Central Asia which came into effect last year. Finally, Kazakhstan this year is chair of the Organization of Security and Cooperation in Europe (OSCE) and plans to use the high-profile platform to espouse the importance of non-proliferation and nuclear safety.

Erlan Idrissov, Kazakhstan's ambassador to the United States, explained that his country's nuclear philosophy is simple: Nuclear weapons are bad, peaceful production of nuclear energy is good and Kazakhstan can be a positive role model for other nations with nuclear ambitions.

"This is our peaceful, fundamental vision," Idrissov said in an interview. "Kazakhstan suffered from nuclear testing in the Soviet days; it was the place where the most deadly weapons were deployed. Our nuclear arsenal was stronger than the British, Chinese and French arsenals put together."

"But by renouncing our nuclear arsenal and implementing a massive program with the United States and other partners we have sent a strong signal of our disaffection with nuclear weapons. We are strongly against

them. At the same time, nuclear power is not something bad at all if it is developed and used peacefully under the guidelines of the established international institutions. That's fully OK, and we stand for that."

Kazakhstan's uranium reserves – estimated to total one-fifth of all uranium in the world – are expected to be in fierce demand in the coming years as more countries look to nuclear power as a way to solve their energy challenges.

Even some environmentalists who long opposed nuclear power because of the problem of waste disposal have acknowledged that the carbon emission-free quality of atomic power makes it an attractive energy choice in light of new technology and growing fears about oil pollution's effect on the environment. Kazakhstan's uranium is even more appealing from an environmental perspective because at least half of it can be extracted by in-situ leaching, which is cheaper and more environmentally sound than taking uranium from open pits or deep shaft mines.

Kazakhstan and Russia share an especially important bond (a fully integrated fuel cycle, to use the industry parlance) in the realm of nuclear power. Uranium is mined and milled into yellowcake in Kazakhstan and sent to Russia for gasification and enrichment. Kazakhstan produces fuel pellets from uranium enriched in Russia. Final production of fuel rods using Kazakh uranium also occurs in Russia. Purified ore, or uranium oxide, or "yellowcake" is processed into a uranium gas by varying degrees of enrichment. Low enriched uranium is suitable for nuclear fuel, but not weapons. Only highly enriched uranium can be weaponized.

In April, Russia and the International Atomic Energy Agency officially announced that the world's first nuclear fuel bank would be established in Russia as part of a plan to prevent shortages caused by problems delivering low enriched uranium to nuclear reactors in countries powered at least in part by atomic energy.

The idea of nuclear fuel banks is to discourage countries from attempting to enrich uranium on their own. Idrissov said the Kazakh government supports Russian plans for a fuel bank.

"We are aware of this project and supportive of it," Idrissov said. "Moreover, Kazakhstan is a participant in the facility. We believe the Russian project is a good precedent for the concept of international fuel banks. The IAEA and other countries believe the Russian idea does

not preclude the appearance of other fuel banks. In no way does the Russian bank contradict the need for other fuel banks. We believe they are complementary.”

Russia isn't Kazakhstan's only nuclear partner. In July 2007, Kazakhstan shelled out \$540 million to buy 10 percent of the U.S. nuclear reactor firm Westinghouse from Toshiba, its majority owner. The deal gave Kazakhstan access to the global nuclear fuel market via its state-held energy company Kazatoprom, while Westinghouse earned access to Kazakh uranium and fuel fabrication. Kazakhstan is also pursuing uranium-related deals with Japan, China, Canada and others.

Idrissov said while Kazakhstan values its role as a global example for nuclear peace, the prospect of profits, of course, are also part of the country's nuclear strategy.

“The overall policy of Kazakhstan is not only to remain as a supplier of the raw material,” he explained. “We want to enhance value-added components in the entire cycle. It doesn't mean we want to go into the enrichment process. I would like to stress that. We already produce nuclear pellets from material that comes from outside of Kazakhstan. We want to enhance our capacity in full cooperation and under the full guidelines of established international norms.”

Kazakhstan has built its modern-day financial empire from extracting oil, gas and uranium from its resource-rich earth, but Idrissov said other facets of the nuclear sector – not just extraction – present “tremendous opportunities” for Kazakhstan.

“The top priority for Kazakhstan is to move away from the extractive-dependent sector of the economy to a service and technology economy,” he said. “We are the number one producer of uranium, and that's OK, but it doesn't mean we want to only be a supplier of raw material. We have the materials, the capacity and a recognized record in non-proliferation and disarmament. And we have a working system of export control and physical protection. We have clear minds and we want to enhance our economy. The diversification of our economy is one of our top priorities and the nuclear sector completely fits into that vision.”

Idrissov repeatedly emphasized that all of Kazakhstan's efforts in the nuclear arena will be made in compliance with international standards.

Hundreds of N-Bombs of Material Secured in East Kazakhstan

On November 17, 2010, two co-chairs of the U.S.-Kazakhstan Energy Partnership, Kazakhstan's Minister of Oil and Gas Sauat Mynbayev and U.S. Deputy Secretary of Energy Daniel Poneman announced successful completion of a joint BN-350 Spent Fuel Programme which consisted of shutting down Kazakhstan's BN-350 plutonium production reactor in Aktau, securing the spent fuel produced by it, and safely transporting the depleted fuel to the new long-term storage facility at the former Semipalatinsk nuclear test site.

All in all, almost 800 nuclear bombs worth of uranium and plutonium were secured under the project co-financed also by the United Kingdom and carried out under the safeguards of the IAEA.

In Washington, DC, U.S. Senator Richard Lugar, a prominent authority in nuclear disarmament matters and the co-founder of the Nunn-Lugar Cooperative Threat Reduction programme, hailed the completion of the project as another example of the strong cooperation between Kazakhstan and the United States.

"This is a significant achievement that will make the world safer and reduce the risk of nuclear terrorism," former U.S. Senator Sam Nunn, Co-Chairman of the Nuclear Threat Initiative, said. He added that in 2005, the Nuclear Threat Initiative worked with Kazakhstan to complete a project at the same reactor, removing and blending down the fresh fuel containing 2,900 kilograms of weapons-usable highly enriched uranium. That blending down was done at Kazatomprom's Ulba Metallurgical Plant in Ust-Kamenogorsk.

"Kazakhstan has a solid history of nuclear non-proliferation and disarmament. The country showed courage and leadership when it renounced the nuclear weapons remaining on its territory, after the dissolution of the Soviet Union. Kazakhstan's leadership understands that the essential steps required to reduce nuclear dangers must be accomplished with the cooperation of all nations," Nunn added.

Kazakhstan and the USA and, along with their partners across the world, are now working to secure vulnerable nuclear material by the end of 2013 in order to prevent a possibility of terrorists' acquiring them.

“We will try to do this in full cooperation with the other countries of the world and will of course, be guided by established international norms and principles,” he vowed.

Kazakhstan ruffled some feathers in the West when news surfaced recently of its discussions with Iran about possibly supplying uranium for Iran’s nuclear power needs by clandestine means. Kazakh officials vehemently denied the reports. Idrissov said any nation should possess the right to use nuclear power, but not nuclear weapons. He said Kazakh officials have made that clear to Iran, whose nuclear ambitions worry governments around the world, perhaps especially the United States and Israel.

“Our position is very clear, and we don’t hide this from our western partners or Iran,” he said. “We say to them: Look at us. We are a very good example of how a country can assure its development while renouncing its nuclear arsenal. We are an example of how a country can develop its nuclear sector peacefully under the guidelines of the internationally recognized and established institutions.”

“We don’t try to be too diplomatic. We just say follow our example. It opens many opportunities for national development and it also allows you to be a firm member of the international community in the fight against nuclear proliferation dangers. Peaceful nuclear energy can be developed, and this is a perfect right – as long as you stick to the rules,” he said. “There are international rules and they should be followed.”

Kazakhstan Embraces NPT Review Conference Goals

By Martin Sieff

Thanks to a long-time advocacy of nuclear disarmament, Kazakhstan has played an important role in the third Nuclear Non-Proliferation Treaty (NPT) Review Conference that opened in New York on May 3, 2010.

“We have been pleased to note the renaissance in the nuclear nonproliferation and disarmament process. Kazakhstan stands for undertaking urgent measures on ensuring the effectiveness and universality of the NPT,” Byrganym Aitimova, Kazakhstan’s permanent representative to the United Nations, told the NPT Review Conference on May 5.

The Review Conference was the third since the NPT was renewed indefinitely in 1995. It convened only three weeks after President Obama hosted an historic 47-nation Nuclear Security Summit in Washington, and it came less than a month after Obama and Russian President Dmitry Medvedev signed the new Strategic Arms Reduction Treaty (START) in Prague.

Kazakhstan gave up the nuclear arsenal it had inherited from the Soviet Union before the treaty was renewed indefinitely in 1995. Obama showed his gratitude at the Nuclear Security Summit by praising the example of Kazakh President Nursultan Nazarbayev, saying the meeting would not have been possible without his efforts and example.

“I have come to share with President Obama and other heads of state the bold plan Kazakhstan implemented to reduce and prevent the threat of nuclear terrorism through nuclear disarmament, nonproliferation and peaceful civilian power use,” Nazarbayev said when he visited Washington to attend the Nuclear Security Summit.

Nazarbayev has also said that his country continues to urge remaining non-signatory nations to the Comprehensive Nuclear-Test-Ban Treaty to either join or ratify the treaty, making it an

essential element of non-proliferation it was envisioned to become in 1996.

“Kazakhstan is proud to cooperate with the CTBT Organization to develop an international system of on-site inspections. We regret that some influential countries still refrain from signing and ratifying this treaty,” he wrote in a recent op-ed.

The continuing refusal of some nations to sign the CTBT “allows recognized nuclear states to continue to test nuclear weapons, as well as near-nuclear states to pursue missile and nuclear programs without consequences,” he warned.

“Kazakhstan is convinced that nuclear arms reductions will not lead to complacency and that U.S. ratification of this historic document will encourage other countries to follow its example,” he added.

Nazarbayev also expressed his support for President Obama’s efforts to build on the foundation of the Washington Nuclear Security Summit to maintain diplomatic momentum in efforts to reduce global nuclear military stockpiles.

The NPT Review Conference convenes at a time when the United States and Russia, still the world’s largest nuclear-weapon states, are more publicly committed to the causes of nuclear non-proliferation and nuclear disarmament than they have been in at least a generation.

Yet, it is also the worst of times in that the threat of using nuclear weapons against civilians is in some respects more acute than it has been in the 55 years since the nuclear attacks on Nagasaki and Hiroshima in August 1945 opened the nuclear age.

“Despite some positive steps, the international community has not, regrettably, been able to advance the main goals of disarmament within the NPT framework, prevent the spread of nuclear weapons and (the) emergence of the ‘new’ nuclear-weapon countries,” Ambassador Aitimova told the Review Conference in her May 5 speech.

“It is absolutely essential to achieve unconditional compliance of States Parties with their obligations, embodied in the unity of the three basic NPT pillars – disarmament, nonproliferation and the peaceful use of nuclear energy,” she said.

The month-long NPT Review Conference, hosted at United Nations headquarters on the East River in New York City, was chaired by Ambassador Boniface Chidyausiku from Zimbabwe.

NPT Review Conferences are held every five years. The treaty came into force originally in 1970. In 1995, after a quarter of a century, it was renewed indefinitely and the mechanism of having review conferences every five years was put into place. The first review conference was held in 1995 and the second in 2000.

As analyst Jacob Stokes, writing for the Washington-based National Security Network, wrote on April 30, the NPT is the cornerstone of the global nuclear nonproliferation regime.

It remains the global community's prime diplomatic tool to block the broader dissemination of nuclear weapons. And it also remains the spearhead of global efforts to achieve the goal of eventual worldwide nuclear disarmament.

However, as analysts acknowledge, the global consensus of support for the treaty, while widespread and serious, still faces serious challenges.

"We believe that the nuclear-weapon states should undertake efforts for the implementation of Article VI of the NPT in reducing their nuclear arsenals," Ambassador Aitimova told the conference. "We highly value the step taken by Russia and the US by signing the new START Treaty. We now expect reciprocal measures from other nuclear weapons possessors."

Kazakhstan backs "the idea of the conclusion of an international legally binding instrument on security assurances to the non-nuclear-weapon states by the nuclear weapon states. We call on states that possess nuclear weapons and politico-military alliances to revise their military doctrines in order to exclude all possible use of nuclear weapons," Aitimova said. "Only by this means would we be able to overcome the existing belief that nuclear weapons can provide security, and derived from this delusion, the aspiration to acquire them."

On April 27, Deepti Choubey of the Washington-based Carnegie Endowment for International Peace wrote that the Review Conference offered NPT-participating nations a chance to combat these challenges and restore momentum to a process that, until President Obama embraced it, appeared to be dispiritingly stalled.

The Review Conference "is an opportunity for all states that are party to the treaty to stabilize and strengthen the nonproliferation regime," she wrote.

"Understanding the purpose of the review conference, however, is important," Choubey added. "For instance, this is not an opportunity

to solve the concerns over Iran or North Korea's compliance with its nonproliferation obligations. But, it is an opportunity for states that are party to the Non-Proliferation Treaty to create or strengthen new rules to deal with states that may be cheating from within the regime and then may choose to withdraw in the future."

Defenders of Iran's nuclear program claim it needs a nuclear deterrent, because it is surrounded by nuclear-armed states such as Russia, China, India, Pakistan and, probably, Israel. However, a decade and a half ago, Kazakhstan set an example for the Middle East and Central Asia by voluntarily giving up all of a vast arsenal of nuclear weapons and relying for its security instead on good relations with neighbouring nations, membership in regional security organizations, and a commitment to globalization and attracting international investment.

"We believe that nuclear-weapon-free zones promote the strengthening of collective security. Last year, the Central Asian region became a nuclear-weapon-free zone, making it the first such zone in the northern hemisphere, bordering two nuclear-weapon states," Ambassador Aitimova said in her conference speech.

"We expect to receive 'negative security assurances' which would clearly demonstrate the genuine interests of the 'P5' in achieving a nuclear-free world. In this regard, we welcome the readiness of the U.S. to consult with the parties to the Central Asian nuclear-weapons-free zone treaty to resolve the issue of signing the Additional protocol," she added.

However, the development of peaceful atomic energy is also a priority for Kazakhstan and an area where it has substantial experience.

"Kazakhstan, being the major uranium producer and having the experience and capacity of refining highly enriched uranium into its low enriched form, intends to make its own contribution to the development of peaceful atomic energy. It is precisely for this reason that we presented to the IAEA (International Atomic Energy Agency) the proposal to host on our territory an international nuclear fuel bank," Ambassador Aitimova said in her speech.

"This initiative is a concrete offer of Kazakhstan towards the elimination of the 'blind spots' that exist in the international legal arena with regard to the development of national peaceful nuclear programs by a number of states," she said.

National Commission on Non-Proliferation of Weapons of Mass Destruction

As part of its longstanding – and ongoing – commitment to ridding the world of nuclear weapons, Kazakhstan launched the National Commission on Non-Proliferation of Weapons of Mass Destruction in January 2010.

The first meeting of the commission was held on 20 January 2010 at the Akorda presidential residence in Kazakhstan.

The commission's remit is to generate new proposals for effective implementation of Kazakhstan's international non-proliferation commitments, make recommendations to the Kazakh parliament about generating new non-proliferation legislation, as well as work to strengthen nuclear safety and physical protection of nuclear facilities.

The commission is already having an effect in Kazakhstan. Soon after its creation, the Kazakh Senate quickly adopted draft laws to strengthen the nation's nuclear safety laws and to inform the public quickly of any nuclear accidents.

The commission has also become instrumental in promoting closer coordination of activities of government bodies on practical projects implemented in Kazakhstan, such as the decommissioning of the BN-350 nuclear reactor at Aktau and the project to ensure safe storage of its spent fuel, as well as the construction of a central reference laboratory [for biological pathogens] in Almaty.

It was not by chance that Presidents Nursultan Nazarbayev and Barack Obama, in their joint statement after a meeting in Washington, DC, in April 2010, said: "The leaders noted with satisfaction the successful implementation of the Cooperative Threat Reduction program and continued cooperation, including on the decommissioning of the BN-350 nuclear reactor at Aktau and the construction of a central reference laboratory [for biological pathogens] in Almaty. Cooperation also proceeds on the conversion of the research reactor in Alatau and the elimination of highly enriched uranium stored there, as called for in the Nuclear Security Summit Communiqué."

In 2011-2013, the commission continued its work, providing government agencies with guidelines to align the national export control legislation with international norms and further enhance nuclear security and non-proliferation regime.

So far President Nazarbayev's strategy of unilateral nuclear disarmament combined with supporting the development of nuclear energy for peaceful purposes has worked well and paid big dividends for the Kazakh people. That example can also be profitably studied by the representatives of the other major nations who attended the NPT Review Conference and who adopted a report of the conference where they took stock of the issues in the area on non-proliferation and outlined further goals and hopes for the future progress in this area.

IAEA Sees Great Potential for Cooperation with Kazakhstan

Geoffrey Shaw

*Minister, Mr President, Secretary-General, Executive Director, Excellencies,
Distinguished Delegates, Ladies and Gentlemen,*

It is an honour for the representative of the International Atomic Energy Agency to be invited to attend the first observance of the International Day against Nuclear Tests pursuant to resolution 64135 of the United Nations General Assembly.

On behalf of the Director-General of the International Atomic Energy Agency, I bring with me the assurances of the IAEA's commitment to a world free of nuclear weapons and to a world free of nuclear tests. As a tangible demonstration of this commitment, the IAEA stands ready to assist States to implement strategies for the remediation of areas affected by nuclear testing.

Such technical assistance can take a variety of forms, from staff development and training for local experts in areas such as strengthening the capacity for environmental measurements, through to in-field remediation assessment missions.

The IAEA has, for example, cooperated with the Government of Kazakhstan over many years to assist it in its efforts to address the health and environmental impacts of nuclear tests at the Semipalatinsk site, which was closed in 1991. Between 1993 and 1994, the IAEA worked to strengthen capacity within the Kazakhstan Government for carrying out radiological measurements, and provided expert support for the collection and assessment of radiological data to assist in determining the economic feasibility of the land area.

More recently, at the request of the Government of Kazakhstan, the IAEA led an international team of experts to carry out a "definitive radiological assessment" of the Semipalatinsk Test Site. The team met with officials, scientists and the local population. They discussed the techniques and procedures used by the laboratories that provide

analytical support for the studies on the radio-ecological status of the site. During a field trip to areas in the northern part of the territory which may be opened up for the grazing of animals or mining of natural resources, they examined local farming practices. The team's report, which will contain recommendations and conclusions, will be presented to the Government of Kazakhstan by the end of this year.

Another way of working together is through the establishment of IAEA Collaborating Centres, the purpose of which is to extend our collaboration with established local institutions that distinguish themselves in specific areas of expertise. The IAEA sees great potential in this as a mechanism that allows us to improve the output of our programmes by harnessing the expertise in Member States. At the same time, Member States are given a more significant role in the IAEA programmes, and in doing so, build their own capacities. Needless to say, this is an efficient way to network with other institutes and enjoy the benefits of peer exchange.

Currently, there are 19 IAEA Collaborating Centres in as many Member States. In the case of Semipalatinsk, such a Collaborating Centre may, at a later stage, provide support to other areas of the world affected by atmospheric bomb testing.

Geoffrey Shaw is Representative of the Director General of the International Atomic Energy Agency to the United Nations, New York. This message was delivered at the UN General Assembly event on the International Day against Nuclear Tests on 9 September 2010.

Central Asian Nuclear Weapon Free Zone Strengthens Nuclear Non-Proliferation

By William VanSwearingen

The first nuclear weapon free zone in the northern hemisphere went into force in March 2009, whereby five Central Asian states agreed to ban the production, purchase, testing or possession of any nuclear explosive device.

The treaty agreed to three years earlier by Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan is significant in that all five states are former Soviet Central Asian republics and that one of them, Kazakhstan, previously had nuclear weapons on its territory.

During a recent trip to Kazakhstan, UN Secretary General Ban Ki-moon praised the creation of the Central Asian Nuclear Weapon Free Zone (CANWFZ).

“Kazakhstan has led by example. It has pioneered the Central Asian Nuclear Weapons Free Zone under the leadership and initiative of President Nazarbayev,” he said. “Its advocacy for international cooperation on nuclear disarmament and non-proliferation has been critical to recent progress.”

Ban Ki-moon also noted President Nazarbayev’s broad leadership on nuclear non-proliferation and regional stability. “You have given the world an inspiring example in the march towards a world free of nuclear weapons. You are working with your neighbours for peace and stability and sustainable development. And you are working with the United Nations to create a modern, prosperous and tolerant and vibrant nation,” he said.

The treaty signing at the former Soviet nuclear-weapon test site in Semipalatinsk, Kazakhstan, sent a strong message of what nations can do to strengthen nuclear non-proliferation and accelerate nuclear disarmament. It was there that the Soviet Union conducted over 450 nuclear tests releasing a radiation downpour with disastrous consequences both on the environment and Kazakh citizens.

Kazakh President Nursultan Nazarbayev closed the site in 1991, renounced the world's fourth-largest arsenal of nuclear weapons and later removed a sizable cache of weapons-grade uranium.

In introductory paragraphs to the treaty, the Central Asian States have set forth their motivation for creating such an agreement to promote regional security, to cooperate in the peaceful uses of nuclear energy and to rehabilitate territories affected by radioactive contamination.

The region lives in a nuclear-armed neighbourhood surrounded by two of the world's recognized nuclear weapons states – China and Russia – with Pakistani and Indian nuclear weapons never far away.

Because of this proximity and the large quantities of nuclear materials on their territories, Central Asian leaders became increasingly concerned their region might become a source for nuclear smuggling for terrorists; hence “the terms of Central Asian Nuclear Weapon Free Zone Treaty are an important counterterrorism measure,” says William Potter, director of the Centre for Nonproliferation Studies at the Monterey Institute of International Studies in California.

It is noteworthy that the treaty encompasses an environmental component which addresses concerns unique to the region. Nuclear testing, along with storage sites for uranium waste built in Soviet times, introduced radioactive waste that has leaked into the atmosphere and ground water, creating health concerns for people in these countries that lack the resources to clean up environmental problems they did not create.

It was at a meeting held in Almaty, Kazakhstan, in 1997 to focus on environmental concerns that the idea for a Nuclear Weapon-Free Zone was launched by Uzbekistan's President Islam Karimov.

Under its terms, the CANWFZ is the first such treaty that legally binds Central Asian countries to adhere to enhanced International Atomic Energy Agency safeguards (known as the Additional Protocol) on their civilian nuclear material and activities. The treaty also requires parties to meet international standards regarding security of nuclear facilities.

The Central Asian Nuclear Weapon Free Zone joins four other such zones beginning with Latin America and the Caribbean (1967), the South Pacific, Southeast Asia and ending with an African zone that also went into force in 2009.

From the time the zone was agreed to early in 1997 until its official signing in September 2006, a nearly ten years' lapse offers a story of lengthy negotiations and consultations among the five states, United Nations' agencies, and five nuclear weapon states, three of which, the United States, the United Kingdom and France, have yet to give their full support and so called negative guarantees for the five-member Central Asian zone.

The idea for a nuclear-free weapon zone in Central Asia traces its roots back to the early 1990s when, at the 48th session of the U.N. General Assembly (1993), Uzbek President Islam Karimov made a formal proposal followed a year later by a similar proposal by Kyrgyzstan.

Then in 1995 Kyrgyzstan joined Uzbekistan in proposing the creation of a CANWFZ at the five-year Review and Extension Conference of the Nuclear Nonproliferation Treaty. Kyrgyzstan and Mongolia presented another proposal at the UN General Assembly in 1996.

Following the Almaty Declaration in 1997, the five Central Asian States jointly submitted a draft resolution for the nuclear weapon-free zone initiative at the UN General Assembly that was adopted later that fall.

In 1997, the foreign ministers of the five Central States requested that UN specialized agencies establish a group of experts to assist with the preparation and implementation of a future draft treaty, which resulted in ongoing meetings and conferences until the final agreement was reached in 2002.

In addition, diplomats and officials from the five states consulted regularly with experts and officials from the other four nuclear weapon free zones, the International Atomic Energy Agency as well as the five nuclear weapons states, known as the P-5. Difficulties arose in these consultations over the transit of nuclear weapons in the region and existing security agreements, delaying the process another three years.

The Central Asian states deliberated for more than two years in revising the draft treaty until agreeing on its final form in February 2005 at a meeting in Tashkent, Uzbekistan. The final revision allows the import of low-medium-level radioactive waste into the CANWFZ as long as the imports are managed in accordance with the International Atomic Energy Agency's standards.

The treaty does not allow neighbouring states to join the CANWFZ.

In recognition of Kazakhstan's tragic nuclear legacy as well as its role in negotiating the zone, leaders of the other Central Asian states decided to have the official signing of the CANWFZ Treaty at the former Soviet test site, now called Semey, on September 8, 2006.

In remarks at the Nuclear Security Summit in Washington in April 2010, President Nazarbayev urged world leaders "to start discussing a Universal Declaration of a Nuclear Weapons Free World, which would enshrine the commitment of all states to move towards the ideal of a nuclear weapons free world step by step."

Kazakhstan's experience with nuclear disarmament, the CANWFZ and the four others spanning the Southern Hemisphere are concrete examples of those steps.

Key Dates for the Central Asian Nuclear Weapon Free Zone Treaty

27 February 1997: Presidents of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan meet in Almaty, Kazakhstan, and agree to create a Central Asian Nuclear-Weapon-Free Zone. The declaration placed the establishment of the zone in the context of environmental rehabilitation of territories affected by radioactive contamination.

20 November 2000: The 55th United Nations General Assembly adopts a resolution on establishing a NWFZ in Central Asia. The resolution calls upon the Central Asian States to continue their dialogue with the five nuclear weapon states. The initiative for a CANWFZ is endorsed in the Final Document of the five-yearly review of the Nuclear Non-Proliferation Treaty (NPT), the world's main bulwark against proliferation and nuclear terrorism.

27 September 2002: Diplomats from the five CA states agree on the text of the CANWFZ Treaty at the UN-sponsored Expert Group meeting held in Samarkand, Uzbekistan.

7-9 February 2005: The group meets in Tashkent, Uzbekistan, and adopts final revisions of the Treaty. Signature is to take place at the former Soviet nuclear weapons test site at Semipalatinsk, Kazakhstan.

8 September 2006: The CANWFZ Treaty is signed by the foreign ministers of Kazakhstan, Kyrgyzstan and Uzbekistan and foreign ministry officials from Tajikistan and Turkmenistan. Officials from the International Atomic Energy Agency and the United Nations are in attendance along with ambassadors from China and Russia. The P-3 countries (the United States, France and the United Kingdom) remain concerned that under the 1992 Tashkent Collective Security Treaty, Russia will still be able to transport nuclear weapons through Central Asia or deploy them in the region in the future. On October 30, 2006, the United Nations General Assembly adopts a draft resolution welcoming the establishment of the CANWFZ.

21 March 2009: Following ratification by all 5 signatories, the Central Asian Nuclear Weapon Free Zone Treaty enters into force.

Source: Inventory for International Nonproliferation Organizations and Regimes, Center for Nonproliferation Studies.

Chapter IV

Ensuring Security of Nuclear Materials: A Key and Attainable Goal

Fuel Bank Proposal Gets International Traction

By Michael Coleman

Over the past two decades, Kazakhstan has solidified its reputation as a global leader in nuclear non-proliferation.

But the emerging energy powerhouse, which relinquished its Soviet-era stockpile of nuclear weapons at the end of the Cold War, wants the world to know it does not oppose all things nuclear. In fact, Kazakhstan is wielding its growing geopolitical clout to expand its own use of safe nuclear power, as well as that of any other country that wants it.

The Central Asian nation hopes to become home to a new international nuclear fuel bank, a proposal that has earned affirmation from the United States and other nations. Kazakhstan also has secured critical political support for the proposal from the Nuclear Threat Initiative, a Washington-based non-governmental organization that works to keep nuclear weapons out of the hands of rogue states and terrorists. In fact, it was NTI, led by former Senator Sam Nunn and Ted Turner, which first proposed the idea several years ago.

The International Atomic Energy Agency in the spring of 2010 signed an agreement with Russia to stockpile uranium at a fuel bank in Angarsk, and is now reported to be moving toward approving the establishment of a international nuclear fuel bank, possibly in Kazakhstan. The deal would allow for the storage of up to 60 tons of low enriched uranium in eastern Kazakhstan, most likely at the sprawling Ulba Metallurgical Plant in Ust-Kamenogorsk.

Kazakh President Nursultan Nazarbayev signalled his desire for the Ulba plant to play an important role in nuclear non-proliferation in 2005. Following a 2005 ceremony celebrating the downblending of some of the last of Kazakhstan's Soviet-era nuclear materials, Nazarbayev said the plant could be used for a larger goal of non-proliferation.

"Maybe one day our factory here in Kazakhstan can be a place where highly enriched uranium from other countries can be processed into a low-enriched form," the president said.

That idea has since evolved into the proposal for an international nuclear fuel bank. Kazakh officials took the proposal directly to the White House last year with an offer to host a bank that would supply uranium to nations that aspire to produce atomic power – as long as they renounce nuclear weapons. President Barack Obama voiced support for the idea, at least in concept, during his widely-hailed speech on non-proliferation in Prague last year.

“We should build a new framework for civil nuclear cooperation, including an international fuel bank, so that countries can access peaceful power without increasing the risks of proliferation,” Obama said. “That must be the right of every nation that renounces nuclear weapons, especially developing countries embarking on peaceful programs. And no approach will succeed if it’s based on the denial of rights to nations that play by the rules. We must harness the power of nuclear energy on behalf of our efforts to combat climate change, and to advance peace opportunity for all people.”

Nazarbayev had an opportunity to speak with Obama directly about the proposal at the Global Nuclear Security Summit in Washington last month, when the two leaders engaged in a bilateral meeting.

Erlan Idrissov, Kazakhstan’s ambassador to the United States, said his country -- which boasts some of the world’s largest reserves of uranium -- is a natural choice to host the fuel bank. Under the current proposals to establish fuel banks in Russia, Kazakhstan and possibly elsewhere, nations could access the low enriched uranium as long as they adhere to IAEA regulations, regardless of their political situation or human rights records.

“Kazakhstan is a major producer of uranium so there is availability of material,” Idrissov said in an interview. “Kazakhstan also has the facilities and capacity to work with the material safely and ensure its secure storage and handling. Kazakhstan’s non-proliferation record is impeccable and widely recognized globally. Kazakhstan also has a very clear and workable system for protecting dangerous materials. For all of these points of view, Kazakhstan is viewed by many as an ideal place for hosting the fuel bank.”

Indeed, a slew of influential countries say they like the idea and are putting their money where their mouths are. The United States has pledged \$50 million, Norway \$5 million, Kuwait and the United Arab Emirates have offered a total of \$20 million and the European

Union's 27 nations have pledged 25 million Euros. Those pledges came in response to the Nuclear Threat Initiative's initial investment of \$50 million.

The idea behind the fuel bank is to assure countries of a supply of uranium fuel for their peaceful nuclear programs, provided they comply with IAEA regulations and are not able to buy fuel on international markets for whatever reasons. The Vienna-based IAEA would have total control of the Kazakh site, in addition to owning the nuclear materials stored there.

Oil-rich Kazakhstan – recognizing the economic opportunity and international prestige the fuel bank would bring – has offered to maintain the facility with its own money.

Charlie Curtis, president emeritus of NTI, said the financing for a nuclear fuel bank in Kazakhstan came surprisingly easily. “Ironically, we have managed to get the money together,” he explained. “We just don’t have the politics together yet.”

Former IAEA Director General Mohamed ElBaradei has said now that the financing – or at least seed money – is in place, the next step is to develop a proposed framework for the fuel reserve that the IAEA board can consider. ElBaradei has counselled patience for those excited about the project.

“The proposed fuel bank is a bold agenda and it is clearly not going to happen overnight,” the IAEA director and 2005 Nobel Prize winner said in a statement. “But bold measures, including assurances of nuclear fuel supply and multi-nationalizing sensitive parts of the nuclear fuel cycle, are vital if we are to enlarge the contribution of atomic energy to peace, health and prosperity throughout the world while curbing the proliferation of nuclear weapons and eliminating them altogether.”

Some nations, including Indonesia, Malaysia, Pakistan, India, Egypt and Argentina, belonging to the 151-member country IAEA are wary of the proposal in Kazakhstan or anywhere else. The chief complaint is that the fuel bank could lead to international legislation that stymies individual countries’ nuclear fuel processing rights. Curtis said those fears can be allayed. He said no one has proposed stripping nations of their right to process fuel for peaceful means.

“It’s still a matter of discussion in Vienna, and it’s really a matter of building trust among the representative nations of the value and good intentions of the proposal,” Curtis said. “I believe it’s an unfounded

fear. I don't think it's doable (restricting nations' nuclear processing rights), and I don't think it's at the core of this proposal. This proposal is actually to facilitate a state's decision to go forward with nuclear power knowing they can go forward with an international fuel supply."

For their part, Kazakh officials are practicing patience. Idrissov said his country is eager to get started on the nuclear fuel bank but also understands the thorny political realities at play. Kazakhstan is not a member of the IAEA's current Board of Directors.

"Different countries see this proposal from their own perspectives," Idrissov said. "We have to respect that we are dealing with a great number of countries, but it is not a reason to kill the idea. On the contrary, we think it is a reason to sit down and discuss and address maybe those perceived concerns. The intent of the fuel bank is to help other countries go ahead with their peaceful nuclear programs. If some countries have questions and concerns we invite everyone to sit down clear out things and move ahead. We hope the debate will come to a final resolution soon."

Idrissov also emphasized that while there are obvious economic and political benefits to hosting such an important international project, prestige is not the goal.

"Image making is not the driving force behind this proposal," the ambassador asserted. "We do care about a nuclear-free world. We do care about non-proliferation. We do care about efforts to prevent any access to this dangerous material by unwanted groups. These are the driving forces behind our proposal."

Meanwhile, Curtis said he's optimistic that last month's nuclear security summit in Washington would provide some impetus to the Kazakh fuel bank proposal. More than 40 nations attended the event which focused on the security of nuclear materials globally.

"We're hoping that the atmospherics coming out of the summit can improve the political environment, too," Curtis said.

Kazakhstan Prepared to Host International Nuclear Fuel Bank, Saudabayev Says

By Altair Nurbekov

LONDON – Kazakhstan is prepared to host an international nuclear fuel bank under the auspices of the International Atomic Energy Agency (IAEA) once such a facility is set up, the country's Secretary of State Kanat Saudabayev announced at a major international conference in London in May 2011.

“We hope for an objective and positive consideration of our request, and are ready to do our best to ensure reliable and safe storage of the guaranteed reserve of low-enriched uranium,” Saudabayev told the conference, “Deterrence: Its Past and Future”, which took place in London on May 20-21. “If established, the Bank will contribute to strengthening the nuclear non-proliferation regime, and promoting the role of the IAEA and the Treaty on the Non- Proliferation of Nuclear Weapons.”

Saudabayev addressed the audience of current and former high ranking officials and experts from 18 countries, including former US secretaries of state George Shultz and Henry Kissinger, former US secretary of defense William Perry and former chairman of the US Senate Armed Services Committee Senator Sam Nunn (Ret.), as well as Lord Desmond Browne from Britain. The London-based European Leadership Network for Multilateral Nuclear Disarmament and Non-Proliferation, the Washington, DC-based Nuclear Threat Initiative (NTI) and Hoover Institution of the Stanford University from California co-organized the conference.

In recent years the creation of an international nuclear fuel bank (INFB), proposed by the NTI, has occupied an important place on the IAEA agenda. The IAEA wants to develop a multilateral mechanism to ensure the access of consumer countries to nuclear fuel on a non-discriminatory and stable basis.

“Kazakhstan, the world’s leading producer of uranium ore, has the capacity to produce nuclear fuel and plans to expand its participation in usage of atomic energy for peaceful purposes under the Treaty on the Non-Proliferation of Nuclear Weapons and the IAEA,” Saudabayev said. “In this regard, on 6 April 2009, President Nursultan Nazarbayev said that in case the nuclear fuel bank was created, Kazakhstan could consider placing it on its territory. The official request on Kazakhstan’s readiness to host the bank and ensure proper storage of nuclear fuel was presented at the IAEA on 11 January 2010. The decision-making process on the bank’s location and other organizational issues is completely the IAEA prerogative.”

Saudabayev said Kazakhstan has several arguments favouring its candidacy to host the fuel bank in the selection process currently taking place at IAEA headquarters in Vienna. The IAEA formally took the decision in principle to set up the bank in December 2010.

These arguments include the stable socio-political situation in Kazakhstan and its successful balanced foreign policy ensuring the necessary level of confidence of the participants of such a project.

Kazakhstan also has displayed a long-standing and strong commitment and active participation in global non-proliferation and nuclear weapons reduction, as well as effective cooperation with the IAEA, Saudabayev said. The country also has a developed and reliable export control system and a legal framework to deal with issues of licensing, storage, transport and export of nuclear materials, he said.

Kazakhstan can also use the existing infrastructure of the former Semipalatinsk nuclear site and the Ulba Metallurgical Plant in Ust-Kamenogorsk as both these facilities meet the requirements for the long-term storage and physical protection of nuclear materials, and they are both already under IAEA safeguards, Saudabayev said.

He also noted that Kazakhstan participates with Russia in the International Uranium Enrichment Centre (IUEC) in Angarsk, allowing the use of the centre to re-supply reserves to the proposed nuclear fuel bank (INFB).

The fuel bank for low-enriched uranium (LEU) will keep a guaranteed reserve for producing nuclear fuel assemblies for nuclear power stations. It is assumed that 60 tons of LEU, would be stored in portable cleaned cylinders that will be placed in hermetic containers.

If Kazakhstan wins its campaign to host the international nuclear fuel bank, its agreement with the IAEA will include clauses that stipulate the levels of physical protection of LEU during usage, processing, storage and transportation.

According to the internationally recognized experts from the IAEA, low-enriched uranium is not an attractive material for terrorists. The storage of small amounts of LEU will not therefore make the facilities holding them a more attractive target for terrorists.

Saudabayev said the idea of establishing the fuel bank had received support even from countries that have caused concern to the international community on proliferation issues.

President Mahmoud Ahmadinejad of Iran during his visit to Astana in April 2009 supported the idea of establishing the nuclear fuel bank in Kazakhstan, noting that any country which had reserves of uranium in its territory and the necessary technology for uranium enrichment could become a nuclear fuel bank.

“This bank will not be a permanent source of nuclear fuel supply. It will become a kind of ‘insurance mechanism’ in case of any disruptions in nuclear fuel supply due to non-economic reasons. The idea of creating the bank of low-enriched uranium of the IAEA does not restrict the inalienable right of each NPT member-state to develop nuclear technology for peaceful purposes,” Saudabayev said.

He also noted that the possible establishment of the INFB in Kazakhstan would also strengthen Kazakhstan’s cooperation with the IAEA and with the states sponsoring the fuel bank project. Hosting the international fuel bank would also promote the development of nuclear energy in Kazakhstan and the introduction of the most advanced technology and experience exchanges with other countries in the field.

The IAEA is expected to make a decision on where and how to set up the fuel bank later this year. The idea for such a bank was first proposed by former U.S. Sen. Sam Nunn to the IAEA board of governors 2006 to help ensure the security and stability of an international nuclear fuel cycle.

Note: This essay was originally published in The Astana Times newspaper on June 2, 2011.

Kazakhs stay committed to nuclear disarmament

A conference on “Deterrence: Its Past and Future” took place in London in May 2011 and focused on three objectives: First, to stimulate an international dialogue on deterrence among peers and experts, including a better understanding of regional perspectives on the current and future threats to international security and the role of nuclear deterrence in addressing those threats.

Second, to develop a common language on nuclear disarmament that can facilitate the short-term practical steps that are necessary to begin moving now toward a safer and more stable form of deterrence. And third, to identify and discuss short-term practical steps applied regionally and globally to facilitate the transition from mutual assured destruction (MAD) toward a new and more stable form of deterrence with decreasing nuclear risks and more security for all nations. Speaking at the conference, Kazakhstan’s Secretary of State Kanat Saudabayev said that the doctrine of nuclear deterrence was formulated during the Cold War and, despite the great number of conflict situations over those years, the world managed to avoid the use of these most lethal weapons.

“However, if the international community fails to discontinue the growth in the number of states possessing nuclear weapons in the foreseeable future, the concept of nuclear deterrence may completely lose its meaning,” Saudabayev said. “In this regard, we believe that the steady decline in the number of nuclear arsenals, the unconditional refusal of all members of the international community (to support) horizontal and vertical proliferation, control over proliferation and the non-discriminatory usage of nuclear energy and technology for peaceful purposes under the absolute IAEA supervision is the way that has no alternative.”

“That is why President Nursultan Nazarbayev of Kazakhstan proposed, at the Nuclear Security Summit in Washington in April 2010, an initiative to adopt a Universal Declaration of a Nuclear-Weapons Free World, which would stipulate the commitment of all states to gradually move towards a nuclear weapons-free world. We intend to actively and consistently work on promoting this initiative,” Kazakhstan’s Secretary of State said. Saudabayev said 2011 will mark the 20th anniversary of the closure of the Semipalatinsk nuclear test site by a decree from President Nazarbayev.

The USSR conducted almost 500 nuclear tests at the test site for 40 years, until the test site was shut down by the president of Kazakhstan in defiance of the Soviet leadership in August 1991. "During all subsequent years, Kazakhstan and its leader have been consistent and active in supporting the global non-proliferation and reduction of nuclear weapons. The international community has recognized this through the United Nations Resolution adopted on December 9, 2009 proclaiming August 29, the day of the official closure of the Semipalatinsk test site, as the International Day against Nuclear Tests," Saudabayev added.

To mark this occasion, on October 11-13 this year Astana will host an International Forum for A Nuclear Weapons-Free World, he said. "Kazakhstan, which voluntarily renounced the world's fourth largest nuclear arsenal, has been, is and will be a reliable partner of the international community in non-proliferation, disarmament and peaceful usage of atomic energy," the Secretary of State said.

Speaking to Kazakh reporters outside Lancaster House in London, where the conference took place, former Sen. Nunn said, "Kazakhstan has contributed to nuclear disarmament not only by getting rid of nuclear weapons, which was an example for the world, but also by working diligently over the last few years and blending down the highly enriched uranium, the weapon grade material, that also was an example for the world. And I know what you plan this year for the 20th anniversary of a closing down of your test site, which is also another lesson. So Kazakhstan and President Nazarbayev has really led the way and demonstrated the direction that the world needs to move in, some powerful lesson."

Asked about the specific goals and achievements of the conference, Nunn said: "We have been talking about deterrence, we have been talking about how we can find ways to deter conflict without the high risk of nuclear deterrence, and moving away from nuclear weapons, and moving to a less risky posture by the United States, and by Russia, and by all the other countries that have nuclear weapons. I think what was fundamentally new is that [representatives from] India, Pakistan, Egypt, Israel, representatives from Russia, the United States, China, Kazakhstan, much of Europe, were all sitting around one table and talking about this issues frankly, and talking about mistrust, fears, talking about nuclear force postures. The concept that we are focusing on now is one that I have talked about for a long time. It is trying to increase every country's security by making sure no country fears a sudden attack, whether it is with nuclear weapons or whether it is with conventional weapons."

Kazakhstan Seeks the Honour, and Responsibility, of Hosting International Nuclear Fuel Bank

By Kirill Yeskarayev

As the world is becoming increasingly concerned with the proliferation of peaceful nuclear technologies, which can be rather easily diverted for military purposes, and with ensuring the security of the international nuclear fuel cycle, several ideas to help resolve the accompanying issues came to the fore of the global debate recently. One such idea is the creation of an international nuclear fuel bank, put forward in 2006 by Co-Chairman of the Washington-based Nuclear Threat Initiative (NTI) Sam Nunn.

Such a fuel bank, to store low-enriched uranium in a form easily convertible for use in peaceful nuclear reactors, would serve as a last resort guarantee for countries willing to buy fuel for their reactors internationally, but not able to do so for various political reasons, even though they are in good standing with the IAEA.

Today, almost five years later, the idea is finally taking concrete shapes. On December 3, 2010, the International Atomic Energy Agency IAEA board of governors in Vienna, Austria, approved the idea of creating such a nuclear fuel bank under its auspices in principle.

Now, it is expected that the IAEA Secretariat will this year start finalizing the arrangements for the establishment of a such a repository and selecting a possible location for an international nuclear fuel bank (INFB) and Kazakhstan, the only country to put forward its candidacy so far, has every chance to become the host country.

Committed to nuclear non-proliferation, ever since voluntarily renouncing the world's fourth largest nuclear arsenal in the early 1990s, Kazakhstan has been pushing ahead with an international plan to host an INFB on its territory since 2009.

“For years, diplomats from many countries have been working to develop a mechanism of a guaranteed access for user states to nuclear fuels on a non-discriminatory and stable basis. That is how the idea of

creating an international nuclear fuel bank was born. The bank would store some guaranteed reserve of low enriched uranium for fuel units of nuclear power stations and would be located in a nuclear weapons-free country completely open for IAEA inspectors,” Kazakhstan’s Deputy Foreign Minister Kairat Umarov told this newspaper.

“During the entire 2010, our ministry was working on the details of establishing of an INFB repository in Kazakhstan. At the Washington nuclear security summit in April 2010, Kazakhstan and the USA signed a joint statement, in which U.S. President Barak Obama supported our proposal to establish an International Nuclear Fuel Bank in our country,” he added.

Sam Nunn, the former U.S. Senator and a globally recognized authority on all things nuclear, proclaimed the fuel bank plan “a breakthrough in global cooperation to enable peaceful uses of nuclear energy.”

According to Umarov, NTI and IAEA experts consider Kazakhstan an ideal candidate for an INFB repository.

“Judge for yourself, our country is known as a leading uranium producer. We have established friendly relations with all the countries in the world, and we enjoy a serious credit of trust for objective and impartial approach to international issues. Most importantly, however, Kazakhstan has a clear and well-tested legal framework of control over the exports of nuclear and dual-use materials,” Umarov explained.

In case if the decision is made in favour of Kazakhstan, and considering that the necessary conditions on infrastructure and on the safeguarding facilities are in place, “I don’t think it will take too much time for us to establish the whole thing,” Umarov said.

“We have the necessary infrastructure for the bank – we could use the existing infrastructure of the former Semipalatinsk nuclear testing site or of the Ulba Metallurgical Plant in Ust-Kamenogorsk,” Umarov added. “These entire facilities meet the requirements of long-term storage of nuclear materials and their physical security, while they are also fully compatible with IAEA guidelines. In addition, what is also very important is the fact that we have a good number of highly qualified specialists in the nuclear industry.... Furthermore, we are fully aware of how our people have suffered from the Semipalatinsk nuclear test site and clearly recognise the dangers of an uncontrolled use of

such sensitive technologies.”

In case Kazakhstan does become the host country for the fuel bank, it will certainly be beneficial for the state.

“First of all, receiving a right to host an international fuel bank will give a new impetus to the development of nuclear energy in the country and to the improvement of research and technology in this area. It will also facilitate the implementation of advanced technologies and the sharing of experience with the developed countries... I would like to say the project is beneficial to us from an economic point of view, as it will allow the use of already existing production facilities and provide jobs. Such a bank would not be something unusual for our country because for more than half a century Kazakhstan’s plant for the production of nuclear fuel has been working with such materials,” Umarov said.

In addition, the creation of the INFB will not involve any import or production of any nuclear or radioactive waste, since used nuclear fuel will not be returned to the host country. The project provides for acquisition of a small amount of low-enriched nuclear fuel, paid for by donor countries, and for its storage at the existing facilities.

“According to the internationally recognised experts of the IAEA, low-enriched uranium is not an attractive material for terrorists. As a matter of principle, the possession of small amounts of such uranium, which is the case, will not alter the enterprise’s vulnerability to terrorism,” Umarov commented.

The list of countries supporting the project include the USA, the EU, Norway, Kuwait and others which have gathered about US\$ 150 million for this purpose, enough to acquire about 60 tonnes of uranium.

The IAEA is expected to further take up the issue of the establishment of the fuel bank in 2011, with issues such as the legalities of setting up and operating the structure as well as the choice of the host country.

Kazakhstan renounced the nuclear weapons in 1992, and by 1995 fully rid itself of all nuclear weapons. By 2000, Kazakhstan, in partnership with the United States and Russia, eliminated completely the nuclear testing infrastructure of the former Semipalatinsk test site.

Note: This essay was originally published in The Astana Times newspaper on January 29, 2011.

Remarks by President Nursultan Nazarbayev at the 2nd Nuclear Security Summit

Dear participants,

First, I would like to express my deep gratitude to President Barack Obama for initiating the Nuclear Security Summit and the President of the Republic of Korea, Mr. Lee Myung-bak, for the invitation and excellent organization of this event.

The two years since our last meeting in Washington have been filled with significant events in the matter of global nuclear security.

First of all, the Nuclear Non-Proliferation Treaty (NPT) Review Conference was held in 2010.

Secondly, in the past two years, a large amount of highly enriched uranium has been eliminated worldwide and more than 30 countries have adopted national commitments to nuclear safety.

Thirdly, the Conference of the Global Initiative to Combat Nuclear Terrorism was successfully held in Astana in 2010.

Twenty years have passed since Kazakhstan voluntarily closed the Semipalatinsk test site, the world's largest nuclear test site, under my decree. Within the framework of long-term cooperation to improve its physical security, Kazakhstan, Russia and the United States also provided a model of partnership based on mutual trust.

At the national level, we implemented an unprecedented project to transport 210 tons of spent nuclear fuel to safe storage.

We keep on working on converting of the reactor to low-enriched fuel and creating a regional training centre for nuclear safety.

In cooperation with the International Atomic Energy Agency (IAEA), we are creating a unique automated system of accounting, control and physical protection of natural uranium.

Kazakhstan has also joined the G8 Global Partnership against the proliferation of weapons of mass destruction.

We have ratified the amendment to the Convention on the Physical Protection of Nuclear Material and invite all participants of the Seoul

summit to ratify the amendments so that they come into force before 2014.

Dear ladies and gentlemen,

Seventy years ago, at the University of Chicago, the world's first nuclear reactor was created.

Sixty accidents have occurred in the history of nuclear power plants. Fukushima, the most recent, showed that nuclear power should be developed only when absolute security is guaranteed and should be based on three main principles.

First: Universality

The generalization and codification of international law and accumulated experience in the development of peaceful nuclear energy is required. The goal is the adoption of legally binding nuclear safety standards.

Second: Transparency and Efficiency

Along with full and prompt attention to any incidents at nuclear facilities, the establishment of clear mechanisms for rapid response to emergencies is required.

Third: Equality and Trust

All states should be given equal rights to access peaceful nuclear technology, as well as the use of low enriched uranium from the International Nuclear Fuel Bank. Our work with the IAEA to locate the International Nuclear Fuel Bank in Kazakhstan is progressing. This is our specific contribution to the strengthening of non-proliferation and disarmament.

Dear colleagues,

Kazakhstan suggests having a nuclear security summit every two years. We are ready to host one of these summits in Astana in the future.

Kazakhstan is pleased the Strategic Arms Reduction Treaty (START) between the U.S. and Russia entered into force and supports the new nuclear strategy of President Barack Obama in terms of non-use of nuclear weapons against states complying with the provisions of the NPT. I encourage all nuclear-weapon states to do the same.

Unfortunately, the erosion of the NPT regime has become a reality and the uncontrolled expansion of nuclear-weapon states remains one of the most serious threats in the twenty-first century.

Some states consider possession of nuclear weapons a safety factor. Based on the experience of my country, which voluntarily renounced the world's fourth largest nuclear arsenal, I can say real security guarantees come from sustainable socio-economic development.

In this regard, I propose to apply the toughest international measures, including isolation and boycotts, to any country that uses nuclear weapons.

At the same time, the nuclear powers should provide security guarantees, supported by the United Nations, to countries that give up their nuclear weapons.

I believe the adoption of the Universal Declaration of a Nuclear Weapons Free World would be an important step towards a Nuclear Weapons Convention.

Thank you for your attention.

Seoul, 26 March 2012

Talks over IAEA Nuclear Fuel Bank in Kazakhstan Near Completion

By Merey Kabiden

ASTANA – Talks over a so-called host country agreement between Kazakhstan and the International Atomic Energy Agency (IAEA) for the country to host an international bank of low-enriched uranium fuel under the IAEA auspices are nearing completion, the Kazakhstan foreign ministry said in a Feb. 17 statement dedicated to the 20th anniversary of its accession to the Treaty on the Nonproliferation of Nuclear Weapons (NPT).

Having renounced its Soviet-era nuclear weapons legacy in the early 1990s, Kazakhstan has long been a leader in the non-proliferation and disarmament movement. When the IAEA decided to create an international nuclear fuel bank, designed as an additional element of ensuring the security of a global nuclear fuel cycle, Astana volunteered to build and maintain it as part of an effort to provide safe and internationally guaranteed access to low-enriched uranium for countries which meet IAEA requirements but for political or other reasons are unable to procure uranium fuel on the open markets.

When addressing the Nuclear Security Summit in Washington in April 2010, Kazakhstan President Nursultan Nazarbayev confirmed the country's intention to host the fuel bank. In 2011, Kazakhstan, a country with its own developed uranium mining and processing industry, officially submitted its bid to host the LEU bank to the IAEA. The Vienna-based agency subsequently decided that Kazakhstan should be the host country for the bank.

The draft agreement between the IAEA and Kazakhstan on the establishment of the bank was originally expected to be agreed upon by the end of 2013, but the IAEA and government of Kazakhstan are still discussing technicalities of a rather complex host country agreement.

According to experts from the Nuclear Threat Initiative (NTI), a Washington-based nongovernmental organization whose co-chairman Sam Nunn first proposed the idea of an LEU bank to the IAEA in 2006, and from the IAEA itself, Kazakhstan is the most qualified

candidate to host such a bank. The country is the world's biggest uranium producer, with 38 percent of the global market share. Most importantly, Kazakhstan has set up a regulatory legal framework that provides control over the export and transport of nuclear materials and dual-use materials.

The bank's location is of importance too. Kazakhstan has offered its Soviet-built Ulba Metallurgical Plant in Ust-Kamenogorsk, which is located in the eastern part of the country. This very facility meets requirements for the long-term storage as well as safe processing of nuclear materials and already meets all IAEA physical security requirements and is put under the agency's so-called safeguards, meaning its handling of nuclear materials is monitored 24 a day full year around.

In 2012, the head of Kazakhstan's state-owned nuclear company Kazatomprom Vladimir Shkolnik asserted that the Ulba plant is one of the safest places in the world for uranium storage since it has never experienced a nuclear leak or accident during its more than four decades of operation.

He also underlined that adding 60-70 tons of low enriched uranium fuel to the Ulba plant, which is what an eventual fuel bank will require, will only increase its capacity by approximately 5 percent, or up to 1,200 tons of low enriched uranium. "Kazakhstan's experience in handling such materials has been a key point in promoting the country's candidacy to host the bank," Shkolnik stressed.

As a country with a well-developed nuclear establishment, Kazakhstan also offers a significant number of highly qualified nuclear scientific and technical personnel, which is another advantage.

Hosting the LEU bank will not only help fulfill Astana's non-proliferation commitments, but also benefit the country. The facility will give new impetus to nuclear power development and introduce the most advanced technology by sharing experiences with developed countries. Establishing the nuclear bank will also deepen cooperation with the IAEA and its sponsoring countries.

Experts also stress that establishing the international nuclear fuel bank will not do any harm to local people or the environment. Also, it does not entail the import or production of any high-level radioactive waste. The project encompasses the acquisition of a relatively small amount of low-enriched nuclear fuel and its storage in secure facilities.

According to IAEA and other experts, low-enriched uranium is not

an attractive terrorist target. Moreover, the quality of the management of nuclear materials in Kazakhstan has been repeatedly praised by the IAEA. The bank will not be a permanent source of nuclear fuel, but rather an ‘insurance mechanism’ in case of a nuclear fuel delivery disruption.

Note: This essay was originally published in The Astana Times newspaper on March 12, 2014.

World Becomes Safer as Kazakhstan, U.S. and Russia Complete Degelen Project

By Artur Abubakirov

KURCHATOV, EAST KAZAKHSTAN – On October 18, a celebration was held in Kurchatov city to mark the completion of all nonproliferation work at the Degelen Mountain test area on the former Semipalatinsk Nuclear Test Site.

Kazakhstan's party was represented by Kairat Kadyrzhanov, director general of the National Nuclear Center, Alexander Kim, deputy chairman of the Atomic Energy Agency, and Barlybai Sadykov, director of the Multilateral Cooperation Department of the Foreign Ministry. Kenneth B. Handelman, U.S. principal deputy assistant secretary of defense for Global Strategic Affairs, Arthur Tom Hopkins, deputy assistant secretary of Defense for Threat Reduction & Arms Control, Elizabeth Millard, U.S. charge d'Affaires represented the U.S. while Vladimir Kutsenko, adviser to the chairman of the ROSATOM State Corporation, headed the Russian delegation. Other scientists and experts from the three countries who were involved in the project also participated in the event.

Kazakh, U.S. and Russian agencies successfully completed a complicated project known as Degelen Project and ensured permanent safe storage for hundreds of kilograms of nuclear material that had remained in Degelen Mountain tunnels since the Soviet nuclear tests.

The once-secret project at the Degelen Mountain Complex took years to complete and involved hundreds of kilograms of weapons-usable nuclear material – both plutonium and highly-enriched uranium – that had been secured in sealed tunnels. Scavenger activity in the area raised the threat that some of the material might be stolen. The tunnels were reopened, filled with special cement that rendered the nuclear material unusable for weapons purposes, and then resealed.

In a very windy weather typical of the steppes of Kazakhstan, all

the participants of the ceremony visited the National Nuclear Center, which was established in 1992 to solve the complexity of problems such as the elimination of remnants of nuclear tests, the creation of scientific and technical bases for nuclear power development in the country, as well as the conversion of the former military industrial complex of the Semipalatinsk Nuclear Test Site and the use of its technical potential for national peaceful interests. The attendees were also familiarized with the security measures taken, as well as with the facilities itself installed around Degelen Mountain to secure the area and keep it under control.

Opening the monument devoted to the completion of the project, Kadyrzhanov thanked everyone involved and reaffirmed Kazakhstan's intention to further trilaterally cooperate in the area of ensuring nuclear safety.

"This is an example of true cooperation and politicians should be invited here and shown that effective collaboration is possible," Kutsenko told the gathering in his turn.

"The Department of Defense was pleased to join counterparts from the Republic of Kazakhstan and the Russian Federation to celebrate the completion of all nonproliferation work at the Degelen Mountain test area on the former Semipalatinsk Test Site in Kazakhstan.

A ceremony in Kurchatov, Kazakhstan, commemorated the success of this trilateral effort to eliminate the remnants of past nuclear testing activities and to bring the test site to a safe and secure state. A monument sponsored by the government of Kazakhstan was unveiled and individuals who made a significant contribution were recognized," the U.S. Acting Assistant Secretary of Defense for

Public Affairs George Little said in his statement provided on that day. "This collaborative effort, announced at the 2012 Nuclear Security Summit by the Presidents of the United States, Republic of Kazakhstan, and the Russian Federation, has been unprecedented in terms of actions to combat the threat of nuclear proliferation and nuclear terrorism," continued the statement.

Earlier in March in 2012 at the Nuclear Security Summit in Seoul the presidents of Kazakhstan, the U.S. and Russia Nursultan Nazarbayev, Barack Obama and Dmitry Medvedev made an announcement about progress in ensuring that loose nuclear material is not vulnerable to smuggling or to potential terrorist plots.

The Kazakhstan-U.S.-Russian cooperative project demilitarized the complex using environmentally sound methods to close and permanently seal its tunnels. By eliminating the possibility of any future use of the complex, this project will have a positive impact on the three countries broader efforts to enhance national security, as well as international security.

In October 1995, the U.S. Defense Department announced the signing of a Cooperative Threat Reduction (CTR) agreement with the Republic of Kazakhstan that would permanently close and seal the former Soviet Union's Degelen Mountain nuclear test tunnel complex at the Semipalatinsk site. It was the largest such complex in the world and it took 16 years to complete this project and make the world safer today.

The former Soviet Union conducted underground nuclear tests at the Degelen Mountain Complex from 1961 to 1989. In 1991, President Nursultan Nazarbayev closed down the Semipalatinsk Nuclear Test Site, one of the largest in the world. Later, the country voluntarily renounced the world's fourth largest nuclear arsenal.

Note: This essay was originally published in The Astana Times newspaper on October 25, 2012.

NTI Report Notes Progress in Security of Global Nuclear Materials, Says Major Challenges Remain

By Artur Abubakirov

The 2014 NTI Nuclear Materials Security Index, which assesses nuclear materials security conditions in 176 countries and which was released on Jan. 8 by the Washington-based Nuclear Threat Initiative (NTI), reported progress in global efforts to reduce and secure nuclear materials while noting main challenges that remain in this area such as creating a unified global system for monitoring all nuclear materials.

“World leaders at the third Nuclear Security Summit in the Netherlands in March 2014 can point to measurable progress toward the goal of reducing and securing the materials needed to build a nuclear bomb,” the report said.

The report, developed together with the Economist Intelligence Unit (EIU), was released at a press conference in the U.S. capital headlined by former U.S. Senator and NTI Co-Chairman Sam Nunn and NTI President Joan Rohlfing.

“We know there is nearly 2,000 metric tons of this material spread across hundreds of sites in 25 countries, and we know much of it is not effectively secured,” Nunn said. “We know that terrorists would only need enough highly enriched uranium to fit into a 5-pound bag of sugar or an amount of plutonium the size of a grapefruit.”

The index, Nunn said, was created to respond for this sobering set of facts. “I view the Index as a framework – grounded in solid data which should help inform our priorities globally in terms of securing nuclear material and preventing catastrophic terrorism.”

The second edition of the NTI Index assesses progress states have made in improving nuclear materials security conditions. The analysis in the report was based on six factors: quantities and sites, security and control measures, global norms, domestic commitments and capacity, and risk environment.

According to the report, seven countries – Austria, Czech Republic, Hungary, Mexico, Sweden, Ukraine and Vietnam – have removed all or most of their stocks of weapons-usable nuclear materials from their territories. The number of nations with appreciable fuel for atomic bombs also lowered to 25 from 32 since the first report was issued in January 2012.

With one being the most positive ranking, Kazakhstan was ranked 15 among the 25 states with weapons-usable nuclear materials with 73 points. [While the authors of the report say Kazakhstan's ranking remains unchanged from the previous report, the 2012 report actually had Kazakhstan at the 22nd position with 71 points.].

The report also noted areas where Kazakhstan can improve.

“Although Kazakhstan improved its score by becoming a member of the G-8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction, this improvement is offset by the fact that Kazakhstan now transports weapons-usable nuclear material domestically,” the report noted without explaining how this affects the security of materials or the rankings since the transportation has been done to the highest security standards and no incidents were ever reported.

“In the future, Kazakhstan's nuclear materials security conditions could be further improved by reducing its materials quantities, strengthening its laws and regulations for the physical security of materials in transport to reflect the latest IAEA nuclear security guidelines, publishing an annual report about nuclear security, and making public declarations about its materials stocks,” the report said. Its authors also highlighted what they consider Kazakhstan's uncertain political situation, governance challenges and corruption among public officials as adversely affecting nuclear materials security conditions.

The NTI Index encourages governments to take actions to reduce risks and to provide assurances about the security of the world's deadliest materials.

“The NTI Index reveals positive developments in a host of countries, reflected in their improved scores, when it comes (a) to decreasing quantities of materials; (b) to strengthening physical protection measures; and (c) to passing new domestic laws and regulations aimed at better securing materials at facilities and during transport, which is when materials are most vulnerable to theft,” the report stated.

Recommendations about the need to ensure greater transparency and accountability were basically provided to all countries with nuclear materials. Generally, the Index recommends that states:

- Build confidence in the effectiveness of their security practices through reassuring steps such as participating in international peer reviews, publishing relevant regulations and declaring inventories.
- Become parties to the nuclear security treaties that govern nuclear terrorism and physical security.
- Strengthen voluntary mechanisms such as the IAEA's Nuclear Security Fund and the World Institute for Nuclear Security.
- Secure military and other non-civilian materials to the same or higher standards as civilian. About 85 percent of global stocks of weapons-usable nuclear materials are outside civilian programs (because they are either military or other non-civilian programs) and are not covered by IAEA guidelines or the physical protection treaty or its 2005 amendment.

At the report launch, NTI President Joan Rohlfing said governments should make it a priority to build a global nuclear materials security system.

“As the Index findings make clear, right now we have no shared global system for nuclear security,” Rohlfing said. “That means no common international standards. No governing body with the mandate and resources for proper oversight. No expectation for states to take actions that build confidence in the effectiveness of their security practices. And finally, no mechanism for holding countries accountable.”

Such calls support and build on the general thrust of the discussions at the second Global Nuclear Security Summit in Seoul in March 2012, including the remarks made there by Kazakhstan President Nursultan Nazarbayev. In particular, he called for the unification and codification of accumulated international experience in developing the peaceful atom with a view of adopting legally binding standards of nuclear safety. He also called for transparency and quick reaction to any incidents at nuclear facilities with a view of developing clear mechanisms of rapid reaction to emergencies; as well as equality and trust, meaning equal rights for all states to access peaceful nuclear technologies.

NTI and the EIU relied on the International Panel of Experts to shape the current NTI Index. The group included experts from Argentina, Australia, China, France, India, Japan, Kazakhstan, Pakistan,

Russia, South Africa, Sweden, the United Kingdom, the United States, and Vietnam. Among the panelists were a representative from the World Institute for Nuclear Security and a former IAEA official. NTI, together with the international panel of nuclear security experts and a number of technical advisors, developed the framework and priorities that define effective nuclear materials security conditions.

Eliminating weapons-usable nuclear materials is seen as the most significant step a country can take toward ensuring that terrorists can't get access to the materials needed to build a nuclear bomb.

Since 2012, Kazakhstan has reduced its stock of weapons-usable nuclear material. This decrease was made possible, in part, by several steps and operations implemented in previous years.

Thus, Kazakhstan took a step to eliminate 33 kilograms of high-enriched uranium at the Institute of Nuclear Physics in Almaty by down blending the material into low-enriched uranium at the Ulba Metallurgical Plant in Ust-Kamenogorsk.

In addition, Kazakh, U.S. and Russian agencies successfully completed a complicated project known as the Degelen Project, which ensured permanent safe storage for hundreds of kilograms of nuclear material that had remained in Degelen Mountain tunnels on the former Semipalatinsk nuclear test site in Eastern Kazakhstan since the Soviet nuclear tests.

The once-secret project at the Degelen Mountain Complex took 17 years to complete and involved hundreds of kilograms of weapons-usable nuclear material – both plutonium and highly-enriched uranium – that had been secured in sealed tunnels. Scavenger activity in the area raised the threat that some of the material might be stolen and used for dangerous purposes. The tunnels were reopened, filled with special cement that rendered the nuclear material unusable for weapons purposes, and then resealed.

This collaborative effort, announced at the 2012 Nuclear Security Summit in Seoul by the presidents of Kazakhstan, the United States and the Russian Federation, was unprecedented in its actions to combat the threat of nuclear proliferation and nuclear terrorism.

In August 2013, Harvard University's Belfer Center's Project on Managing the Atom (MTA) released a report called "Plutonium Mountain: Inside the 17-Year Mission to Secure a Dangerous Legacy of Soviet Nuclear Testing." In the report, Eben Harrell, an associate

with MTA, and Pulitzer Prize winning author and Washington Post reporter David Hoffman tell how dedicated scientists and engineers in three countries overcame suspicions, secrecy, bureaucracy and logistical obstacles to secure more than a dozen bombs worth of plutonium that had been left behind at the Semipalatinsk test site in Kazakhstan after the collapse of the Soviet Union.

The former Soviet Union conducted underground nuclear tests at the Degelen Mountain Complex from 1961 to 1989. In 1991, even before independence from the USSR, President Nursultan Nazarbayev closed down the Semipalatinsk nuclear test site, one of the largest in the world, making Kazakhstan the first country to do so.

After independence in 1991, Kazakhstan voluntarily renounced the world's fourth largest nuclear arsenal, returned to Russia the nuclear weapons it inherited from the former Soviet Union and joined the Nuclear Non-Proliferation Treaty as a non-nuclear weapon state.

Over the past 22 years, Kazakhstan has remained a strategic partner in some of the most important nuclear security and nonproliferation efforts worldwide. Kazakhstan is cooperating with the world community to make the world safer from the threat of nuclear terrorism by converting and removing nuclear materials that may be attractive to terrorists, securing nuclear material at production and storage facilities, as well as combating the trafficking of illicit nuclear materials.

In addition, Kazakhstan has proven its commitment to preventing the proliferation of nuclear weapons and is working together with other states to continue reducing the proliferation threats associated with nuclear materials, technologies and expertise.

In 2011, NTI chose President Nazarbayev among the 10 major public figures from Australia, Britain, Germany, Norway, Russia, the United States and the countries of the Middle East, to be recognized with an award. According to NTI co-chairmen Sam Nunn and Ted Turner, whose original contribution made NTI functioning possible, President Nazarbayev was chosen for his significant contribution to nuclear disarmament.

Note: This essay was originally published in The Astana Times newspaper on January 15, 2014.

Chapter V

Atoms for Energy: Using World Class Reserves to Make Peace, Not War

Becoming a New Nuclear Power, a Peaceful One

By Kairat Kadyrzhanov

Having voluntarily renounced the world's fourth largest nuclear arsenal and shut down the Semipalatinsk nuclear test site, Kazakhstan is a reliable partner for the international community and a strong advocate of more decisive steps by mankind towards a nuclear weapons-free world. In a short period of time, Kazakhstan joined all international instruments, fulfilled its obligations regarding the removal of a nuclear arsenal and the elimination of nuclear weapons testing infrastructure, and converted military industries to peaceful uses.

Accordingly, we have supported and will continue to support the new trends in this area at the highest political level. Furthermore, we declare our readiness to support various initiatives aimed at improving the safety of the international fuel cycle, including the initiative to host an international nuclear fuel bank under IAEA auspices in Kazakhstan.

Rapid growth of energy demand in the world, the volatility of oil and gas prices, environmental restrictions on the use of fossil fuels and concerns over a stable supply of energy resources are making development of peaceful nuclear energy a top priority for many nations.

During the September 2009 meeting of the UN Security Council, participants unanimously adopted Resolution 1887, reaffirming the determination of the international community to make progress in the fields of disarmament and strengthening of global security. The UN Security Council also confirmed the inalienable right of parties to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) to use nuclear energy for peaceful purposes without discrimination.

Kazakhstan, with its rich reserves of natural uranium – estimated at 21 percent of world reserves - appropriate for industrial, scientific and technological uses, is actively working to create its own nuclear energy industry. The development of a nuclear energy industry in Kazakhstan is indicated as one of the important areas of economic development in

the national Strategy of Industrial and Innovative Development, up to the year 2015.

The concept for uranium industry and nuclear power engineering in Kazakhstan for 2002-2030, which defined the main directions and principles of nuclear energy development, was approved back in 1992. The concept directed the nuclear energy and national industry toward meeting the challenges of transforming Kazakhstan's power sector into a high-tech, knowledge-based, dynamic nuclear power industry, which should provide a sound basis for the speedy development of the economy and the improvement of the welfare of the population.

Kazakhstan does indeed have a number of important factors making it possible to develop a nuclear energy industry.

First, Kazakhstan possesses an advanced uranium mining and processing industry and produces reactor fuel provided by KazAtomProm, the national nuclear company. Kazakhstan also ranks second in terms of the world's uranium reserves and first in terms of natural uranium production. About 65 per cent of our resources are suitable for extraction through the most advanced and environmentally safe method of underground leaching.

Furthermore, Kazakhstan has an engineering industry capable of ensuring the production of certain types of power equipment. Kazakhstan has also made advances in the atomic sciences at the National Nuclear Centre. Its basic experimental devices, including research reactors, are capable of tackling world-class problems in the nuclear sphere, as well as in the development and safe use of nuclear energy.

Finally, there is a great pool of highly skilled personnel, both in the nuclear industry and in the nuclear sciences, including professionals involved in the operation of the BN-350 power reactor and participating in the operation of IVG, IGR and WWR-K research reactors operated by our National Nuclear Centre.

Developing the nuclear industry in Kazakhstan will correspond to global trends. According to the IAEA and the World Nuclear Association, there are 436 nuclear reactors in 30 countries with a total capacity of over 370 gigawatts.

Today, nuclear energy provides about 17 per cent of the total volume of electricity produced in the world. Yet, the share of nuclear energy is projected to double to 35 percent by 2050.

One of the major components of nuclear power development in Kazakhstan is going to be the construction of several nuclear power plants using international experience and national factors.

Judging by the development of the national economy, we expect the growth of electricity consumption to double from 77.5 billion kWh in 2008 to 173 billion kWh in 2030. Beginning in 2013 or 2015, a shortfall of electricity is forecast for the whole of Kazakhstan. This shortfall will be partially covered through technical upgrading and commissioning of new facilities at existing or planned power plants.

We need to set up new stations with a total electric power capacity of approximately 6.6 gigawatts before 2030. The decision on the construction of such stations is not yet made.

Nuclear power generating units can be considered as sources of basic power together with, or instead of, coal thermal power stations.

Following feasibility studies for building nuclear power plants in Kazakhstan, various regions have been proposed as possible locations for the plants. The studies took into account preliminary estimates of climatic and geological characteristics, as well as logistics, power lines and the availability of water to cool power equipment. Currently, we are scrutinizing economic information and are in the process of choosing nuclear power plant projects for further implementation in Kazakhstan.

Major deposits of resources and the scientific and technical potential in the field of nuclear power will further contribute to the development of the national nuclear power industry in Kazakhstan. At the same time, active cooperation with the IAEA and other international organizations with which Kazakhstan has built relationships of trust will help consolidate Kazakhstan's new status as a nuclear power: a peaceful and a responsible one.

Kairat Kadyrzhanov is an advisor to the rector of the Gumihev Eurasian National University on science, a former Director General of the National Nuclear Centre and a former Director of the Institute of Nuclear Physics.

Kazakhstan's Role as a Nuclear Leader

By Vladimir Shkolnik

Nuclear energy is experiencing a renaissance that even the global economic crisis has not been able to dampen.

Today 440 reactors operate around the world. A total of 59 reactors are under construction, 149 reactors are being prepared and 34-2 others are under serious consideration. Kazakhstan has and will play an important role in supporting the global nuclear energy business.

The country and its national uranium company, KazAtomProm, take that responsibility seriously and are aware of the role Kazakhstan is set to play in meeting the world's thirst for uranium.

Having produced 14,000 tonnes of uranium, Kazakhstan became the world's largest uranium producer last year and is determined to maintain steady growth in its uranium production, depending on business trends, demand for these volumes and provided that return on investment is secured for the development of new fields. Kazakhstan's uranium reserves, production capacities and necessary technologies enable us to increase uranium output up to 25,000 tonnes a year. In addition, KazAtomProm is charged with formulating and implementing the development strategy of Kazakhstan's entire nuclear industry. The company has set a strategic goal of becoming the world's leading uranium supplier and a transnational vertically integrated corporation with full nuclear fuel cycle.

Most importantly, Kazakhstan and KazAtomProm have pledged to observe all international regulations and security guarantees within the frameworks of international agreements on non-proliferation; a pledge we wish other nations would also adopt and abide by.

Kazakhstan, more than almost any other country, is devoted to nuclear disarmament and the peaceful use of atomic power. It is also committed to making sure nuclear materials are safe and well-guarded whenever they are handled, particularly during transport.

Why? When it was part of the Soviet Union, the country suffered nearly 500 nuclear tests, the equivalent of 2,500 bombs on Hiroshima. As a result of that devastation, soon after its independence in 1991, Kazakhstan, under the direction of President Nursultan Nazarbayev, dismantled the world's fourth largest nuclear arsenal and became a crusader for nuclear non-proliferation and nuclear safety.

While setting the ambitious goal of eventually producing a third of the world's uranium, KazAtomProm places special priority on protecting its nuclear materials and natural uranium.

The company has developed a reliable system of accounting for and controlling every molecule of our nuclear material. We keep extremely close track of the physical presence of every unit of nuclear material and, through elaborate systems, can quickly detect even the possibility of theft or shrinkage. Our nuclear material is sealed under the watchful eye of the International Atomic Energy Agency (IAEA) and is accounted for with the greatest accuracy as it moves through our production facilities and elsewhere.

KazAtomProm is proud to say that it works closely with the IAEA in many ways. Since 2008, for instance, we have been conducting a joint study to develop the best methods to account for and control natural uranium. Our hope is to create a uranium monitoring model that can be used by all uranium producing nations.

To reduce the danger of radiological or chemical harm to Kazakh citizens, our company's mines are located in arid places, far from highly populated areas. Our low-radiation wastes are processed in closed facilities that offer little possibility of discharge of dangerous chemicals.

The company is constantly improving its environmental protection procedures in accordance with the state's environmental control regulations and laws. We also use the ecologically cleanest and safest methods of uranium production.

Becoming "green" is a focus for both Kazakhstan and KazAtomProm. We actively participate in the implementation of the Kyoto Protocol by facilitating wide use of new and renewable energy as well as innovative technologies that reduce greenhouse gas emissions. These include heating pump systems, wind-power stations, solar batteries and others.

Kazakhstan at large and KazAtomProm in particular will not limit ourselves to just producing raw materials. Our plans, already being

implemented in partnership with such international companies as Areva, Guandong Nuclear Power Corp., RosAtorn, Toshiba and Sumitomo, foresee the production of highly technological products, including reactor fuel assemblies and, in the future, reactors themselves. For that, Kazakhstan has the necessary potential, including raw materials, highly-professional specialists, political stability and reputation of a reliable partner in the field of a safe and peaceful use of atomic energy. In short, KazAtomProm, supported by Kazakhstan's government, is determined to continue to act as a responsible player on the international market, always advancing safe and peaceful use of atomic energy even as our uranium business grows.

The author is the president of KazAtomProm, the national nuclear company of Kazakhstan.

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Kazakhstan's National Nuclear Center, a Vehicle for Peaceful Nuclear Development

As part of coordinated efforts to develop itself as a leader in the realm of nuclear power, Kazakhstan established the National Nuclear Center in May 1992.

The center's primary objectives are to eliminate dangers posed by Cold War-era nuclear testing in Kazakhstan, and to position the nation as a significant producer of nuclear power. Kazakhstan is already the world's largest producer of natural uranium and is pursuing a bid to become the site of an international storehouse ('bank') for low-enriched uranium to help fuel nuclear reactors in developing countries around the world.

A national program to develop the Kazakh nuclear industry is in place under the guidance and leadership of the National Nuclear Center.

The center is headquartered on the site of the former Semipalatinsk nuclear weapons test site, but its operations are dispersed throughout the country.

The center is comprised of the:

- Institute of Nuclear Physics (INP) (Almaty, Kurchatov, Aksay Village in East Kazakhstan)
- Institute of Atomic Energy (IAE) (Kurchatov)
- Institute of Geophysical Research (IGR) (Kurchatov, Borovoe, Almaty, Kaskelen, Aktobe, Makanchi)
- Institute of Radiation Safety and Ecology (Kurchatov)
- Baikal Enterprise (Kurchatov)
- Kazakh State Research and Production Center of Explosive Operations (Almaty)

The National Nuclear Center hopes to develop 20 low-capacity nuclear plants (50-100 megawatts each) to provide energy to small Kazakh towns.

Facilities of the National Nuclear Center

“Testing Field” Area

The testing field had been the first testing area of Semipalatinsk Nuclear Test Site and was designed to conduct atmospheric tests in the period from 1949 to 1961. The testing field is located on the area “III” and occupies an area of nearly 300 square km. Its perimeter is equal to 62 km.

The first nuclear weapon test was carried out on August 29, 1949, at 7 am local time. The first thermonuclear device was tested on August 12, 1953. The first hydrogen bomb was tested on November 22, 1955. Overall, 26 ground and 87 atmospheric nuclear explosions had been carried out. The last atmospheric test was carried out on December 30, 1961.

The testing field was presented as a large-scale engineering and constructional facility designed for registering of nuclear explosion parameters in natural experimental conditions. Some fragments of instruments and fortification constructions with traces of nuclear explosion impact on them have been preserved until now.

There is a ground in the center of the testing field, the Epicenter, where a number of tests had been carried out, including the first one. The first nuclear device was placed on a 30-meter-tall iron tower. Its nuclear charge power, converted into conventional explosives equivalent, was equal to 20 kilotons (equal to Hiroshima bomb in power output). Upon this test, the underlying surface at the Epicenter had the appearance of yellow-green glassy mass, from which the remains of the iron tower protruded.

Later on, two more tests had been carried out at the same place, on September 24, 1951, and August 12, 1953.

The “Tokamak” Thermonuclear Material Testing Installation

The “Tokamak” thermonuclear material testing installation located in Kurchatov is a joint Kazakh-Russian project. The experimental installation is being designed to carry out scientific research and testing of construction materials and units, which will be used in powerful thermonuclear reactors in the future.

The “Tokamak” (which is a short version of “toroidal chamber with magnetic field” in Russian) is a torus-shaped magnetic trap designed to create and retain high-temperature plasma, allowing for thermonuclear reaction, which should produce energy in the amount more than energy used to create the plasma.

The construction is carried out within the frameworks of design development of the International Thermonuclear Experimental Reactor (ITER) program.

The All-Russian Scientific Research Institute of High-Frequency Currents named after Vologdin (VNIITVCH) in St. Petersburg and other Russian scientific and industrial organizations participate in this project.

The installation is worth about \$15 million. Funding for the “Tokamak” is provided by the Government of Kazakhstan, and partially, through investments of world research centers.

The Semipalatinsk Test Site Museum

It is located on the territory of the Institute of Radiation Safety and Ecology of the National Nuclear Center of the Republic of Kazakhstan. It was founded in 1972 on the basis of the Experimental and Scientific Unit of the test site. The museum’s exposition reflects the history of creation of the USSR nuclear shield.

The museum has nearly 100 storage units (photographs, documents, layouts, equipments). The museum materials provide complete characteristic of “Testing Field”, “Degelen”, “Balapan” testing areas and physical and technical sectors. Layouts, photo materials, maps, exponents brought from test sites, as well as tools and equipment from scientific and research sector, used in preparing and carrying out the nuclear tests, comprise the exhibition of the museum.

The purpose of establishment of the museum is increasing awareness of broad layers of population and distribution of information on STS. It is the only museum in the town of Kurchatov. Today the museum presents its exhibitions to pupils and students, foreigners and employees of other companies. Excursions are conducted in two languages; doors of the museum are open to anyone who is interested in the history of establishment and operation of the test site.

The Institute of Radiation Safety and Ecology, A Critical Element of Peaceful Research

The Institute of Radiation Safety and Ecology (IRSE) is a state-owned enterprise and a subsidiary of the National Nuclear Center of the Republic of Kazakhstan located in the town of Kurchatov. The total area of its territory comprises more than 21 hectares.

The idea of the establishment of an Institute of Radiation Safety and Ecology (IRSE) arose after the shutdown of Semipalatinsk Nuclear Site (STS) and the creation of a new management structure of the test site in the shape of a research centre. The IRSE is organized on the basis of the Military Unit 52605, formed in June 1948 in Zvenigorod (Moscow region) exclusively for running nuclear tests at STS. The Military Unit 52605 consisted of two basic structural sub-units, the administration unit and research department (scientific and experimental unit), based on which the IRSE was established.

The organization and structure of the scientific and experimental unit were changed many times due to composition and types of departments involved in concrete tasks for tests. In particular, medical and biological test direction, existed up to disbandment of the test site, was established for researches of nuclear explosion damage effects on living organisms and, eventually, on personal staff and population. The test site became the place of most active research of radiation emittance. STS served as a fundament for development of medical radiology and radiobiology, initial recommendation for radiation standards of radiation safety were worked out.

On August 29, 1991, President Nursultan Nazarbayev issued a decree No. 409 closing the Semipalatinsk Nuclear Test Site. All objects of the former test site were handed over to the newly established National Nuclear Center of the Republic of Kazakhstan (NNC). Up to June 1994, last Russian military units, inter alia, the Military Unit

52605, deployed on the territory of the test site, had left Kazakhstan. Together with military units a considerable part of unit's scientific sector personnel left Kurchatov, a considerable part of instrumental base was removed. Laboratories of the scientific sector and of the military unit comprised scientific and apparatus base of the IRSE. Consequently, the apparatus base of the Institute was significantly improved upon implementing a series of international projects and receiving a series of international grants under the International Scientific and Technical Centre, as well as NATO and IAEA Projects.

The basic scientific direction of activities of the Institute is concluded in comprehensive research of the former Semipalatinsk Nuclear Test Site (STS), elaboration and implementation of activities on stabilization of radioecological situation on the territory of STS and adjacent territories.

The number of personnel of the Institute amounts to more than 190 employees, including 4 candidates of Science, 22 scientific officers, and 82 professionals with scientific degree.

The Institute of Radiation Safety and Ecology has licenses:

- For dealing with ionizing radiation sources (IRS), including storage of radioactive agents, application of IRS, their storage and accounting;
- For dealing with radioactive waste, including decontamination of rooms and equipment, waste collection and sorting;
- For rendering services in the field of nuclear-power engineering, including radiological monitoring of territories; conduction of examinations, analysis and assessment of radiation safety; radiation rehabilitation and reclamation of territories;
- For radiological and radio-ecological tracking in works, including activities on the territories of former nuclear test sites and other territories, contaminated due to nuclear explosions conduction.

Laboratories of the Institution are certified to carry out radiative, radiochemical and spectrometric tests, including:

- Determination of indicating of capacity of an ambient dose of X- and Y-Testing of soil, water, products of food industry and agricultural production, vegetation, construction materials for allowance of specific activity.

The Institute maintains close cooperation with national organizations and with international ones as well such as the International Atomic Energy Agency (IAEA), the International Scientific and Technical Centre (ISTC), NATO, research laboratories in the USA and institutes of the Russian Scientific Academy (RSA), etc.

Results of scientific researches are reported annually at nationwide and international scientific and practical conferences and seminars on problems of radioecology and radiobiology. Three international conferences “Semipalatinsk Test Site. Radioactive researches and problems of non-proliferation” have been conducted on the basis of the Institute. During the years of its work, the Institute issued more than 230 publications.

Kazakhstan at the Head of Nuclear Renaissance

By Grahame Bennett

The nuclear power industry is entering its renaissance. And Kazakhstan is a global leader in the quest to provide the nuclear power that will satisfy the world's voracious need for energy.

The damage inflicted by fossil fuels on the environment, along with climate change, has stirred our collective conscience, creating a sense of urgency for carbon-free alternatives to generate the electricity we need. Oil and coal resources are dirty and dwindling. Green energy technologies that rely on sun, sea, or wind are helpful but not viable options for everyone. But nuclear power is clean, safe, very cheap to run, and can be available globally. And it is in demand.

As nations turn to nuclear power to produce the electricity their growing cities demand, they need raw materials. Enter Kazakhstan: The Central Asian nation has newly emerged as the world's top supplier of the uranium ore that fuels some 440 civil nuclear reactors in more than 30 countries.

But its nuclear ambitions are greater than that. The country ambitiously aims to participate in all phases of the nuclear power cycle: It wants not only to mine uranium, but it also wants to process and enrich that energy metal, and even to build and sell nuclear reactors.

How times have changed

It wasn't long ago when the world was ignorant about the health hazards of radioactive materials. A hundred years back, girls were painting their fingernails with radium so they lit up in the dark. And companies sold drinks spiked with the radioactive element as an elixir of health and long life.

But naiveté is one thing. A darker side would show itself.

Scientists had managed to split uranium atoms by slamming neutrons into them, breaking their nuclei into particles, which hurled their neutrons at more uranium atoms, creating a chain reaction releasing radiation and heat.

The world was shocked by the consequences inflicted on man and nature by the atomic bombs dropped on Japan in 1945, and the terror of nuclear disaster at the Chernobyl reactor in 1986.

Kazakhstan understands as clearly as anyone the horror of misguided reasons for splitting the atom – the process of nuclear fission.

During the Soviet era, Kazakhstan's vast arid steppes hosted a laboratory for atomic scientists. Near the city of Semipalatinsk in the north-east of the Kazakh republic, the Soviet Union exploded some 600 nuclear devices in a total of 456 rounds of test over a period of 40 years – many underground, some in the air.

The full horror only came out after the fall of the Soviet empire – in poisoned earth, rivers and lakes, and children suffering from cancer and birth defects.

Naturally the public and political groups in the country became vehemently opposed against nuclear energy.

When the USSR disintegrated in 1991, Kazakhstan was left sitting on an abandoned stockpile of 1,410 nuclear warheads – enough to make it the world's fourth nuclear power – and thousands of tons of nuclear waste,.

President Nursultan Nazarbayev had a decision to make. He chose to disarm. He closed the Semipalatinsk test site and sent the nuclear ordnance back to Russia to be destroyed. An aging Soviet BN-350 nuclear reactor, built in 1972 at Aktau on the Caspian Sea, was shut down.

To this day, Kazakhstan operates no commercial nuclear reactors.

In pril 2010, U.S. President Barack Obama described Nazarbayev as “one of the model leaders” on nuclear safety issues.

Speaking at a 47-nation nuclear security summit in Washington, D.C., Obama went on to say that the event wouldn't have happened “without [Nazarbayev's] presence.”

A statement issued after a bilateral meeting between the two leaders at the summit read: “The United States welcomed Kazakhstan's emergence as the top global uranium producer as an important development for diversification of global energy supply.”

Earlier in April, UN Secretary-General Ban Ki-moon visited the defunct test site at Semipalatinsk.

Nazarbayev showed “extraordinary leadership”, he said. Closing the test site and removing nuclear weapons was “a visionary step, a true declaration of independence.”

“Here today in Semipalatinsk,” Ban continued, “I call on all nuclear weapons states to follow suit of Kazakhstan ... Kazakhstan has led by example.” Time shows us that Nazarbayev had done the right thing by rejecting nuclear proliferation.

However, the uranium mining industry languished – along with the rest of the economy – through the 1990s under strong national antipathy to nuclear power, even for civil uses.

Although the ex-Soviet republic was sitting on huge reserves of uranium ore, mining methods were primitive and very expensive. Furthermore, there were no markets.

But in 1997, a national atomic energy company, KazAtomProm, was formed. It ramped up uranium output targets, and the company fervently opened new plants. The results over the following decade or so have been staggering by anyone’s standards.

Thanks must also go to developments in technology.

Unlike the environmentally damaging drill-and-blast methods of coal miners that leave open pits and deep mine shafts, uranium is extracted by pouring leaching solution into narrow drill holes into ore deposits. The uranium is dissolved by the leaching solution and sucked back to the surface as a yellow sludge mix, in a process called in-situ leaching.

Armed with post-Soviet mining methods and free-market forces, the company has set target output levels and nearly always met or exceeded them – in 2001 KazAtomProm extracted 2,000 metric tons. In the following four years it more than doubled that figure, by producing almost 4,400 tons in 2005. Three years later it nearly doubled output again, to 8,521 tons in 2008, placing it third after Canada and Australia. In 2009, the company boosted output to 13,900 tons and became the world’s top uranium producer by providing almost 28 per cent of the world’s needs.

Early results for 2010 look promising. First-quarter 2010 results show year-on-year output increased by 63 per cent to over 4,000 tons.

Yet Kazakhstan and the other 17 uranium-producing nations combined still cannot match demand for the ore. In 2008, total extraction of nearly 44,000 tons provided short of 70 per cent of global need.

Demand is growing

The World Nuclear Association (WNA), a confederation of nuclear power companies, estimated that the world's reactors are currently consuming around 70,000 tons of uranium a year.

Three dozen new reactors are under construction and nearly 300 more are planned.

To try and keep up, KazAtomProm says it will supply 30 per cent of the world's uranium by 2015 and 30,000 tons by 2018.

But while the world's powers support the use of civil nuclear energy by countries that comply with International Atomic Energy Agency (IAEA) regulations and the nuclear Non-Proliferation Treaty, Iran's nuclear ambitions worry the international community.

That is why in a meeting with Iran last October, the permanent UN Security Council members and Germany, the so-called P5+1 countries, offered a fuel swap proposal.

Under the deal that would provide Iran with the fuel it needs for a civilian nuclear program, Tehran would send low-enriched uranium abroad, where it would be further enriched and returned ready to use. After responding with mixed signals for months, Iran finally rejected the offer this May 1.

Nazarbayev has proposed that Kazakhstan host an international nuclear fuel bank. The facility would supply fuel to countries – possibly even Iran – that sign up to the initiative, which would come under complete IAEA jurisdiction.

The proposal has not been greeted enthusiastically by some developing countries who say they have a right to produce their own nuclear fuel, even though the bank would not require the countries to renounce their right for processing uranium.

Astana – the capital of Kazakhstan – itself wishes to participate in the full nuclear cycle – from mining to producing the end product, enriched uranium.

Currently, KazAtomProm participates in an integrated fuel production cycle with Russia.

The ore mix that KazAtomProm extracts by in-situ leaching is dried into yellowcake and sent to Russia where it is converted into a gas to remove impurities, solidified, and enriched.

Kazakhstan converts the higher grade uranium into fuel pellets, which Russia inserts into fuel rods, ready for nuclear reactors.

Even with the ambition of direct involvement in the whole complete fuel chain, Astana agrees that Russia should remain integrated to alleviate any concerns about proliferation by the international community.

The two nuclear cycle partners have already embarked on a joint project to construct an enrichment plant in Angarsk, Siberia.

Beyond extracting the ore, Kazakhstan's nuclear energy company is seeking joint ventures to help it achieve the targets to supply 12 per cent of the world's uranium conversion demands, 6 per cent of its enrichment needs, and 30 per cent of the ready fuel for nuclear reactors.

Kazakhstan's only nuclear reactor, located in Aktau on the Caspian Sea, was closed in 1999. Each day for 27 years, it had produced up to 135 megawatts of electricity and 80,000 cubic meters of potable water – the world's only reactor at the time that could desalinate water.

Plans in 2002 to build a reactor at Lake Balkhash in the east of the country were met with a public outcry and strong lobbying from the powerful coal industry.

The country is heavily reliant on coal for 70 per cent of its power needs, while the rest comes from hydroelectricity, gas, and oil.

Feasibility studies are being made for a fourth generation power plant in Aktau or Lake Balkhash, the general-director of the National Nuclear Center (NNC) Kairat Kadyrzhanov said recently.

He told Interfax-Kazakhstan that the NNC along with Japan Atomic Energy Research Institute (JAERI) are looking to build a so-called High-Temperature Gas-Cooled Reactor.

"JAERI has made a commitment to finance 50 per cent of the project valued at nearly \$500 million," he said.

Among other negotiations and deals it has struck, Astana has been in recent discussions with South Korea on jointly developing a thermal power plant in the Central Asian country.

The Korean invention, an advanced 330-megawatt pressurized water power reactor, the System-Integrated Modular Advanced Reactor, could greatly advance uranium processing in Kazakhstan.

A number of countries have also expressed interest in the use of nuclear reactors as an energy source for seawater desalination.

KazAtomProm sees the need to build small nuclear plants with 50-100 megawatt output to provide energy for its small towns that currently rely on electricity supplies from neighbouring countries.

Kazakhstan would also like to design, build, and sell small- and medium-sized reactors – up to 400 megawatts – to third world countries. The IAEA has noted that there is a market for such power plants, while vendors have failed to tap the market.

But other challenges remain.

The fuel cycle produces radioactive waste, uranium that is left over from the enrichment process. Kazakhstan still has significant stockpiles of nuclear waste remaining from the Soviet era.

Besides being a health hazard, this waste is a potential target for criminals or terrorists wanting to steal or buy from corrupt officials to make a ‘dirty bomb’.

“There have been 18 known cases of theft or loss of highly enriched uranium or plutonium, and perhaps others not yet discovered,” the White House said in an April 13 press release, referring to the global security challenges.

“Any country could be a target, and all countries would feel the effects,” the statement read. The solution, the press release said, “is to keep all weapons and materials, as well as the know-how to make and use them, secure. That is our first and best line of defense.”

Nazarbayev’s long track record of non-proliferation and nuclear responsibility has been noticed by Obama, whose foreign policy legacy looks likely to be his non-proliferation agenda, a U.S. political observer noted.

Obama and Nazarbayev both affirmed their vision of a world without nuclear weapons. As the two presidents put it in their joint statement during last month’s summit: “The world’s ultimate goal – full nuclear disarmament.”

Kazakhstan holds 21 per cent of the world’s uranium reserves and looks set to remain its leading provider for the foreseeable future. The country is forging bilateral deals to engage in every link of the fuel chain and is enjoying strong political support from the United States.

Clearly, Kazakhstan stands ready to help lead the global nuclear power renaissance.

Former Soviet State Incubating High-Tech Businesses at Former Nuclear Weapons Site

By W. David Gardner

KURCHATOV – A few years ago, the nuclear research center here was dying. Its once thriving population of 40,000 was reduced to 5,000 and appeared to be headed to zero. The town of Kurchatov, where much of the Soviet Union's nuclear research was carried out during the Cold War in preparation for more than 400 nuclear test explosions, was returning to its origins as a place of oblivion, just another spot on the desolate steppe where little more than feather grass grows.

Long gone were the town's famous nuclear scientists – Igor Kurchatov, the director of the Soviet nuclear bomb projects and after whom the town is named; Yuli Khariton, father of the Soviet atomic bomb; and Andrei Sakharov, who originated the Soviet H-bomb. Gone, too, was Soviet secret police chief Lavrenti Beria, whose brutally efficient administrative management of the nuclear program delivered the bombs on time.

Today, Kurchatov, in Kazakhstan's Semipalatinsk region, is undergoing a remarkable renaissance as old Soviet army barracks are refurbished to house scientists, technicians and businesspeople who will work in the recently launched Park of Nuclear Technology, a sort of Silicon Valley on the steppe. Entrepreneurs are already in residence in a sprawling complex of laboratories and development workshops that was once the site of Soviet atomic weapons programs designed to combat capitalist nations.

Kazakhstan President Nursultan Nazarbayev and his science advisors chose Kurchatov as the site of the country's pioneering high-tech innovation center primarily because of its proximity to the country's scientists at the Kazakhstan National Nuclear Center (NNC), which has also been enjoying a renaissance of sorts in a cluster of new buildings. Whereas the NNC is focused on basic research, nuclear safety and nuclear energy projects, the Park of Nuclear Technology's purpose

is to be an incubator of profitable businesses.

“The main facilities and radiation technologies of the Park of Nuclear Technology were designed and developed by scientists of the National Nuclear Center,” Erlan G. Batyrbekov, first deputy in Kazakhstan’s Ministry of Energy and Mineral Resources and an NNC spokesman, said via e-mail. “Now scientists of the NNC together with the technology park are working in collaboration at two projects: the Radiation Sterilization Center and the NORM (naturally-occurring radioactive materials) Waste Cleaning Facility.”

Plans for this business and technology center were promulgated by Nazarbayev in 2003, in an act that was initially viewed as folly but after some recent successes is now considered clairvoyant. Recent funding for joint ventures has come from South Korean, Russian, German and Ukrainian sources. Six companies have been launched and are already producing products. A recent trade show held at the center attracted representatives from 40 global companies.

These six Semipalatinsk start-ups are already well past the liftoff stage. Using industrial electron accelerators, the companies have developed an array of products – many of them irradiated – initially to meet needs in Kazakhstan and its trading zone of neighboring countries. Irradiation can be used to, among other things, kill bacteria or improve the mechanical, thermal and chemical properties of polymer-based products. One company backed by South Korean venture capital is producing polymer roofing and waterproofing materials designed to be tougher than competing products already on global markets. In fact, the harsh steppe climate inspires the development of extra-sturdy products, because they are more in demand there. Some of the companies are using ELV-4 and ILU-10 electron accelerators to develop sterilized medical instruments and supplies as well as to irradiate food and other agricultural products. Another effort seeks to develop nuclear-based pharmaceuticals.

Much of the early progress at the technology park is based on experience acquired by scientists at the NNC, also located in Kurchatov. In a recent presentation in Kurchatov, Kairat Kadyrzhanov, director general of the NNC, noted that Kazakhstani scientists acquired on-the-job nuclear training while they worked to dispose of the country’s formerly huge nuclear arsenal, the fourth largest in the world when the Berlin Wall came down and the Cold War came to a close.

“Kazakhstan has 18 to 20 percent of the world’s uranium deposits,” according to Kadyrzhanov, who added that the country has put significant effort into developing nuclear safety measures in recent years and is now well positioned to participate in the peaceful development of nuclear energy. Kazakhstan closed its sole nuclear energy facility, near the Caspian Sea, years ago, and its abundance of oil and gas reserves removes any immediate rush to produce a reactor of its own, although Kurchatov scientists have voiced their hopes to build a mini-reactor for nuclear power in the 2015-2018 timeframe.

“Earlier Kazakh scientists have sent most of their know-how to a desk drawer,” according to Abzal Kussainov, president of the business center. “Now in the technology park they will be able to test and implement their own discoveries. Our goal is to attract private investment and scientific ideas.”

Kussainov envisions the once secret city of Kurchatov becoming an open “scientific center” where investors from many countries can participate in the technology park’s start-ups. There are plans to broaden the scale of education and training programs already underway. The renovation of former Red Army barracks, also underway, will initially provide housing for some 1,200 employees, with more expected to come later. The production lines in the park’s Innovation Center look like ones that could be operating in California’s Silicon Valley or Boston’s Route 128 - except, of course, for the employees’ clothing. In winter, they are bundled up with big fur hats to protect against the steppe’s regular minus -45-degrees Celsius temperatures. In summer the temperature often rises to 45 degrees Celsius.

Meanwhile, Kazakhstan’s neighbor to the north, Russia, is also looking into the value of high-tech innovation centers, starting one up on the outskirts of Moscow. Recently, Russian President Dmitry Medvedev toured Silicon Valley for inspiration and partners, enlisting the aid of Google and Intel.

There is an element of the tortoise-and-the-hare race in all this: as Russia now rushes to create its high-tech innovation center, the former Soviet Republic of Kazakhstan has been plodding toward its own for the past several years. Kazakhstan might beat its former overlord to it.

Note: This essay was originally published in Scientific American, a division of Nature America, Inc. on July 14, 2010.

Kazakhs Will Boost Uranium Production, Build Nuclear Industry

By Kirill Yeskarayev

ASTANA – Kazatomprom, Kazakhstan's national atomic company, sets its sights high, and does not want to limit itself to producing raw materials for peaceful nuclear reactors. What it wants to produce is the reactors themselves.

“Kazakhstan at large and KazAtomProm in particular will not limit ourselves to just producing raw materials,” Vladimir Shkolnik, the president of KazAtomProm, wrote in an op-ed published recently in *Nuclear Power International*, a trade publication.

“Our plans, already being implemented in partnership with international companies such as Areva, Guandong Nuclear Power Corp., RosAtom, Toshiba and Sumitomo, foresee the production of highly technological products, including reactor fuel assemblies and, in the future, reactors themselves,” Shkolnik wrote.

“For that, Kazakhstan has the necessary potential, including raw materials, highly-professional specialists, political stability and reputation of a reliable partner in the field of a safe and peaceful use of atomic energy. In short, KazAtomProm, supported by Kazakhstan's government, is determined to continue to act as a responsible player on the international market, always advancing safe and peaceful use of atomic energy even as our uranium business grows.”

In fact, establishing a national industrial complex, competitive in both domestic and overseas markets, is the top goal of Kazatomprom, the national corporation to mine, import and export of uranium, rare metals, nuclear fuel, power plants, special equipment and dual-purpose materials.

According to Kazatomprom's 2010 company report, uranium production by all producers in Kazakhstan increased by almost 30 percent, reaching 17,803 tonnes of uranium. Over two years, 2009 and 2010, the volume of uranium mining in the country has doubled.

Excluding subsidiaries and joint ventures, Kazatomprom has sold

around 9,000 tonnes of uranium, while the value of orders to the national company at the end of year reached \$17 billion. In accordance with the report, as a result of growth in sales of uranium products the net profit of the company amounted to about KZT 53 billion, 24 percent more than in 2009 (KZT 147 = \$1). Kazatomprom now plans to invest more than KZT 341 billion in various projects in the next five years.

The company aims to realize the maximum profit from each kilogram of uranium extracted in the country, at every stage of the nuclear fuel cycle including conversion, enrichment, the production of nuclear fuel, and the manufacture of nuclear power plants.

According to the report, a number of large industrial projects were completed last year, including, the opening of an industrial complex and geo-technological facility at the Inkai uranium deposit.

Karatau LLP has expanded the research and industrial production of uranium at Station 2 of the Budenovskoye deposit. Catco LLP has increased the production capacity of Station 2 of Tortkuduk at Moynkum deposit. And the LLP Baiken-U has established a residential complex for 245 people at the rural district of BaykenzheZhanakorgan in the Kyzylorda region. Kazatomprom has also issued US\$ 500 million worth of Eurobonds with a five year maturity at the rate of 6.25 percent, organised by JP Morgan, BNP Paribas and Halyk Finance.

Kazatomprom and the Cameco Corporation are also working on a joint project of uranium conversion production. They have signed a memorandum of understanding to develop refinery production at the Ulba Metallurgical Plant (UMP), Kazatomprom's subsidiary, and to expand conversion capacity at the company's plant in Springfields, UK.

In the field of uranium enrichment, Russia's Rosatom and Kazatomprom reached a deal on alternative development of the Centre for Uranium Enrichment. According to a deal to be signed in 2011, shares in the main complex of the Ural Electrochemical Plant (UEP) in Novouralsk, Russia, will also be kept by Kazakhstan.

During President Nazarbayev's visit to France in October 2010, a number of key documents on cooperation were signed between Kazatomprom and its European partners, including an agreement on the joint production of fuel assemblies at the UMP between Kazatomprom and the French multinational industrial conglomerate, AREVA.

Kazatomprom and AREVA will own 51 percent and 49 percent

of the shares in that joint venture. They will start production of fuel assemblies with a capacity of 400 tonnes per year by 2014.

In 2010, the UMP, a sprawling plant in Ust-Kamenogorsk, completed certification of fuel pellets of uranium dioxide according to AREVA's specifications. UMP therefore now has the right to produce fuel for the French-designed reactors which are used worldwide.

UMP has also concluded an agreement on joint research work in the field of solar energy (photovoltaics) with the French Atomic and Alternative Energies Commission (CEA). It has signed a memorandum on establishing a joint Kazakh-French scientific laboratory of rare and rare-earth metals with the Bureau of Geological and Mining Research (BRGM). And it has also concluded a memorandum on organisation of higher education and advanced training for Kazakh nuclear industry personnel with the European Company for Strategic Intelligence (CEIS). Also, UMP and Japanese Nuclear Fuel Industries have completed certification of uranium dioxide powders produced in Kazakhstan for Japanese nuclear power plants. This will allow Kazakh-made nuclear fuel components to be supplied to the Japanese market.

UMP has also successfully certified its uranium fuel pellets with China Jianzhong Nuclear Fuel, a subsidiary of China's National Nuclear Company (CNNC). This has opened the way for a major project to supply uranium fuel pellets to the largest owner of nuclear power plants in China, China Guangdong Nuclear Power Corporation (CGNPC).

Kazatomprom does not limit itself to nuclear industry. In June 2010, it launched two autonomous energy complexes based on wind and solar energy in Astana, the capital of Kazakhstan. It also launched Legmash LLP to produce heat pump systems. And it has started serial production of wind-driven power plants at Kazatomprom's subsidiary, Mashzavod.

Kazatomprom has also launched the SARECO LLP joint venture (JV) with Japan's Sumitomo Corporation. SARECO will operate within Kazakhstan to start manufacturing products based on rare-earth metals. Another joint venture between Kazatomprom and Japan's Toshiba Corporation is at the final stage of formation.

Note: This essay was originally published in The Astana Times newspaper on March 2, 2011.

Nuclear Technologies Park at Kurchatov Picks up New Profitable Projects

By Kirill Yeskarayev

ASTANA – New technologies are being born at the vast Park of Nuclear Technologies complex in Kurchatov which includes laboratories and experimental plants.

The idea to establish a park of technologies in Kurchatov, the former secret nerve centre of the Soviet nuclear testing programme at the nearby Semipalatinsk nuclear test site, was first suggested in 2003. The park was established in 2005.

At first, some international experts reacted to the idea with a great deal of scepticism, the Liter national daily reminds in an article published on 2 April. After a series of apparent successes, however, they now consider the park as a rather visionary and promising project in Kazakhstan.

The innovative aspect of the project is the main requirement in the park which is to create unique ventures together with partners from different countries. And this model seems to be working.

Techno-park's companies, using industrial electron accelerators, have created a range of products many of which are designed for irradiation, which, among other purposes, can be used to kill bacteria and improve mechanical, thermal and chemical properties of products which are based on polymers. Companies established by the park have certified many manufactured products, participate in government's procurement tenders and have already found customers.

During the five years of existence, the Park of Nuclear Technologies has managed to establish a modern infrastructure, install the main facilities, organise a number of productions, and now makes returns to the budget once invested in its development.

Heads of several companies established at the park give very positive and promising estimates of its work.

“Modern infrastructure, highly skilled personnel and investment opportunities of the park have allowed our company to quickly establish the first in Kazakhstan production of radiation-cross-linked foamed polyethylene which meets all the international quality standards,” Director of the joint Kazakh-Russian company KazFoam, created in 2009 at the Park, Dmitry Boltovskiyy said. “I believe the Park of Nuclear Technologies is a successful platform for the development of innovative, high-tech companies in Kazakhstan,” he added.

Sergei Kotov, Technical Director of the joint Kazakh-Ukrainian enterprise Dempurg-PNT said, “Business is being done here and there are several reasons for that. The first, most important reason in my opinion is the funding, which virtually any project capable of proving its viability and availability of the innovation component can receive from the park.”

“Geographical location, if you look at the map, is not such a weak aspect of Kurchatov, too,” Kotov continued. “Nearby, within three-hour drive, two powerful industrial centres of Kazakhstan – Pavlodar and Ust-Kamenogorsk are located, as well as the city of Semey (former Semipalatinsk) is also only 130 kilometres from Kurchatov.”

The park’s location is also very convenient for doing business with Russian partners because the centre of Siberia is just 800 kilometres away.

“In addition, the modern building of the industrial park is also worth mentioning because it is adapted to accommodate plants of different size and orientation. The cost of rent in the early years of a company is significantly below than any other facilities of such level. Based on these factors, it is clear the park in Kurchatov can become the right place to start production-oriented business,” Kotov noted.

“Park of Nuclear Technologies is a young company, nonetheless, it develops in a confident and dynamic pace. Today, the company has a modern infrastructure, makes extensive use of nuclear physics installations, has organised around 10 enterprises which not only managed to produce new materials but also have become profitable,” CEO of another joint Kazakh-Russian company Xsenon Aliya Sarsenbayeva stated.

“Furthermore, in December 2010, the park was awarded with a certificate of compliance with the ISO 9001:2008 (registration number 7510070395) standard. The certificate confirms the compliance with the

international quality level of work carried out in the area of research, examination and selection of innovative projects, conduction of market research and business plan development, investment of innovative projects, search for investors and co-investors, irradiation of materials with a directed flow of electrons to provide them with new physical and chemical properties or conduct a radiation sterilisation,”Aliya Sarsenbayeva emphasised.

“Today, the Park of Nuclear Technologies is a steadily developing platform for establishment, strengthening and restoring of high-technology businesses,” Director of a joint Kazakh-Russian company MunayGazIzolyatsiya Daniyar Dzhumatayev said. “Due to effective management and coordinated work of employees of the park, the brand has become known not only in Kazakhstan but also far beyond our borders. Generally, a lot can be said about the well-developed external relations of the park, but the positive feedback of the participants of the international conference “Innovative Technologies. Reality and Perspectives”, held on September 20-23, 2010, speak for themselves,” Daniyar Dzhumatayev highlighted.

“The Park of Nuclear Technologies successfully and promptly implements innovative technologies, thereby, paving the way for promotion of science and business in Kazakhstan. After all, success comes when opportunity meets preparedness,” Zarina Dautova, an accountant of a Park-based Kazakh-Korean Kaz-Kor NuTech Company, noted.

Note: This essay was originally published in Astana Calling on April 5, 2011.

Chapter VI

Views from both
Inside and Outside:
Learning from Kazakhstan's
Example Is Critical

Political Will, Collective Creativity Needed to Safeguard Nuclear Materials on a Global Basis

U.S. Senator Richard Lugar

I am honored to be invited by the Library of Congress to offer remarks on the occasion of the official launch of a biography of President Nazarbayev of Kazakhstan written by Jonathan Aitkens. I want to focus my brief remarks on my work with the President on denuclearization and nonproliferation issues which constitute a key part of Aitkens' biography.

In the early 1990s, I engaged in a form of personal diplomacy with President Nazarbayev, as well as leaders in Ukraine and Belarus, to convince him to liquidate his country's arsenal with the aid of the United States and to accede to the Nuclear Non-Proliferation Treaty as a non-nuclear state. The President immediately saw the benefits of such undertaking, not only for his own country of Kazakhstan but for his immediate neighbors and the rest of the world. This action also reflected one of the initial accomplishments of the so-called Nunn-Lugar program.

In a similar vein, I am pleased to report that just last month, ground was broken in Almaty for a central reference laboratory that will be part of an international effort to detect, diagnose, and respond to natural and bio-terrorist infectious disease outbreaks. This laboratory is the culmination of efforts by President Nazarbayev to cooperate with us to safely and securely store disease pathogens and to develop a robust disease detection and surveillance network.

I think back to August 2003 when I visited the Kazakh Science Center for Quarantine and Zoonotic Diseases in Almaty. I had urged President Nazarbayev at the time to amend the cooperative agreement between our two countries in order to expand beyond nuclear weapons and materials into areas of biological threats, and I announced at that time that the Nunn-Lugar Program was prepared to construct such a

library. I returned to Kazakhstan 16 months later for the signing of that new, extended bilateral agreement. Construction started last month!

The President of Kazakhstan and others just met here in Washington as cooperative partners united in a common interest to reduce the threats posed by uncontrolled nonproliferation of nuclear materials. They met here in search of the same kind of political will and collective creativity that made the cooperative programs championed by President Nazarbayev and the Nunn-Lugar program such a success. The President of the United States has ensured the availability of sufficient resources to meet the challenge of collecting and safeguarding nuclear and other materials on a global basis. My message to the assembled Heads of State yesterday was simple: Just say “Yes”, and together we can accomplish this strategic objective together. President Nazarbayev did, and for that, we will all be eternally grateful.

Remarks by U.S. Senator Richard Lugar
at the Library of Congress on the occasion of the official launch
of a biography of President Nazarbayev of Kazakhstan
on April 14, 2010.

The Hard Nuclear Threats

William Courtney

The New START agreement signed by U.S. President Barack Obama and President Dmitry Medvedev is a notable achievement. If the U.S. Senate ratifies it, the treaty will instill confidence among the 189 signatories to the Nuclear Nonproliferation Treaty that the nuclear superpowers are taking responsible steps toward nuclear disarmament.

The treaty does not, however, directly address the most difficult nuclear threats that lie elsewhere. Aggressive regional powers like Iran, totalitarian states like North Korea and terrorists organizations gaining access to nuclear weapons are the real danger.

At this week's nuclear security summit in Washington, Obama should lead participants to outline a convincing roadmap for addressing the hard cases. Otherwise, international momentum to lessen nuclear dangers could weaken.

History offers useful insights into nonproliferation politics. In the mid-1970s, the United States leaned on West Germany and Brazil to void a secretly negotiated contract involving the transfer of uranium enrichment and plutonium reprocessing technologies. Such a transfer could have helped Brazil eventually produce fissile materials for nuclear weapons.

At the time, nationalistic Brazilians were egged on by a military regime facing a legitimacy crisis and the charged emotions of a confrontation between the North and South. Brazilians were justifiably proud of their country's growing power. In early 1977, Deputy Secretary of State Warren Christopher flew to Bonn and Brasilia to seek cancellation of the contract and was summarily rebuffed. Brazilians were indignant, claiming the United States sought to keep them down.

Fast-forward to 1992, months after the Soviet Union collapsed. U.S. influence was at a peak. Kazakhstan needed foreign oil companies to

help develop its huge reserves of Caspian oil. Fortunately, Kazakhstan was neither gripped by nationalism nor faced a serious external threat. Secretary of State James Baker and Vice President Al Gore personally engaged President Nursultan Nazarbayev. He readily agreed to the removal of all nuclear weaponry to Russia, the first act of unilateral nuclear disarmament in history.

One of the main lessons from these cases is that political liberalization is important. In 1983, after the Argentine military regime ceded power to constitutional rule, its nuclear weapons program atrophied. Similarly, after military rule gave way to democracy in Brazil in 1985, its nuclear weapons program dwindled.

Western influence is valuable. Western broadcasting and dissident activity spurred by the 1975 Helsinki Final Act helped undermine Soviet authority. Western support for the independence of Belarus, Kazakhstan and Ukraine and the prospect of joining Western political and economic institutions helped these countries realize the benefits of giving up nuclear weapons. Since these countries did not view the West as a threat, they saw little need to retain nuclear weapons on their territories. In South Africa, the apartheid regime destroyed its nuclear arsenal prior to multiracial elections in 1994. At the same time, India and Israel show that democracy does not necessarily guarantee nuclear abstinence.

There are five main steps the United States can take to help reduce the danger of nuclear proliferation:

1. Promote democracy and expand Internet and cell phone access in Iran and North Korea.

2. Maintain U.S. security guarantees, including its “nuclear umbrella,” for key allies, such as Japan, South Korea, Taiwan and Turkey. U.S. support has played a key role in these countries’ decisions to stay non-nuclear.

3. Facilitate Arab-Israeli peace and help Muslims benefit from a globalizing world.

4. Expand the Nunn-Lugar program and similar initiatives to interdict illicit nuclear trafficking.

5. Mobilize world opinion against secret nuclear work in Iran and aid opponents of its regime and the brutal Revolutionary Guards.

Tackling hard nuclear threats is a difficult task. The United States and the West must employ all of their strengths, including their commitment to democracy and respect for human rights.

William Courtney led the U.S. delegation to implement the Threshold Nuclear Test Ban Treaty and served as ambassador to Kazakhstan and Georgia.

Note: This essay was first published in the Moscow Times newspaper on April 12, 2010.

New Opportunities for Nuclear Security

By J.D. Waverley

This week, 47 countries are gathering in Washington, D.C., for the Nuclear Security Summit hosted by President Barack Obama, among them the United Kingdom. The summit, followed by the Review Conference of the Nuclear Non-Proliferation Treaty in May, provides an important springboard to reinforce global efforts to combat the proliferation of nuclear weapons and nuclear weapons materials.

Effective deterrent and policing measures are urgently needed to criminalize illicit trade of nuclear weapons and materials together with stiffer consequences for noncompliance by state actors. Last week's signing in Prague of a new nuclear reduction treaty by Obama and Russian President Dmitry Medvedev reverses the erosion or expiration of cornerstone treaties and verification regimes negotiated by decades of civil servants and military officials. The 30 percent reduction in nuclear warheads Russia agreed to, together with the White House announcement of new policy commitments to restrict the use of nuclear weapons and move toward a nuclear-free world give fresh hope after a period of stagnation in this area. Galvanized by a wide range of concerns including Iran's nuclear programs and the need for immediate and stronger mechanisms to prevent access by non-state and terrorist groups to nuclear weapons, global leaders are coming to the table with a new sense of purpose.

While global nuclear disarmament remains a long-term aspiration rather than anything more immediate, U.N. Secretary-General Ban Ki-moon gave a vivid reminder this week that unilateral nuclear disarmament took place on a significant scale after the collapse of the USSR. Visiting Kazakhstan's Semipalatinsk, the center of all former Soviet nuclear testing and the core of its nuclear military-industrial complex, Ban praised President Nursultan Nazarbayev's visionary

leadership in renouncing the world's fourth-largest nuclear arsenal in 1991 and decommissioning Semipalatinsk, and for pioneering a Central Asian Nuclear-Weapon-Free Zone.

Kazakhstan's decision to declare and remove, rather than to ship and sell, its later discovery of a sizable cache of weapons-grade uranium that Harvard's Belfer Center for Science and International Affairs Director Graham Allison called "sufficient for production of 100 additional nuclear weapons," sets another example that is likely to be unprecedented in the history of arms control. This also explains why Ban urged President Nazarbayev to step forward as "the strongest moral voice," one who answered public opinion and a nationwide popular movement (the largest anti-nuclear-weapons movement in history) after suffering decades of testing fallout, instead of numerous, generous offers to purchase materials and technology.

This material was successfully removed in the early 1990s in a made-for-cinema initiative called Operation Sapphire, conducted in consultation with Russia and the United States to transfer and safeguard fissile materials for storage. The lives lost or dedicated quietly by Kazakhstan, for little political or financial gain, in its long march toward denuclearization merit greater recognition than they have so far received by the outside world.

The significance of these choices cannot be overestimated. Even a small portion of what Kazakhstan transferred to safekeeping would, in the wrong hands, have leveled Manhattan rather than just the World Trade Center on 9/11. Kazakhstan remains one of the few examples that revive and live up to the spirit of the Pugwash Conferences founded by Nobel scientists Bertrand Russell, Albert Einstein, Joseph Rotblat and others, days before Einstein's death as a parting gift to rein in the weapons of mass destruction that scientists had created, even if they could not admittedly put that genie back into the bottle.

Often overlooked, Central Asia's Nuclear-Weapon-Free Zone is one of five nuclear-free zones globally, with Latin America, the South Pacific, Southeast Asia and Africa. All five Central Asian states committed themselves in 2006 not to manufacture, acquire, test or possess nuclear weapons over the region's 4 million square kilometers – notable for a region that borders Russia, China, Iran, Afghanistan and Pakistan.

The legitimate use of nuclear fuel for peaceful energy needs remains among the most critical issues on the nonproliferation agenda. Global leaders must consider swift and resolute action on the proposal to establish an international nuclear fuel bank under the auspices of the International Atomic Energy Agency. This would allow many countries to pursue legitimate energy requirements and gain access to nuclear fuel without the need to carry out domestic enrichment or reprocessing, with all the security concerns that follow. Failure to put in place logical mechanisms to structure the development of peaceful uses of nuclear energy penalizes the responsible state actors seeking to use nuclear fuel for legitimate purposes and slows global cooperation on stringent safety mechanisms and prerequisite controls.

Kazakhstan, the world's largest producer of uranium, has offered to host the nuclear fuel bank as a secure and open global resource. As part of its efforts to strengthen the NPT, it has pushed for adoption of the Fissile Material Cutoff Treaty, an international treaty to prohibit the further production of fissile material for nuclear weapons or other explosive devices and might usefully address the future of more than 2,000 tons of fissile material lying unused around the world.

As the international community looks at these issues over the coming days and weeks, Kazakhstan's leadership role in the area of nonproliferation merits close attention.

J.D. Waverley is a member of the House of Lords in Great Britain and chairman of the All-Party Parliamentary Groups on Central Asia, Kazakhstan, Uzbekistan, Turkmenistan, Kyrgyzstan and Tajikistan.

Note: This essay was originally published in the Roll Call newspaper on April 14, 2010.

The Way Towards a World Free of Nuclear Weapons

By Struan Stevenson

In his recent article ‘Global Peace and Nuclear Security’ President Nursultan Nazarbayev of Kazakhstan articulates a series of important points concerning nuclear security and he continues to display Kazakhstan’s commitment to nuclear non-proliferation.

President Nazarbayev states that a world free of nuclear weapons is ‘a grandiose goal which cannot be reached in short historical terms’ but can only become a reality ‘through joint efforts of all countries and nations’.

This point was firmly underlined on Tuesday 6th April when the UN Secretary General Ban Ki-moon visited ‘Ground Zero’ in East Kazakhstan, where the Soviets tested more than 600 nuclear bombs. The UN Secretary General reaffirmed his own commitment to a world free of nuclear weapons and praised Kazakhstan and President Nazarbayev for their leadership role on nuclear non-proliferation.

Ban Ki-moon chose Kazakhstan as the appropriate place to call for global nuclear disarmament, in recognition of President Nazarbayev’s unique role in having closed the Soviet atomic test site on 29th August 1991 and cleared nuclear weapons from his territory. The UN Secretary General even announced that he would urge the United Nations to adopt 29th August as global ‘Nuclear Non Proliferation Day’.

Ban Ki-moon’s visit and President Nazarbayev’s article were timely, coming ahead of major talks between the United States and Russia in Prague on 8th April which concluded with the signing of a treaty that will slash nuclear arsenals in both countries.

Ahead of the Nuclear Security Summit on April 12th-13th, which will be hosted by President Obama in Washington, it is particularly pertinent that President Nazarbayev recognizes the need for all states to be involved in issues of nuclear non-proliferation, not just global powers or states that possess nuclear technology.

President Nazarbayev is certainly a voice of experience when it comes to these issues. The world should sit up and take notice. The

legacy of 40 years of uninterrupted nuclear weapons testing, which the USSR conducted from 1949 until 1990 in the Semipalatinsk region of East Kazakhstan, stands as an abject lesson to the global community. Hidden from view, this top-secret site was subjected to 607 nuclear explosions, including 26 aboveground tests, 124 atmospheric tests and 457 underground. Cynically, the military scientists would wait until the wind was blowing in the direction of the remote Kazakh villages before detonating their nuclear devices. KGB doctors would then closely study the effects of radiation on their own population.

After widespread protests led by Nursultan Nazarbayev, President Gorbachev ordered a moratorium on all further tests in 1990. When the Soviet Union finally collapsed in December 1991, the departing battalions of troops and secret police who had guarded the 'Polygon' in East Kazakhstan, left behind a legacy of devastation and sickness. The 1.5 million population of the Polygon were subjected to the equivalent of 20,000 Hiroshima bombs. Seepage from the underground tests has polluted watercourses and streams. Farmland has been heavily irradiated. Radioactive contamination has entered the food chain.

Now cancers run at five times the national average. Cancers of the throat, lungs and breasts are particularly common. Twelve-year-old girls have developed mammary cancer. Birth defects are three times the national average. Babies and farm animals are born with terrible deformities. Children are mentally retarded and Downs Syndrome is common. Virtually all children suffer from anaemia. Many of the young men are impotent. Many of the young women are afraid to become pregnant in case they give birth to defective babies. Psychological disorders are rife. Suicides are widespread, especially among young men and even, alarmingly among children.

Iran and President Ahmadinejad should take note. Anyone tempted to develop nuclear weapons should visit the Polygon in Kazakhstan. The horrors of exposure to radioactive fallout are everywhere to be seen. These are the reasons why the international community must continue to follow the lead of Kazakhstan and must work towards the goal of nuclear non-proliferation that President Nazarbayev has called for.

Note: This essay by Struan Stevenson, Member of the European Parliament, was first published in the New Europe newspaper on April 11, 2010.

A Model for Curtailing Nuclear Proliferation

By Nursultan Nazarbayev

In February, Kazakhstan hosted a fresh round of talks between Iran and the group of six countries (China, France, Russia, the United Kingdom, the United States and Germany) on Iran's nuclear program. The next round of high-level talks start Friday, again in Almaty, amid signs that progress is possibly being made on this complicated and dangerous issue.

I offered Almaty as a venue for negotiations in the hope that the experience of our young country would be useful. Iran is our neighbor across the Caspian Sea. We respect the people of Iran and its great history and culture. We conduct continuous dialogue with Tehran on many aspects of regional security, including the nuclear issue, and we understand Iran's concerns. We are convinced that a fair and long-term resolution to all issues related to Iran's nuclear program is achievable only by peaceful and diplomatic means.

As the world's largest uranium producer, we support the peaceful use of nuclear power. No other country can match our achievement of voluntary denuclearization after we inherited the world's fourth-largest nuclear arsenal in 1991, when the USSR was dissolved.

More than 20 years ago, the people of Kazakhstan made a principled choice in favor of a non-nuclear-weapons world. That process began in Almaty in 1991 when I signed a decree to close the Semipalatinsk Nuclear Test Site. It put an end to 40 years of nuclear tests. The power of these explosions was equal to 2,500 atomic bombs dropped on Hiroshima. More than 1.5 million people suffered from those nuclear tests, and the radiation polluted an area roughly the size of today's Germany.

As an independent state, our position was clear: Kazakhstan should become a state free of nuclear weapons. We, therefore, signed agreements for the withdrawal of those nuclear weapons and their means of delivery from our country.

In exchange, Kazakhstan gained the status of a non-nuclear-weapon state and international guarantees of security and territorial integrity

from the leading nuclear powers – the United States, Russia, Britain, France and China. With the assistance of Russia and the United States, we eliminated the nuclear-weapons infrastructure on our territory.

In the following years, Kazakhstan became a leading participant in the global process of strengthening the non-proliferation regime. In 1994, I sanctioned the transfer of about 600 kilograms of highly enriched uranium, which would have been sufficient for the production of 20 atomic bombs, from Kazakhstan to the United States.

In 2005, with U.S. participation, we completed a project to blend down three tons of highly enriched uranium to a level of low enrichment for peaceful use.

Kazakhstan also became one of the initiators of a nuclear-weapon-free zone in Central Asia that was formed in September 2006. We now offer the experience gained from that process in the formation of other nuclear-weapon-free zones around the world, including in the Middle East.

Kazakhstan has also always supported the efforts of the world community on countering the threat of nuclear terrorism.

We remain deeply committed to supporting nuclear non-proliferation efforts as well as the ultimate goal of global nuclear disarmament. Therefore, I fully share the recent call by former U.S. secretaries of state and defense, George P. Shultz, William J. Perry, Henry A. Kissinger and Sen. Sam Nunn, for a global effort to reduce reliance on nuclear weapons.

As part of our efforts to support the peaceful use of nuclear technology to generate energy, we have proposed hosting in Kazakhstan a low-enriched-uranium fuel bank under the auspices of the International Atomic Energy Agency. I have personally discussed this idea with Iran's President Mahmoud Ahmadinejad.

At the same time, we regard as unjustified the argument of some countries that possession of nuclear weapons is an absolute guarantee for security.

Based on our experience of successful nation-building over the past two decades, we believe that real long-term guarantees of security result instead from sustainable social and economic national development along with peaceful and mutually-beneficial coexistence.

Kazakhstan supports the creation of a universal Global Nuclear Security System to combine effective observance of nuclear weapons

non-proliferation with clear international norms for the peaceful and safe use of nuclear energy. We think that a solution to Iran's nuclear program can be found in this context. Unfortunately, none of the existing bodies in the area of nuclear security and non-proliferation can resolve problems of this kind.

That is why I believe the international community should consider establishing a specialized independent nuclear arbitration body under International Atomic Energy Agency or United Nations auspices that would draw together the best global specialists in problems of nuclear security, energy and non-proliferation.

This new body could be given the authority to pass rulings on suspected violations of international agreements and rules in nuclear activities. These rulings would be the basis for introducing sanctions against states in violation of accepted international norms.

Much has changed in the world since Albert Einstein and other leading scientists pointed to the dangers of nuclear fission in 1946, and the world survived several decades of nuclear-armed superpower confrontation during the Cold War.

Note: This essay was originally published in The Washington Times newspaper on April 5, 2013.

Chapter VII

The ATOM Project: **A Global Campaign to Ban Nuclear Tests and Build a Nuclear Weapons Free World**

Kazakh President launches the ATOM Project

“I myself have no arms to hug you, but a heart as big as the open space of Kazakhstan ready to embrace the world for peace and nuclear disarmament.”

Karipbek Kuyukov, Honorary ATOM Project Ambassador

The ATOM Project, a new initiative to build global support for nuclear abolition, was launched at a parliamentary assembly in Astana, Kazakhstan on 29 August 2012, the International Day Against Nuclear Tests.

The project, entitled Abolish Testing: Our Mission (ATOM), highlights the catastrophic humanitarian consequences of the use of nuclear weapons – particularly the nuclear tests conducted in Kazakhstan that have adversely affected the health and lives of nearly two million people. The images of the survivors, though sometimes difficult to witness, are featured in the campaign in order to raise awareness surrounding the damage nuclear testing can cause.

President Nursultan Nazarbayev launched the project at the opening plenary of the assembly which included participants from over 70 parliaments from around the world including from nuclear weapons possessing states and nuclear allies, and which was organised by Parliamentarians for Nuclear Nonproliferation and Disarmament (PNND), the parliament of Kazakhstan, and the Nazarbayev Centre.

“We have an opportunity to once more remind the world about the tragic consequences of the nuclear testing, and push the global community towards more decisive actions to achieve final and definitive ban of such testing” said President Nazarbayev. “In this regard, Kazakhstan launches today the international campaign, the ATOM Project.”

German Foreign Minister Guido Westerwelle commended Kazakhstan at the assembly for launching the project and gave his support.

Parliamentary Appeal for Nuclear Abolition: From a Nuclear Test Ban to a Nuclear Weapons Free World

Parliamentarians, mayors, disarmament experts, and civil society representatives meeting in Astana, Kazakhstan at the international conference “From a Nuclear Test Ban to a Nuclear Weapons Free World” held on the International Day Against Nuclear Tests 29 August 2012, make the following appeal to parliaments and governments around the world:

Legislators and governments have a responsibility to protect the security of citizens living within their jurisdictions and to protect their respective localities and the global commons for future generations.

The catastrophic humanitarian and environmental consequences from the nuclear tests in Semipalatinsk, Kazakhstan - and from other nuclear test sites around the world - demonstrate that the effects of any use of nuclear weapons are uncontrollable in time and space.

The possession of nuclear weapons generates a threat of their proliferation and use that pose risks to current and future generations that are unacceptable, unnecessary, unsustainable and contrary to basic ethical considerations and international humanitarian law.

The approximately \$100 billion spent annually on nuclear weapons by a few States consumes intellectual, scientific and financial resources desperately required to meet the environmental, social and human security needs of the 21st Century.

Some nations, like Kazakhstan, have decided to unilaterally abandon the possession of nuclear weapons and achieved greater security and prosperity as a result. Many nations, including all those in the Southern Hemisphere and a number in the Northern Hemisphere such as in Central Asia, have enhanced their security through establishing regional nuclear-weapon-free zones.

The United Nations General Assembly and the States Parties to the nuclear Non-Proliferation Treaty have called on States to establish the framework for a nuclear-weapons free world through negotiations on a nuclear weapons convention or package of agreements.

United Nations Secretary General Ban Ki-moon has circulated a Five-Point Plan for Nuclear Disarmament which includes a Model Nuclear Weapons Convention as a guide to such negotiations. The UNSG's plan has been supported by unanimous resolution of the Inter-Parliamentary Union representing over 150 parliaments and by various resolutions in national parliaments.

We commend President Nursultan Nazarbayev and the Republic of Kazakhstan for leadership in the global nuclear disarmament process including the closure of the Semipalatinsk nuclear test site on 29 August 1991, and the decision to voluntarily renounce the fourth largest nuclear arsenal in the world.

We also commend Kazakhstan for initiating the UN International Day Against Nuclear Tests, which was established by unanimous resolution of the United Nations General Assembly, with the aim to contribute to the goals of nuclear disarmament,

nonproliferation, a worldwide ban on nuclear tests, and a world free from nuclear weapons.

We welcome moves by the Nuclear Weapon States to complete the ratification process for the protocols to nuclear weapon-free zone treaties, as steps to significantly strengthen the architecture of regional and international security.

We welcome in particular the negotiations between the Central Asian States on one side, and China, France, Russia, United Kingdom, and the United States on the other side, on the protocols to the Central Asian Nuclear-Weapon-Free Zone, and call for its early completion.

We support the new initiative of President Nazarbayev of the Republic of Kazakhstan for the adoption, within the UN of a Universal Declaration on the achievement of a nuclear-weapon-free world, as another important step towards the adoption of a nuclear weapons convention.

We are strengthened in our resolve to advance nuclear disarmament measures, by having visited the former Semipalatinsk Nuclear Test Site, where Soviet nuclear weapons were tested for more than forty years. 468 surface and underground nuclear tests were conducted from 1949 to 1989. One 50 megaton test alone was several thousand times more powerful than the bombs dropped on Hiroshima and Nagasaki. The tests have caused immeasurable medical and economic related suffering and death to millions of people.

Further progress needs to be made with concrete actions to achieve the abolition of nuclear weapons, according to a multilateral, transparent, irreversible and verifiable schedule.

Therefore, we call on parliaments and governments to:

- a) maintain existing moratoria against nuclear tests, and fully support the Comprehensive Nuclear Test Ban Treaty, including full ratification and entry-into-force, financing and support for the international monitoring network;
- b) halt any further production of nuclear weapons;
- c) operationalize the reduction of the role of nuclear weapons in their security doctrines;
- d) establish prohibitions against nuclear weapons through action in their own legislatures;
- e) establish guidelines that prohibit investment of public funds in enterprises engaged directly in manufacturing nuclear weapons or their delivery systems;
- f) establish additional regional nuclear weapon free zones, as appropriate, especially in the Middle East, North East Asia and the Arctic;
- g) commence preparatory work to build the framework for a nuclear weapons free world including through negotiations on a nuclear weapons convention or package of agreements.

We all stand united in our common determination to build nuclear-weapons-free world.

We pledge to act on and share this Appeal with legislative forums, decision makers and society.

Adopted in Astana on 29 August 2012

Honorary ATOM Project Ambassador Karipbek Kuyukov, an heroic survivor from the effects of nuclear tests, spoke at the assembly about the horrific impact of the tests on the lives of Kazakhstan peoples – “Many of my relations have died from the radiation from the nuclear tests” he said. “In one family first the father then the mother then all the children passed away – the whole family of 10. I myself have no arms to hug you, but a heart as big as the open space of Kazakhstan ready to embrace the world for peace and nuclear disarmament.

Dr. Lassina Zerbo, representing the Comprehensive Nuclear Test Ban Treaty Organisation (CTBTO) noted that “Since the CTBT was adopted in 1996, the genie of nuclear testing has virtually been pushed back into the bottle. In contrast to of some 400 explosions every decade since 1945, there were only two tests in the last decade. However, until we seal the bottle once and for all, until we bring the Treaty into force, none of us can feel safe.”

Douglas Roche, founding chair of PNND and the Middle Powers Initiative (MPI), called on parliamentarians to strengthen their actions in their legislatures – guided by the Parliamentary Appeal for Nuclear Abolition adopted at the assembly. Mr Roche outlined the MPI Framework Forum – an informal process of governments exploring what would be required for establishing the framework for a nuclear weapons-free world – and announced the next meeting to be hosted by the German Foreign Ministry in Berlin in February 2013.

Roche also called for a new effort of heads of government – similar to the Six Nation Initiative of 1984-1989 – to elevate the call and commence the process to achieve a nuclear-weapons-free world. His proposal was explored in more detail by Jonathan Granoff, President of the Global Security Institute, in a subsequent panel of the assembly.

“PNND is honoured to partner with the ATOM Project to educate parliamentarians, governments and civil society about the horrific humanitarian consequences of any use of nuclear weapons and the imperative this provides for their abolition,” says Alyn Ware, PNND Global Coordinator. “This assembly in Kazakhstan, which included a field trip to the former Soviet nuclear test site in Semipalatinsk, has energized parliamentarians from around the world to step up their action to abolish nuclear weapons, including through the spread of nuclear-weapon-free zones and the promotion of a global treaty to ban nuclear weapons.”

My experience of the nuclear horror

By Karipbek Kuyukov

As world leaders gather for the United Nations High-level Meeting on Nuclear Disarmament in New York, I would like to deliver a short message from the survivors of nuclear weapons testing in Kazakhstan.

The perpetual question of whether to pursue the nuclear arms race or eradicate nuclear weapons has divided international opinion. Experts, politicians and world leaders have traditionally sided either for or against nuclear arms. Some believe that nuclear weapons help preserve peace, yet surely many more believe these weapons are a certain path to another world war and the eventual obliteration of mankind.

But although there has been much discussion of the issue, few on either side have turned for advice to the victims of nuclear tests and explosions. We have a lot to say and a right to be heard.

I was born in 1968, about 100 kilometers away from the notorious Semipalatinsk nuclear test site in eastern Kazakhstan where the Soviet Union tested hundreds of nuclear devices over four decades. I was born without arms, a result of the horrific impact of nuclear radiation on the health of our people. As I grew up, I saw that I was not alone.

I saw mothers and midwives shocked at the sight of other babies born with birth defects. I saw families too embarrassed to show their children to the outside world, hiding them deep inside their homes and bringing them out only briefly to have some fresh air and sun. I saw families and whole communities decimated by radiation-related cancers. As the United Nations notes, more than 1.5 million people in Kazakhstan suffered the effects of Soviet nuclear weapons testing, which lasted from 1949 until 1991.

I saw so much tragedy and suffering over these years that I decided for myself that I would do everything possible to ensure that my generation is the last to experience the painful and irreversible

consequences of nuclear weapons testing. I became an activist in an anti-nuclear weapons movement and, remarkable as it might sound for a person in my situation, I took up painting in the hope that my art will inspire people to action.

Today, I see hope and inspiration. I think this vision of a world without nuclear weapons testing and nuclear weapons altogether can become a reality. It will be hard to reach, but it is nevertheless possible.

The first ray of hope for me came in 1991, when Kazakh President Nursultan Nazarbayev shut down the Semipalatinsk test site in defiance of the Soviet government in Moscow.

Next came the decisions by my country, as well as Ukraine, Belarus and South Africa, to renounce their nuclear weapons or nuclear weapons programs in the 1990s.

Then came the opening for signing of the Comprehensive Nuclear Test Ban Treaty in 1996. Since that time, 183 countries have signed the treaty and 159 countries have ratified it. But the treaty cannot enter into force until it is signed and ratified by eight more countries – China, Egypt, India, Iran, Israel, Democratic People's Republic of Korea, Pakistan and the United States.

And it is to the leaders of these eight countries that I and my fellow nuclear weapons tests survivors address our plea for understanding and leadership. We are supported by people from more than 100 countries who have already signed a petition to all the leaders of the world to put a permanent end to nuclear weapons testing by working to bring into effect the CTBT and to work towards a nuclear weapons free future.

The petition is part of the campaign of The ATOM Project to draw global attention to the need to show more leadership and take decisive steps towards the elimination of the nuclear threat. Anyone in the world can sign the petition and contribute to building a nuclear-weapons-free world.

Since its launch in August 2012, the ATOM Project has told the stories of nuclear testing survivors in several cities in the United States and Europe. Everywhere my friends and I go – from international organizations to high offices to think tanks to university campuses and community meetings – we receive an enthusiastic response and one simple message: Keep doing what you are doing; the world needs to hear your story so that global leaders make good on their promises to act to stop the nuclear weapons race.

This encouragement gives us strength to go on.

In the 21st century, global security remains the number one issue facing the people of our planet. I believe we need to re-evaluate having nuclear arms that are used to intimidate rather than keep the world safe. How can something that takes the lives of millions in an instant keep us all safe?

Today, you can make decisions for which your children and grandchildren will thank you. On behalf of others like me, I urge you to be courageous and visionary and find safer ways to protect your peoples. I would love to shake your hands and feel the warmth of your handshake, but the nuclear past of our country has deprived me of that opportunity.

Editor's note: Karipbek Kuyukov is an artist and Honorary Ambassador of The ATOM Project, a global campaign to eliminate nuclear weapons testing. The views expressed are his own.

This essay was first published by CNN.com in September 2013.

The ATOM Project Seeks Minute of Silence to Commemorate Nuclear Weapons Testing Victims Worldwide

By Altair Nurbekov

ASTANA – The ATOM Project, an international campaign against nuclear tests and nuclear weapons, is calling on the world to commemorate all victims of nuclear weapons tests and nuclear explosions with a minute of silence on August 29 at 11:05 a.m. according to respective time zone's local time. When clock hands show 11:05, they represent the Roman letter V, which stands for "victory." "It is hoped that it will signify a victory of common sense over fear and a victory for nuclear disarmament efforts around the world," the ATOM Project said in its press release on August 7.

The month of August is significant to anti-nuclear weapons activists around the world. It was on August 6 that Hiroshima and the planet felt the trembling of the first nuclear weapon used in war. That same trembling was felt three days later when a second bomb was dropped on Nagasaki. These two explosions instantly took the lives of more than 250,000 people, erasing the two cities from the face of the Earth. Today, the threat of another nuclear explosion has grown stronger as tens of thousands of nuclear weapons remain around the world, terrorist groups seek so called dirty bombs and the power of one nuclear bomb has increased more than 100 times compared to the ones from 60 years ago.

The ATOM Project's international online petition campaign launched on Aug. 29, 2012 by Kazakhstan President Nursultan Nazarbayev has gained support internationally with more than 70,000 signatures from people in more than 100 countries so far.

Kazakhstan has been continuously active on issues of disarmament and non-proliferation because the country and its people suffered

horrendous consequences as a result of Soviet era nuclear testing. From 1949 to 1991, the USSR conducted more than 450 nuclear weapons tests at the Semipalatinsk nuclear test site in eastern Kazakhstan, bringing illness and death to more than 1.5 million people in the region and radioactive pollution to a huge swath of land. In the second part of the 20th century, nuclear tests were also conducted by the United States, China, France and Britain as they developed their nuclear arsenals, as well as India and Pakistan.

On the anniversaries of the Hiroshima and Nagasaki nuclear explosions, ATOM Project Honorary Ambassador Karipbek Kuyukov urged the world to rethink the decisions it's made concerning nuclear weapons. Kuyukov was born without arms as a result of his parents' exposure to nuclear weapons testing. Despite that challenge, he has become a renowned artist using only his mouth and feet to draw and has dedicated his life to the nuclear weapons non-proliferation movement.

"Today, we note the positive role the international antinuclear movement The ATOM Project has played in helping the international community understand the need to fight the nuclear weapons threat and how that threat continues to hang over all the people of our planet," he said. "For many years, the truth of the dangers of nuclear weapons was classified, despite the fact that for many decades thousands of people who received high doses of radiation as a result of nuclear weapons explosions suffered and died from diseases or became mentally or physically disabled. The lingering negative effects of nuclear weapons require thousands of years to decompose, contaminating soil, air and water. Though one of the world's largest nuclear weapons testing sites, Semipalatinsk in eastern Kazakhstan, has been shut down, the international community has yet to fully embrace a global and permanent end to nuclear weapons testing and other test sites are basically dormant. And new countries appeared who are seeking to acquire their own nuclear arsenals."

"New global and regional security threats have emerged in our modern, interdependent world, but the possibility of mass destruction as a result of the use of nuclear weapons or a smallscale nuclear dirty bomb remains humanity's most serious threat. The consequences could be catastrophic if an international terrorist group is able to acquire even a small-scale nuclear device," said Kuyukov.

"We have an opportunity to once more remind the world about the

tragic consequences of nuclear testing and to push the global community towards more decisive actions to achieve a final and definitive ban of such testing,”

President Nazarbayev told a conference in Astana in August 2012 as he announced The ATOM Project. “Under the project, any human being on Earth who stands against nuclear weapons can sign an online petition urging governments of the world to abandon nuclear tests forever and ensure early entry into force of the Comprehensive Nuclear Test Ban Treaty. I urge the participants of the conference and all people of goodwill to support The ATOM Project and make the creation of a non-nuclear weapons world our main goal.”

Note: This essay was originally published in The Astana Times newspaper on August 28, 2013.

UN General Assembly Commemorates International Day Against Nuclear Tests

By Artur Abubakirov

NEW YORK – The United Nations General Assembly held a special meeting Sept. 5 to commemorate the International Day Against Nuclear Tests, to remember the victims and survivors of nuclear testing and to use this opportunity to discuss the new steps the UN as an organisation and the member states can take to advance the goal of banning nuclear tests and ultimately building a nuclear weapon free world..

The International Day Against Nuclear Tests, held annually on Aug. 29, highlights the efforts of the UN and a growing community of advocates, including member states, non-governmental organizations, academia, and media, in raising awareness concerning the importance of the nuclear test ban.

The General Assembly chose Aug. 29 as the annual commemoration date since it marks the day in 1991 when Semipalatinsk, one of the largest test sites in the world and located in north-eastern Kazakhstan, was closed permanently by the decree of Kazakhstan President Nursultan Nazarbayev.

Representatives of UN member states took part in the meeting and Kazakhstan's delegation was led by Vladimir Bozhko, Minister for Emergency Situations

United Nations senior officials during the Sept. 5 General Assembly meeting repeated their call for member states to take action to ban nuclear testing, stressing testings' horrific effects on human lives and the environment.

“Eighteen years after the closure of the Semipalatinsk nuclear test site in Kazakhstan, the United Nations General Assembly unanimously adopted a resolution declaring 29 August as the International Day Against Nuclear Tests. This event offers the world community an opportunity

to reflect on the dangers posed by such tests and on the urgent need for additional efforts to prohibit them everywhere. This day also provides a moment to recognize the contributions of the government and people of Kazakhstan in seeking to outlaw all such tests and to advance global nuclear disarmament,” UN Secretary General Ban Ki-moon said in his message to the General Assembly on the fourth observance of the International Day Against Nuclear Tests.

In his turn, Bozhko stressed that observance of the International Day questions the legitimacy of nuclear tests and weapons in military, political and security doctrines.

“It highlights their catastrophic humanitarian consequences on human wellbeing, health, the genetics of survivors, as well as impact on the world’s climate and food production and water supply,” he said, adding that the devastating explosive blasts, direct nuclear radiation, thermal radiation and fall-out make the full rehabilitation of people and environment nearly impossible.

As such, he said that the International Day “is not just a day to remember, but a day to act” and called for a “disarmament race” bolstered by bold multilateral action to not only diminish, but completely wipe out the threat posed by nuclear weapons.

President of the United Nations General Assembly Vuk Jeremic joined the UN Secretary General’s call to member states and encouraged them to participate in the first high-level meeting of the General Assembly on nuclear disarmament, which will take place in New York later this month.

Jeremic recalled the nuclear bombing of Hiroshima and Nagasaki noting that “what happened there is a permanent reminder of the horrible, unmatched devastation caused by the use of nuclear weapons. Any test, conducted by anyone anywhere, increases the likelihood they will be used again one day.”

In this regard, it was noted that 456 nuclear atmospheric, surface and underground explosions were carried out from 1949 to 1989 at the Semipalatinsk nuclear test site. All together, more than 600 nuclear devices were exploded in those tests.

That is nearly one-fourth of all the nuclear weapons tests that have been carried out around the world.

One and half million people and a large environmental area in Kazakhstan were harmed by these tests and contaminated by radiation.

That is why the people in Kazakhstan know the cost of nuclear testing and the country, having firsthand knowledge of the impact of nuclear tests and having waived the right to a vast arsenal of nuclear weapons inherited from Soviet Union, uses its the moral authority to call for a world free from nuclear weapons.

Also addressing the meeting was Geoffrey Shaw, representative of the Director General of the International Atomic Energy Agency (IAEA) to the UN, who highlighted the agency's key role in verifying the compliance of states with their commitment to the peaceful use of nuclear material under the Nuclear Non-Proliferation Treaty (NPT).

"By doing so, the IAEA has made an important contribution to global efforts to achieve a world free of nuclear weapons," he said, specifically noting that IAEA safeguards in connection with NPT commitments comprise measures by which the agency independently verifies the correctness and the completeness of the declarations made by states about their nuclear material and activities.

Shaw also noted that the IAEA continues to assist states in characterizing residual radioactivity in areas affected by nuclear weapons tests to assess whether the safe use of such land is possible, or whether remedial actions are needed.

As an example, he said that for many years, the IAEA assisted the Kazakhstan government in assessing the radiological contamination of territories affected by nuclear tests at the Semipalatinsk site. And the IAEA will continue to support Kazakhstan in these endeavours. A new technical cooperation project started in 2012 focuses on strengthening national capabilities for radio-ecological studies to support assessing the feasibility of releasing parts of the former Semipalatinsk test site to normal economic use.

During the August 5 General Assembly meeting, numerous representatives of diplomatic missions to the United Nations commended Kazakhstan for its leadership in the field of non-proliferation and disarmament, noting that Kazakhstan remains at the forefront of international efforts to stop nuclear testing.

To legally end nuclear testing, it is necessary for the CTBT to enter into force. But so far only 159 of the 183 countries who have signed the Comprehensive Nuclear-Test-Ban Treaty have ratified it. And the treaty will only come into effect when it is signed and ratified by the eight countries listed in Appendix II of the Comprehensive Nuclear-Test-

Ban Treaty: China, the Democratic People's Republic of Korea, Egypt, India, Iran, Israel, Pakistan and the United States.

A statement by UN Secretary-General Ban Ki-moon was read to participants of the special meeting. "Throughout its history, efforts have also been underway at the United Nations to achieve an even bolder goal: a world free from nuclear weapons. This is one of my highest priorities and one that is shared by virtually all our member states and that has broad public support," Ban Ki-moon wrote.

"Kazakhstan has shown through its actions what a determined people and a committed government can accomplish in eliminating grave nuclear threats. On this International Day Against Nuclear Tests, let us resolve to build on that commitment to outlaw all nuclear tests, everywhere, for all time. Let us continue our historic journey to a world free of nuclear tests and nuclear weapons," Ban Ki-moon's message read.

The International Day Against Nuclear Tests commemorates the closure of the Semipalatinsk nuclear test site in Kazakhstan on Aug. 29, 1991. The day is meant to galvanize the United Nations, member states, intergovernmental and non-governmental organizations, academic institutions, youth networks, and the media around the necessity of ending nuclear weapon tests as a critical step towards achieving a safer world.

Note: This essay was originally published in The Astana Times newspaper on September 12, 2013.

“If You Want Peace, Prepare For Peace,” Anti-Nuclear Weapons Activist Says

By Jan Furst

VIENNA, AUSTRIA – Karipbek Kuyukov, the famous artist and Honorary Ambassador of the ATOM Project brought this simple message with him on a recent visit to Austria: “If you want peace, prepare for peace, prepare for it with all your efforts, each day of your life, each hour of your day”. Such a message resonated well in numerous interactions Mr. Kuyukov and his fellow campaigners had during the five days packed with meetings, exhibitions and presentations.

As central Europe was enjoying the last few warm and sunny days of the fall, Mr. Kuyukov and his colleagues at the ATOM Project arrived in Vienna to promote this international campaign seeking to achieve the permanent ban to nuclear tests, ensure the entry into force of the Comprehensive Nuclear Test Ban Treaty (CTBT) and eventually eradicate nuclear weapons. And they received an equally warm welcome and support.

Mr. Kuyukov, who was born armless because of the effects of radiation on his parents who lived near the former Semipalatinsk nuclear test site in eastern Kazakhstan but who became a famed artist nevertheless, shared his message in speeches to the audience at the Vienna-based Comprehensive Nuclear Test Ban Treaty Organization’s (CTBTO) preparatory commission on Oct. 28. He followed up on it in meetings with Kazakh students in Austria and with international students and faculty at the University of Applied Sciences in a historic town of Krems later in the week.

The ATOM Project, launched by Kazakhstan President Nursultan Nazarbayev in 2012, brought two exhibitions to Austria. One exhibition called “A Lesson in Peace” includes photos and documents depicting the legacy of Soviet nuclear weapons testing in Kazakhstan from 1949 to 1991 and the history of an independent nation’s freeing itself from

the nuclear weapons legacy after independence in 1991.

The other exhibition called “Looking for Peace” includes about two dozen paintings by Mr. Kuyukov and reinforces in a unique way his simple yet powerful oral messages. Both were presented to nuclear experts, ambassadors, diplomats and other visitors including the UN staff in Vienna at the offices of the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO).

The organization’s Executive Secretary, Dr. Lassina Zerbo, spoke at the event on Oct. 28, drawing the attention to the importance of the early entry into force of the CTBT, and emphasizing Kazakhstan’s contribution to advancing the ideas of nuclear non-proliferation and a world free of nuclear weapons.

“Nearly two decades after President Nazarbayev’s bold step to close the Semipalatinsk test site, there are those who still question that nuclear testing does not make any one safer. On the contrary, it threatens peace, security and sustainable development,” Dr. Zerbo said at the exhibitions’ launch which took place on the margins of the CTBTO main annual gathering.

“Human suffering of victims exposed to radiation, the environmental degradation, and economic loss should never be forgotten,” Dr. Zerbo added. “The ATOM Project is an expression of the strength of the people of Kazakhstan: in suffering, they found determination; in despair, they found awareness; in tragedy, they found firm conviction of a better world. While telling the stories of the survivors of nuclear tests, the ATOM Project creates awareness of the human and environmental cost of nuclear testing, and acts as a strong voice for millions of citizens all over the world united in their desire to stop nuclear testing forever and to choose a different future... Now is the time for the eight states whose ratification of the CTBT will bring it into force to show the political will and fully endorse it.”

Since its opening for signature at the United Nations in 1996, CTBT has been signed by 183 countries, and ratified by 161. In order for it to enter into force, however, it requires the signature and ratification by at least another eight countries listed in the Annex II to the Treaty: China, Egypt, India, Iran, Israel, the DPRK, Pakistan, and the United States.

In his speech at the event, Kazakhstan’s Ambassador to Austria and Permanent Representative to the International Organizations in Vienna Kairat Abdrakhmanov spoke of his country’s initiatives in

non-proliferation and nuclear disarmament, noting that today it firmly believes in the need for the international community to take further decisive actions to address the global nuclear threat. He also noted that the decision made 22 years ago by President Nazarbayev and the newly-independent country to close the Semipalatinsk Nuclear Test Site and renounce the nuclear arsenal it had inherited from the Soviet Union demonstrated to the international community that it was possible to voluntarily renounce nuclear weapons by the will of the people.

Roman Vassilenko, Ambassador-at-large at Kazakhstan's Ministry of Foreign Affairs, also spoke at the event elaborating on the history of Kazakhstan's disarmament and disposal of Soviet nuclear weapons and noting the country's principal and unconditional decision to waive potential membership in the club of nuclear weapon states.

He then presented the ATOM Project to event attendees, and said: "We have seen unwavering support for the ATOM Project, both in our country and internationally. Already, people from more than 100 countries have signed the online petition [calling for the entry into force of CTBT]. But we can and must achieve greater results, and we will continue our efforts in earnest. And we will continue calling on all people of good will to support the ATOM Project and make the realization of a nuclear-weapons-free world our primary objective."

In his remarks to the audience, Mr. Kuyukov once again reminded them of the tragic consequences of nuclear testing and urged those present to support the efforts to achieve a final and irrevocable ban on nuclear testing, including through the entry into force of the CTBT.

The Austrian trip for the ATOM Project did not end there. On Oct. 30, the Kazakhstan Student Society in Austria (KSSA) met Mr. Kuyukov and his colleagues at the country's embassy in Austria. After the meeting, the organization's leaders said they were eager to help spread the news about the project among their peers.

There are about 300 Kazakh students currently studying in Austria, and their group leaders were keen on meeting their fellow countrymen promoting the ATOM project.

A five-minute ATOM Project documentary was also shown to the students portraying the heavy consequences of nuclear tests conducted over four decades on the territory of Kazakhstan that impacted 1.5 million lives and more generations to come.

"I think the idea [of The ATOM Project] is very important as it

receives positive feedback in Austria,” said Nursultan Akhmediya, a political science major at the University of Vienna and the KSSA deputy treasurer. He went on to share his ideas about what other means could aid the project to spread its message by stating that common people should be made more aware of the nuclear test consequences.

“We could do more work with the regular population. I mean in Kazakhstan not many people know about this project as meetings are held at high levels and the average people don’t know about what is being done and how it is dealt with,” Akhmediya underscored. “The painting that struck me the most was the ‘First Explosion,’” Akhmediya said. “I was surprised by Karipbek Kuyukov’s talent, how he could express all this pain in one painting, and, considering that in those days people were not informed about nuclear tests, he still managed to do it successfully.”

“I came here today to hear the story Karipbek Kuyukov has to tell,” said Nurgul Kereyeva, another University of Vienna student and a physics major.

“I have heard of him before, but wanted to hear with my own ears about the fates of nuclear test victims in our country,” Ms. Kereyeva said. “His most recent portrait of the victim really moved me. I noticed a tear drop in his right eye. It is subtle and profound indeed. I am proud that my country had started this project as Kazakhstan is still developing. But we showed a good example to more developed countries like Japan, the U.S., Germany and it was a big step for us. There is a phrase I heard Karipbek say once – ‘I stand tall on my feet and hold my life with my teeth’. I really admire this man.”

Kuyukov shared his life story with the students, and the students presented him a T-shirt with the KSSA logo to conclude the meeting.

“Most students had classes in the morning,” Akhmediya added, but many still managed to show up. “I think it is because people feel he has a big heart despite the consequences of the nuclear tests. And I wish him to continue the mission and that all the set goals of The ATOM Project would be accomplished.”

When Kuyukov and the other delegates from Kazakhstan arrived to meet students and faculty of the IMC University of Applied Sciences in Krems on Oct. 31, they found an equally enthusiastic response to their calls for more vigorous public engagement with the global leaders on nuclear disarmament.

“Today’s exhibition marks another opportunity for Kazakhstan to increase awareness, especially among the young generation – tomorrow’s leaders, thinkers, and doers – of the need to stop nuclear testing, globally and permanently,” Ambassador Abdrakhmanov told the students. “This is why President Nazarbayev launched a new initiative in the nuclear disarmament and non-proliferation sphere, the ATOM Project, on August 29, 2012.” The Ambassador further described Kazakhstan’s consistent steps in this sphere, urging the audience to take an active civic stance and pursue actions.

In turn, Vassilenko explained the efforts under the ATOM Project, noted the already broad international support it received and called for more efforts by the youth to push for progress in nuclear disarmament.

“The sooner the nations and the leaders of the world return to the basic principles of human relations that are defined by trust, mutual understanding, tolerance and goodwill, the better chances we will have of building a safer world, free from the threat of nuclear annihilation,” he added.

Kuyukov once again reminded the audience of the tragic consequences of nuclear tests, and urged those present to support the ATOM Project: “I would like for my generation to be the last to suffer from the effects of nuclear weapons. And so I urge you to learn more about this tragic story, to tell about it to all your friends and acquaintances and to make building a world with clean air and clear future our common cause.”

Such messages resonated well with the participants of the gathering.

“Kazakhstan has shown an example of a responsible policy to other countries. Today we have listened to this lesson in peace and I am sure many of our students will want to support this initiative and spread its peacemaking message,” University President Dr. Heinz Boyer said.

“I think many people now would think about this issue a lot more,” Elena Korotnikova, a student at the University, said. “Paintings [by Kuyukov] are awesome, especially given the way they were drawn. I believe this should inspire people for similar actions.”

The meeting ended with the signing of the ATOM Project’s online petition by students and professors who also expressed intention to talk about the initiative to their friends, including through social networks.

This year, with the support of relevant organizations and Kazakhstan’s missions abroad, the ATOM Project already organized

events at the United Nations in New York, as well as at various think tanks and universities in Moscow, Washington and locations in European countries. On Aug. 29, the UN International Day against Nuclear Tests, it staged a global minute of silence to commemorate victims of the nuclear weapons tests globally. And later in November, the ATOM Project will travel to Japan to jointly participate in events with a local anti-nuclear weapons campaign, A Picture Book without Pictures, in Tokyo, Hiroshima and Nagasaki.

Note: This essay was originally published in The Astana Times newspaper on November 13, 2013.

Parliamentarians Support ATOM Project's Efforts to Ban Nuclear Testing

By George D. Gleboff

SAINT PETERSBURG, RUSSIA – Parliamentary leaders and deputies from the Commonwealth of Independent States (CIS) and beyond came together on Nov. 29 in this city's historic Tauride Palace for an international conference focusing on nuclear security in the modern world and seeking ways to advance the cause of global nuclear disarmament.

On an unusually warm and sunny day for a city known as the City of Rain, speakers and deputy speakers of parliaments from Azerbaijan, Armenia, Belarus, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Ukraine and other countries explored various ideas to give an additional impetus to efforts to promote a nuclear weapons free future, including Kazakhstan's initiative, the ATOM Project.

Speaker of the Mazhilis (lower house) of Kazakhstan's Parliament Nurlan Nigmatulin read out a welcoming message by President Nursultan Nazarbayev who underscored his country's tragic legacy of nuclear weapons testing and stressed the importance of redoubling international efforts to promote global nuclear disarmament against modern challenges. President Nazarbayev also stressed the importance of further promotion of the efforts of the ATOM Project, which already attracted wide international attention.

The conference, organized jointly by the CIS Interparliamentary Assembly and Kazakhstan's Mazhilis, concluded with a final document which covered a range of initiatives and specifically stressed the importance of the early entry into force of the Comprehensive Nuclear Test Ban Treaty (CTBT). It called on states on whom its entry into force depends to promptly sign and ratify the treaty, and welcomed efforts aimed at achieving this goal including the ATOM Project.

Today, CTBT entry into force depends on its signature and

ratification by China, Egypt, India, Iran, Israel, Democratic People's Republic of Korea, Pakistan and the United States. It was signed by 183 countries and ratified by 161, including three recognized nuclear weapon states, France, Russia, and the U.K.

In the conference's final document, expressed conviction that all modern threats to nuclear non-proliferation should be removed based on the international law and keeping the balance of the three main components of the Treaty on Non-Proliferation of Nuclear Weapons (NPT) – disarmament, non-proliferation and peaceful use of nuclear energy.

More than 500 participants took part in the conference including members of Parliaments, representatives of CTBTO, the Interparliamentary Union, as well as the Pan-African Parliament and the International Committee of the Red Cross and Red Crescent, non-proliferation experts as well as university students.

In the final document, they called on all states to take efforts to strengthen the regime of nuclear non-proliferation and disarmament, including through ensuring the universalization of NPT and fulfilling all obligations contained in it.

The final document also recognized “the aspiration of the Republic of Kazakhstan to give an additional impetus to the process of reduction and limitation of nuclear weapons through the adoption within the UN of a Universal Declaration of a Nuclear-Weapons Free World.”

The document noted the importance of the 2010 treaty between Russia and the U.S. further reducing and limiting strategic offensive armaments and called on countries possessing nuclear weapons to follow their example.

Participants also welcomed the initiatives to activate meaningful activities of the UN Conference on Disarmament in Geneva which has been all but stalled since 1996. Recently, one such initiative was the one-year effort by UN Open-Ended Working Group on taking forward multilateral nuclear disarmament negotiations which presented its findings to the UN General Assembly in September 2013.

The participants of the conference in Saint Petersburg further called on all states to prevent the acquisition of nuclear materials and technologies by terrorists, and noted the importance of continued implementation of the Global Initiative to Combat the Acts of Nuclear Terrorism.

The conference also welcomed initiatives and practical steps to establish and expand of zones free from nuclear weapons across the world, and called for the early convocation of a Conference on the establishment in the Middle East of a zone free from nuclear and other types of weapons of mass destruction. The participants called on all states of the Middle East to take the most active and constructive participation in the preparation and conduct of this important event prescribed by the decisions of the NPT Review Conference in 2010.

Turning towards the activity of the Interparliamentary Assembly of the CIS, they pledged to continue to work towards creating a model legislative base aimed at ensuring the control over radiation materials, chemical and biological security and at countering nuclear terrorism. Finally, the participants called on parliamentarians of all states to join efforts and become one of the driving forces in the process of nuclear disarmament and non-proliferation.

“Parliamentarians can be a formidable agent for change,” Anda Filip, Interparliamentary Union’s director for member parliaments and external relations, told the conference. “More and more, we are witnessing frank and open debates in parliament – including in some of the nuclear weapons states – breaking old taboos and questioning the rationale for the exorbitant military spending, scrutinizing nuclear weapon doctrines, and asking why such destructive and unusable weapons should even exist... More and more, there is the sense among legislators that ridding the world of nuclear weapons is not only their duty, but that it is actually an achievable goal.”

Among speeches at the event the one by Betel Amadi, Chairman of the Pan-African Parliament, stood out as coming from someone who brought a different point of view from the CIS. Amadi stressed the relevance of the conference coming on the heels of recent agreement regarding Iranian nuclear programme and said: “No issue poses such a threat to human kind as the threat of nuclear annihilation.”

Amadi recalled the IPU decision in 2009 urging various parliaments to urge their governments to support the five-point plan of the UN Secretary General. He also recalled the Palindaba agreement creating a nuclear weapons free zone in Africa, which has entered into force and has now been ratified by 28 countries, out of 53 in the African Union.

“Opinion polls across the world show overwhelming support for the total ban of nuclear weapons globally, even in the many nuclear

FINAL DOCUMENT
of the international conference
“Nuclear Security in the Modern World.
Role of Parliamentarians in Nuclear Disarmament
and Non-Proliferation”
Saint Petersburg, 29 November 2013

The participants of the international conference, organized by the Inter-Parliamentary Assembly of the Member Nations of the Commonwealth of Independent States (CIS) and the Mazhilis of the Parliament of the Republic of Kazakhstan,

Stressing the importance of participation by all States in the Treaty on Non-Proliferation of Nuclear Weapons (NPT),

Welcoming purposeful steps of certain nuclear weapon States to limit nuclear armaments and, at the same time, *expressing* concern with the slow progress towards global nuclear disarmament,

Proceeding from the UN Security Council Resolution 1540 (2004) prescribing all States to adopt national legislation in order to prevent the proliferation of nuclear and other types of weapons of mass destruction, establish appropriate national control over related materials and prevent their acquisition by non-State actors,

Noting the importance of efforts by the international community to ensure the non-proliferation regime, counter nuclear terrorism, aspire towards a world free from nuclear weapons, and welcoming the establishment of the zones free from nuclear weapons across the world,

Confirming the relevance of the mechanism of the Agreement among States Participants of the CIS on coordination of works on issues of control over exports of raw material, materials, equipment, technologies and services which can be used in the production of weapons of mass destruction and missile means of their delivery (1992),

1. Express conviction that all modern threats to nuclear non-proliferation should be removed based on the international law and keeping the balance of the three main components of the Treaty on Non-Proliferation of Nuclear Weapons: disarmament, non-proliferation and peaceful use of nuclear energy.

2. Call on all States to make efforts to strengthen the regime of nuclear non-proliferation and disarmament, including through ensuring the universalization of the Treaty on Non-Proliferation of Nuclear Weapons and fulfilling all obligations contained therein.

3. Note the importance of the Treaty between the Russian Federation and the United States of America on measures to further reduce and limit strategic offensive armaments of 2010 and call on countries possessing nuclear weapons to follow this example.

4. Underscore the importance of the early entry into force of the Comprehensive

Nuclear Test Ban Treaty (CTBT), call on States on whom its entry into force depends to promptly sign and ratify the treaty, and welcome efforts aimed at achieving this goal including the international initiative, The ATOM Project.

5. Note the aspiration of the Republic of Kazakhstan to give an additional impetus to the process of reduction and limitation of nuclear weapons through the adoption within the UN of a Universal Declaration of a Nuclear-Weapons Free World.

6. Welcome the initiatives to activate meaningful activities of the UN Conference on Disarmament in Geneva.

7. Confirm that it is the common task of all States to prevent the acquisition of nuclear materials and technologies by terrorists, note the significance of further realization of the Global Initiative to Combat the Acts of Nuclear Terrorism, initiated by the Russian Federation and the United States of America.

8. Note that any one sided and uncoordinated actions in matters relating to nuclear weapons and strategic stability are prone to undermine international security and that important international solutions in this sphere require a careful and weighted approach taking into account interests of all interested parties and principles of equal and indivisible security for all.

9. Welcome the initiatives and practical steps to establish and expand across the world of zones free from nuclear weapons, stand for the early convocation of a Conference on the establishment in the Middle East of a zone free from nuclear and other types of weapons of mass destruction, and call on all States of the Middle East region to take the most active and constructive participation in the preparation and conduct of this important event prescribed by the decisions of the NPT Review Conference in 2010.

10. Welcome the activity of the Inter-Parliamentary Assembly of the CIS in creating a model legislative base for Member Nations of the Commonwealth of Independent States aimed at ensuring the control over radiation materials, chemical and biological security and at countering nuclear terrorism.

11. Call on parliamentarians of all the States of the world to join efforts and become one of the driving forces in the process of nuclear disarmament and non-proliferation.

weapon states,” Amadi said urging more active global efforts to build a nuclear weapons free world are needed.

During the conference, an exhibition was put up showing the history of Kazakhstan’s nuclear disarmament as well as featuring a video and an information packs of the ATOM Project.

Valentina Matvienko, Speaker of Russia’s Federation Council (upper house), along with other parliamentary leaders, toured the exhibit and praised the Project’s efforts and those of its honorary ambassador and armless artist, Karipbek Kuyukov, in fighting for nuclear disarmament.

“It is remarkable that people have such strong will,” she noted.

Note: This essay was originally published in The Astana Times newspaper on December 11, 2013.

Kazakhstan Urges Nuclear Test Ban Treaty Entry into Force at Int'l Conference

By Anuar Fazylov

NAYARIT, MEXICO – Kazakhstan's delegation at a major international conference in Mexico on Feb. 13-14 urged that the Comprehensive Nuclear Test-Ban Treaty (CTBT) enter into force as soon as possible, calling such a ban an important step toward global nuclear disarmament.

"We believe that one of the most important steps toward that goal [of global nuclear disarmament] would be the entry into force of the Comprehensive Nuclear Test Ban Treaty," Roman Vassilenko, ambassador-at-large at Kazakhstan's Ministry of Foreign Affairs, told representatives of 140 countries and dozens of international organisations at the second International Conference on the Humanitarian Impact of Nuclear Weapons, held in Nuevo Vallarta, Nayarit, Mexico. "And we would like to urge, yet again, the eight countries on whose signature and ratification its entry into force depends to do so promptly."

China, Egypt, Iran, India, Israel, the Democratic People's Republic of Korea (DPRK), Pakistan and the United States have yet to sign and/or ratify the treaty, which has been signed by 183 countries and ratified by 161 so far. Addendum II to the treaty lists more than 40 countries with nuclear weapons or nuclear energy capabilities on whose signatures and ratifications the entry into force of the treaty depends.

Vassilenko said Kazakhstan was not only promoting the CTBT entry into force, but also working to support this process by highlighting the plight of nuclear weapons testing survivors in Kazakhstan and elsewhere. Furthering this goal is President Nursultan Nazarbayev's initiative, the ATOM Project, an education and online petition campaign. It seeks to galvanise global public opinion toward action against nuclear weapons testing and ultimately nuclear weapons themselves.

The first International Conference on the Humanitarian Impact of

Nuclear Weapons, with the participation of 130 countries and numerous international bodies, was organised and hosted by Norway in Oslo in March 2013. The conferences focus on highlighting the humanitarian consequences of nuclear weapons use, either in war or in testing, and seek to create global momentum toward nuclear disarmament through such a focus.

The world's five officially recognised nuclear weapon states – Britain, China, France, Russia and the U.S. – have so far chosen not to send representatives to the conferences, a point stressed by numerous speakers as preventing more productive and meaningful discussions.

“We strongly hope there will be even more countries participating in the next conference, at least five more countries,” Vassilenko said, welcoming the announcement made one day earlier by Austria's Minister of Foreign Affairs Sebastian Kurtz that it would host the third such conference already in the autumn of this year.

Such statements were echoed by many others, including Angela Kane, UN High Representative for Disarmament Affairs, who said “stigmatising nuclear weapon states in their absence will not achieve the disarmament goals; we need a meaningful dialogue.” India and Pakistan, two nuclear weapon states, sent representatives to both Norway and Mexico. On the other hand, Israel, which is believed to have nuclear weapons but has neither acknowledged nor disavowed statements to this effect, has not sent representatives to the conferences.

In Mexico, Vassilenko and his colleagues also reported on Kazakhstan's efforts to rehabilitate areas affected by nuclear tests. Roman Vakulchuk, a Kazakh national and currently a researcher with the Norwegian Institute of International Relations (NUPI), also presented a joint report by NUPI and two research institutions from eastern Kazakhstan on the lingering long-term health and environmental effects of the 40 years of Soviet nuclear weapons testing on the region and its people.

“We are grateful to the international community for recognising the severity of the problems left behind by decades of Soviet nuclear weapons testing in Semipalatinsk,” Vassilenko continued. “Already, beginning in 1997, the UN General Assembly has accepted six resolutions on international cooperation and the coordination of activities in rehabilitating the people, the environment and the economic development in the Semipalatinsk region. In view of ongoing

state programmes and international assistance coordinated by the UN Development Programme, we can say there is always a need for a more coordinated approach and more active participation by the international community in this process.”

“We strongly support all the statements made at this conference calling on nuclear weapon states to engage in more vigorous activities toward fulfilling the goal of nuclear disarmament, including as prescribed by the Nuclear Non-Proliferation Treaty,” the Kazakh diplomat said. “As a country that renounced one of the world’s largest nuclear arsenals, which we inherited from the former Soviet Union, we will continue to work with all our partners in urging more progress toward global nuclear disarmament.”

Regarding the ATOM Project, Vassilenko added that close to 80,000 people from more than 100 countries have already signed its online petition to the governments of the world urging the entry into force of the CTBT.

“But we can and must achieve greater results, as we believe the voices of people throughout the world must be heard more clearly and more loudly,” he added. “And we will continue with this quest, working together and in full understanding with like-minded global initiatives such as the International Campaign to Abolish Nuclear Weapons (ICAN), International Physicians for the Prevention of Nuclear War (IPPNW), Parliamentarians for Non-Proliferation and Nuclear Disarmament (PNND) and many others.”

Conference participants were shown a brief documentary prepared by ICAN with the support of the ATOM Project dedicated to the tragic consequences of the use and testing of nuclear weapons and the need for a total ban on nuclear weapons in the world.

As Vassilenko noted: “We believe the more nations adhere to such principles of human relations as dialogue, mutual trust and mutually beneficial cooperation and follow the examples of countries that have already renounced nuclear weapons, the overwhelming majority of countries in fact, the greater chance we will all have of breaking the vicious cycles of war, conflict and mistrust and reaching the ultimate goal of building a safer world, a world without the threat of nuclear annihilation.”

The conference reflected the evolving cooperation between governments and civil society, as many think tanks and nongovernmental

organisations were not only present but were given equal time to speak at the event. Organisers have sought to achieve this balance from the beginning.

“It is important to deepen our understanding of the effects of nuclear weapons by approaching the global and long-term consequences of a nuclear detonation, accidental or deliberate, from the perspective and variables of 21st century society,” the Mexican Ministry of Foreign Affairs said in a statement prior to the event. “Governments, international organisations and civil society are invited to participate with multisectorial delegations, at the expert level, with specialists in areas such as public health, humanitarian assistance, environmental issues and civilian protection, among others, as well as diplomats and military experts.”

Along with representatives from nations, the conference was attended by experts from the UN and UN organisations such as the World Health Organisation (WHO), the International Organisation for Migration (IOM), the UN Institute for Disarmament Research (UNIDIR), the Office for the Coordination of Humanitarian Assistance (OCHA), as well as leaders from Mayors for Peace and research and nongovernmental organisations from the U.K., Norway, Switzerland and other countries. International Committee of the Red Cross Vice President Christine Beerlie and Mexican Foreign Minister José Antonio Meade Kuribreña opened the conference.

During the event, participants reviewed such issues as the challenges of a nuclear weapon detonation to national, regional and global economic growth and sustainable development; the impact of such a detonation on global health; and the risk of nuclear blasts and other effects of the detonation of nuclear weapons. A summary of the conference, presented by its Mexican chair, outlined reasons for banning nuclear weapons completely and specific approaches to further advancing the process of nuclear disarmament in the world.

“The wide range of damage and negative impact in the likelihood of a nuclear explosion, as well as the vast resources allocated to maintain and modernise nuclear arsenals, make the mere existence of these weapons absurd, question the arguments in their defense and ultimately are contrary to human dignity,” the summary said.

“Actions such as the entry into force of the Comprehensive Nuclear Test-Ban Treaty as a core element of the nuclear disarmament and nuclear

non-proliferation regime and the achievement of a comprehensive outcome in the 2015 Nuclear Non-Proliferation Treaty (NPT) Review Conference, together with the discussions on the humanitarian impact of nuclear weapons, are mutually reinforcing processes,” the document said.

“The Chair warmly welcomes the Austrian offer to host the Third Conference on the Humanitarian Impact of Nuclear Weapons,” it continued. “This offer has been received with great support from participants as a follow-up to Oslo and Nayarit, to deepen the momentum, anchor these conclusions and take them forward. As it was expressed by many delegations, the Conference reiterates the invitation to nuclear weapon States and States non-parties to the NPT to participate in the Third Conference, in Austria.”

“In doing so, we need to take into account that, in the past, weapons have been eliminated after they have been outlawed. We believe this is the path to achieve a world without nuclear weapons,” the Mexican chair said in the summary. “In our view, this is consistent with our obligations under international law, including those derived from the NPT as well as from Common Article 1 to the Geneva Conventions.”

“The broad-based and comprehensive discussions on the humanitarian impact of nuclear weapons should lead to the commitment of States and civil society to reach new international standards and norms, through a legally binding instrument,” the summary continued. “It is the view of the Chair that the Nayarit Conference has shown that time has come to initiate a diplomatic process conducive to this goal. Our belief is that this process should comprise a specific timeframe, the definition of the most appropriate fora, and a clear and substantive framework, making the humanitarian impact of nuclear weapons the essence of disarmament efforts.”

The summary concluded, “It is time to take action. The 70th anniversary of the Hiroshima and Nagasaki attacks is the appropriate milestone to achieve our goal. Nayarit is a point of no return.”

Note: This essay was originally published in The Astana Times newspaper on February 26, 2014.

U.S. Senator Introduces \$100 Billion Nuclear Weapons Reduction Bill, As ATOM Project Is Presented in Senate

By Altair Nurbekov

WASHINGTON, D.C – U.S. legislators from both sides of the aisle, the Kazakhstan Ambassador to the United States, representatives of Parliamentarians for Nuclear Non-Proliferation and Disarmament (PNND), The ATOM Project and more than 200 others gathered in the Russell Senate Building Feb. 27 for an evening meant to encourage anti-nuclear weapons dialogue and, according to PNND who co-organized the event along with the Kazakhstan Embassy, “build parliamentary engagement in practical measures to advance nuclear disarmament and non-proliferation, and achieve a nuclear weapons free world.”

According to PNND, in 2007, four high-level U.S. statesmen advanced the goal of a nuclear weapons free world as something that must be “sought collectively to reverse nuclear proliferation and achieve security, but noted that such a goal was like an extremely high mountain that would take some effort to climb.”

In the seven years since that time, that aim has been embraced and endorsed by U.S. President Barack Obama, as well as leaders of other nuclear weapon states, their allies and the United Nations.

However, much work remains to be done and organizations like PNND and The ATOM Project, along with like-minded leaders, such as U.S. Senator and PNND Co-President Ed Markey, are continuing the effort.

The Feb. 27 event included inspirational speeches by Senator Markey, Global Security Institute President Jonathan Granoff, Kazakh Ambassador to the United States Kairat Umarov, PNND Global Coordinator Alyn Ware, as well as ATOM Project Honorary Ambassador, armless artist and nuclear weapons testing survivor Karipbek Kuyukov.

Senator Markey, who hosted the event, urged those in attendance to embrace the cause, as well as highlighted other, better ways the U.S.

can spend funds now devoted to its nuclear arsenal. In his speech, Markey announced he was introducing a bill into the U.S. Senate, which he did on Feb. 28, that would cut \$100 billion over the next decade from the U.S. nuclear weapons budget. The Smarter Approach to Nuclear Expenditures, or “SANE” Act, is co-sponsored by Senator Jeff Merkley. Companion legislation has been introduced in the U.S. House by Representative Earl Blumenauer.

The SANE Act is similar to the one Markey introduced in the House of Representatives in 2012, before he was elected to the U.S. Senate.

“America faces a real choice: spend billions on nuclear weapons we no longer need or fund programs that educate our children and help find cures to deadly diseases,” Markey said as he announced the bill in his Feb. 27 speech at the reception in the Russell Building’s historic Kennedy Caucus Room. “We need to stop pouring billions into the nuclear weapons programs of the past and instead prioritize our nation’s pressing needs. The SANE Act will cut spending on outdated, wasteful nuclear weapons and related programs over the next ten years and will strengthen our long-term economic and national security,” said Markey.

According to Markey and his supporters, the SANE Act will: reduce deployed strategic submarines from 14 to 8 and reduce the purchase of replacement submarines from 12 to 8 – saving \$16 billion; cut warhead life extension programs and defer the development of new ICBMs – saving \$15 billion; remove the nuclear mission from F-35s and delay the new long range bomber – saving over \$32 billion; and cancel nuclear weapon making facilities and missile defense programs – saving \$37 billion.

Programs to modernize various nuclear warheads would be done away with under the bill, and work would be delayed on a new class of intercontinental ballistic missiles, resulting in an estimated \$15 billion in U.S. taxpayer dollars. The legislation would axe all missile-defense activities, and cancel plans to build new facilities for fissile-material processing in order to cut an additional \$37 billion.

In his remarks at the reception, Kairat Umarov also told the gathering of Kazakhstan’s efforts to be a leader in global nuclear non-proliferation and reminded participants that his country unilaterally disarmed what was then the world’s fourth largest nuclear and missile arsenal.

“One and half million people and a large area in Kazakhstan were harmed by these tests. That is why our people know the cost of nuclear testing. And our country, having firsthand knowledge of the impact of nuclear tests and having waived the right to a vast arsenal of nuclear weapons inherited from the Soviet Union has the moral authority to call for a world free from nuclear weapons,” Umarov told the gathering which also included staffers from both Democratic and Republican parties, non-proliferation and security experts as well as parliamentarians from around 15 countries who attended the PNND 2014 assembly which took place prior to the event.

Umarov also expressed support for The ATOM Project, an initiative launched by President Nursultan Nazarbayev to permanently end nuclear weapons testing and rid the world of nuclear arsenals.

“We have seen unwavering support for the [ATOM Project] initiative, not only in our country, but internationally. But we can and must achieve greater results. That is why we call on all people of goodwill to support The ATOM Project and make the realization of a nuclear weapons free world our primary purpose for a better tomorrow,” he said.

The ATOM Project’s immediate mission is to galvanize global public opinion against nuclear weapons testing in order to achieve the entry into force of the Comprehensive Nuclear Test Ban Treaty (CTBT). As of early March 2014, the 1996 treaty was signed by 183 countries and ratified by 162 nations, yet its entry into force depends on its signature and ratification by eight specific countries – China, Egypt, India, Iran, Israel, North Korea, Pakistan and the United States.

As of March 10, more than 80,000 people from more than 100 countries signed the ATOM Project’s online petition calling on the global leaders to make an important step towards nuclear disarmament.

The evening at the U.S. Senate concluded with a short documentary film by The ATOM Project and an inspiring speech by Karipbek Kuyukov.

He was born less than 100 kilometers away from the so called “ground zero” of the Semipalatinsk nuclear test site, a place where more than 100 above ground nuclear tests were conducted. He was born without arms as a result of his parents’ exposure to radiation resulting from Soviet-era nuclear weapons testing.

Kuyukov told the crowd that doctors were so horrified at the sight

of him at birth that they suggested to his parents that he be given a lethal injection to end his life. He said he was grateful to his parents to this day for giving him that second chance to live when they decided to keep him as a baby. He also told of the premature deaths of his siblings and of the suffering of others in villages around theirs as a result of nuclear weapons testing.

He has since gone on to become a renowned visual artist and travels the globe on behalf of The ATOM Project sharing his story. He said he had travelled to the United States in the hope that his story will lead him to be the last person to suffer as a result of nuclear weapons testing.

“It is my mission to be one of the last to suffer from nuclear testing,” Kuyukov said of his desire to spare future generations from the horrors of nuclear weapons use such as birth defects, physical deformity, and premature death. He presented a collection of his artwork which he paints with his mouth and feet and through which he tries to encourage people to be more resolute in their efforts to build a world without nuclear weapons.

“I am on a mission and I have a vision,” Kuyukov said in English as he concluded his speech, drawing prolonged applause from the audience which could not help but be moved.

Note: This essay was originally published in The Astana Times newspaper on March 12, 2014.

STATEMENT
by the Ministry of Foreign Affairs of Kazakhstan
to mark the 20th anniversary of Kazakhstan's accession
to the Treaty on the Non-Proliferation of Nuclear Weapons
(NPT) as a non-nuclear weapons state
17 February 2014

The Republic of Kazakhstan is a firm and consistent advocate of nuclear disarmament and non-proliferation. February 14, 2014 marked the 20th anniversary of Kazakhstan's accession to the NPT as a non-nuclear weapons state.

Strengthening international nuclear disarmament and nonproliferation and its basis – the Treaty on the Nonproliferation of Nuclear Weapons – has been one of the priorities of Kazakhstan's foreign policy. The threat of proliferation of nuclear weapons, as well as of materials and technologies required to create it, especially in the face of the rising terrorist threat, is one of the most serious challenges to international security.

We believe that the NPT is a time-tested most important international instrument providing global and regional stability and we believe it is important to achieve an effective and balanced implementation of the Treaty in line with its three components: nuclear disarmament, nonproliferation and cooperation in the peaceful use of atomic energy.

Our position is based on a firm belief that only through joint efforts by states, in close cooperation among international and regional organizations, primarily the UN, can the goals of the Treaty be effectively reached.

The Republic of Kazakhstan is actively participating in international efforts to build a world free from nuclear weapons and to ensure nuclear security. During the 20 years of participation in the NPT, our country, through practical actions, has contributed considerably to achieving the goals of the Treaty.

The first step, which laid the foundation for Kazakhstan's future policies of non-proliferation, was the closing of the Semipalatinsk nuclear test site in August 1991. This was the first ever case in the history of mankind when a nuclear test site was closed because of the will of the people.

By 1995, Kazakhstan removed the world's fourth largest nuclear weapons arsenal from its territory and eliminated the infrastructure for the production and testing of nuclear weapons.

Together with other countries in Central Asia, in 2009 Kazakhstan established a zone free of nuclear weapons in Central Asia which has become an important collective contribution to strengthening global and regional security.

On Kazakhstan's initiative, on December 2, 2009, the 64th session of the UN General Assembly adopted a resolution proclaiming August 29, the day of the closure of the Semipalatinsk test site, "the International Day against Nuclear Tests." We believe this will contribute to reaching the objectives of peace, banning nuclear

tests around the world, raising awareness and educating the public on issues of nuclear disarmament and nonproliferation. We call on all countries and international organizations to observe the International Day against Nuclear Tests.

Kazakhstan has initiated the ATOM Project (Abolish Testing. Our Mission.), an international petition campaign designed to unite public opinion around the world against nuclear testing, which has already received tremendous support from the world community.

Kazakhstan will host the IAEA International Bank of low-enriched uranium and is currently finalizing talks on a related host country agreement. We believe the development of multilateral approaches to nuclear fuel, including the creation of guaranteed nuclear fuel reserves, will promote peaceful uses of nuclear energy.

In 2013, Kazakhstan hosted the two rounds of talks between the six nations and the Islamic Republic of Iran over Iran's nuclear programme, during which the foundation was laid for further progress in these talks.

Kazakhstan has actively participated in nuclear security summits. We consider it is important to achieve a common understanding of the threat posed by nuclear terrorism and to take measures to ensure that nuclear facilities, materials and technologies are not vulnerable and do not fall into the hands of terrorists. We intend to take an active part in the upcoming Nuclear Security Summit in The Hague in March 2014.

Kazakhstan is a party to all international instruments regarding the nonproliferation of nuclear, chemical and biological weapons. We also actively participate in the activities of the Nuclear Suppliers Group, the Code of Conduct against Ballistic Missile Proliferation (the Hague Code), the Zangger Committee, the Proliferation Security Initiative, the Global Initiative to Combat Nuclear Terrorism (GICNT) and the Global Partnership on Nonproliferation.

In order to achieve a world free from nuclear weapons, the Republic of Kazakhstan calls on all States Parties to reaffirm their commitment to the NPT and to reaffirm their commitments under the Treaty, to the decisions of the NPT Review Conference, as well as to practically implement the agreements and to ensure the universality of the Treaty.

We also call on states that have either not signed or not ratified the Comprehensive Nuclear Test-Ban Treaty (CTBT) to do so in order to ensure the soonest entry into force of the CTBT. We believe it is necessary to strengthen the verification mechanism of this Treaty as one of the effective instruments of ensuring non-proliferation, disarmament and nuclear security in the world.

Kazakhstan advocates the start of negotiations over and the soonest development of a Fissile Materials Cut-Off Treaty which will become an important step along the path of nuclear disarmament and prevention of proliferation of nuclear weapons.

We share goals adhered to by countries that stand for the soonest development of a Convention on full and total ban of nuclear weapons. An important step to achieve this goal should be a Universal Declaration of a Nuclear Weapons Free World, initiated by Kazakhstan at the United Nations, which would express the commitment of all states to move consistently toward the ideal of a world without nuclear weapons. We call for the support for the adoption of the Universal Declaration.

We also support the establishment of nuclear weapons free zones, based on agreements signed voluntarily among respective states.

We believe it is important to promptly convene a Conference on the establishment of a zone free from nuclear weapons in the Middle East with the participation of all states of that region in order to implement conclusions and recommendations adopted at the NPT Review Conference in 2010.

As an active proponent of nuclear disarmament and non-proliferation, Kazakhstan assures UN Member States that our country will continue to spare no effort in order to strengthen peace, international and regional security and stability, as well as to strengthen the role of the United Nations in resolving global problems and meeting new challenges of the 21st Century.

If entrusted by UN Member States and elected a non-permanent member of the UN Security Council for 2017-2018, the Republic of Kazakhstan is ready to take on the responsibility and to promote nuclear disarmament and non-proliferation at the UN Security Council.

The Story of Kazakhstan's Freeing Itself of Weapons of Mass Destruction Legacy and Working for a Nuclear Safe World

August 29, 1991	President Nursultan Nazarbayev of the Kazakh Soviet Socialist Republic issues a decree shutting down the Semipalatinsk Nuclear Test Site, four months before the collapse of the Soviet Union. It was on this same day August 29, but 42 years earlier, in 1949, that the Soviet Union conducted its first nuclear test at Semipalatinsk.
December 16, 1991	The Republic of Kazakhstan declares its independence.
December 26, 1991	Kazakhstan and the USA establish full diplomatic relations. The fate of the nuclear arsenal in Kazakhstan is of paramount priority for leaders of both countries.
December 30, 1991	The Soviet Union formally ceases to exist. Kazakhstan inherits the world's fourth largest nuclear arsenal, including 1,040 nuclear warheads for intercontinental ballistic missiles (ICBMs) of 1 megaton TNT-equivalent each, 104 RS-20 ICBMs (NATO designation SS-18 "Satan"), as well as a squadron of 40 TU-95 heavy bombers armed with Kh-55 air-land cruise missiles (or ALCMs) (NATO designation AS-15A 'Kent') with 370 tactical nuclear warheads.
May 23, 1992	Kazakhstan signs Lisbon Protocol to the Treaty between the United States of America and the Union of Soviet Socialist Republics on the Reduction and Limitation of Strategic Offensive Arms (START I Treaty), by which it renounces possession of nuclear weapons and accepts obligations to ensure non-proliferation of nuclear weapons.
July 2, 1992	Kazakhstan's Parliament ratifies START I Treaty.
January 14, 1993	Kazakhstan signs the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction.

December 13, 1993	<p>Kazakhstan's Parliament ratifies the Nuclear Non-proliferation Treaty.</p> <p>On the same day, in Almaty, President Nursultan Nazarbayev and U.S. Vice President Albert Gore sign the Framework Agreement opening the way toward implementation of the Cooperative Threat Reduction Programme (Nunn-Lugar programme) in Kazakhstan.</p>
February 14, 1994	President Nursultan Nazarbayev presents ratification documents to President Bill Clinton in Washington, DC, by which Kazakhstan formally accedes to the Nuclear Nonproliferation Treaty as a non-nuclear-weapon state.
February 1994	<p>Kazakhstan joins the International Atomic Energy Agency (IAEA).</p> <p>All 40 TU-95 heavy bombers are removed from Kazakhstan to Russia.</p>
November 1994	Five hundred eighty-one kilograms (1,278 pounds) of highly enriched uranium are removed to the United States from the Ulba Metallurgy Plant in north-eastern Kazakhstan through a joint Kazakhstan-U.S. secret operation code-named Project Sapphire. This material, left at Ulba from the time of nuclear fuel production for Soviet submarines, would have been enough to produce 20-25 nuclear warheads.
December 1994	The United States of America, the United Kingdom of Great Britain and Northern Ireland and the Russian Federation, the states depositories of the NPT Treaty, sign the Memorandum on Security Assurances with Kazakhstan, Belarus and Ukraine, as countries who have renounced nuclear weapons. In short order, France and China, two other nuclear weapons states, provide similar guarantees to Kazakhstan.
April 1995	All 1,040 nuclear warheads for ICBMs and all 370 nuclear warheads for ALCMs are removed from Kazakhstan to Russia.
May 1995	The last nuclear device is destroyed at the Semipalatinsk Nuclear Test Site, after being left there since 1990. In September 1996, Kazakhstan becomes one of the first signatories to the Comprehensive Nuclear Test Ban Treaty.

September 1996	All 104 ICBMs are removed from Kazakhstan to Russia for destruction, three years ahead of schedule required by the START I Treaty.
October 1997	The UN General Assembly approves the first resolution calling on member states to provide assistance to regions of Kazakhstan which suffered from nuclear testing.
September 1999	<p>All 148 ICBM silos are destroyed in four regions across Kazakhstan, including 61 silos at Derzhavinsk, 61 at Zhangyz-Tobe, 14 test silos at Semipalatinsk Nuclear Test Site, and 12 test silos at Leninsk.</p> <p>The Tokyo conference on Semipalatinsk is held resulting in a decision to implement 38 rehabilitation projects in the Semipalatinsk region.</p>
March 2000	Kazakhstan ratifies the Chemical Weapons Convention. Kazakhstan becomes the 132 nd State Party to the Convention on 22 April 2000, thirty days after depositing its instrument of ratification with the Secretary General of the United Nations.
July 2000	The last test tunnel is destroyed at the Degelen mountain complex at the Semipalatinsk test site. A total of 181 tunnels and 13 unused test holes were destroyed at the test site.
September 2000	The capacity of the world's largest anthrax production and weaponization facility at Stepnogorsk is eliminated. This facility had a capacity to produce 300 metric tons of anthrax agent during a 7-month war-time mobilization period.
July 2001	The joint Kazakhstan-U.S. project concludes at BN-350 fast-breeder reactor in Aktau whose aim was the security of more than 3,200 kilograms (7,250 pounds) of weapons-grade plutonium, enough to produce 400 nuclear bombs. The reactor had been shut down for several years before that.
January 2002	A joint Kazakhstan-U.S. project of government-private partnership starts separating low-enriched uranium from uranium concentrate using a unique technology developed at the Ulba Metallurgy Plant for commercial sale. Fifty high-tech jobs are created.

February 2002	The joint project between the Nuclear Threat Initiative, the Kazatomprom national nuclear company of Kazakhstan, the Ulba Metallurgical Plant and the Non-proliferation Support Centre begins to securely transport fresh highly enriched uranium fuel from BN-350 reactor and blend it down at Ulba.
May 2002	Kazakhstan is accepted into the Nuclear Suppliers Group, which unites 40 nations and sets principles of export controls in nuclear-related trade.
August 2003	President Nazarbayev awards Order of Dostyk (Friendship) of First Degree, Kazakhstan's highest award for foreigners, to former U.S. Senator Sam Nunn and U.S. Senator Richard Lugar in recognition of their outstanding contribution to Kazakhstan's disarmament and strengthening of global security.
December 2004	Kazakhstan and the USA sign an amendment to the Framework Agreement on cooperation in nonproliferation of weapons of mass destruction which moved the two nations towards a new level of cooperation in fighting the spread of biological weapons and the threat of bioterrorism. The amendment raised the level of U.S. funding by approximately US\$35 million for biological weapons proliferation prevention projects in Kazakhstan, a cooperative biological research program, securing dangerous pathogens and strains by strengthening bio-safety and bio-security at facilities, and other activities.
April 2005	The United States Senate unanimously adopts Resolution 122, recognizing the historic efforts of the Republic of Kazakhstan to reduce the threat of weapons of mass destruction through cooperation in the Nunn-Lugar/Cooperative Threat Reduction Programme, and celebrating the 10 th anniversary of the removal of all nuclear weapons from the territory of Kazakhstan.
July 2005	Kazakhstan joins the Proliferation Security Initiative, also known as the Krakow Initiative. Its aim is to draw all countries into the interdiction of air and sea vessels as well as land transport suspected in carrying weapons of mass destruction related materials.

September 2005	In addition to all twelve United Nation counter-terrorism conventions, Kazakhstan accedes to the International Convention for the Suppression of Acts of Nuclear Terrorism.
December 2005	The United Nations General Assembly unanimously adopts a resolution calling upon the international community to continue to support Kazakhstan in addressing the challenges of the rehabilitation of the Semipalatinsk region and its population, taking additional actions, including by facilitating the implementation of the Kazakhstan national programme on addressing the problems of the former Semipalatinsk nuclear test site in a comprehensive manner.
February 2006	The joint Kazatomprom-NTI project on secure transportation of fresh highly enriched uranium fuel from BN-350 reactor and its down-blending at UMP is completed. Almost three tons of highly enriched uranium, enough to produce two dozen nuclear bombs, were down-blended and turned into low enriched uranium usable only in peaceful purposes.
May 2006	Kazakhstan and the USA sign an agreement under the Second Line of Defense programme of the U.S. Department of Energy calling for greater cooperation in preventing illicit trafficking of nuclear materials through the supply and deployment of special radiation detection equipment. The agreement provides for the expansion of U.S. financing of WMD infrastructure elimination projects in Kazakhstan up to 158 million U.S. dollars.
July 2006	<p>Kazakhstan becomes one of the founding members of the Global Initiative to Combat Nuclear Terrorism announced by Russia and the USA.</p> <p>The United States House of Representatives unanimously adopts Resolution 905, congratulating Kazakhstan on the 15th anniversary of the closure of the world's second largest nuclear test site in the Semipalatinsk region. The resolution notes that "Kazakhstan's leadership and cooperation with the United States on nonproliferation matters is a model for other countries to follow."</p>

September 2006	In Semipalatinsk, Kazakhstan, together with four other countries of Central Asia – Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan, – signs the Treaty on the Central Asian Nuclear Weapons Free Zone (CANWFZ), making an important collective contribution to strengthening regional and global security.
July 2007	Astana hosts the 3 rd meeting of deputy foreign ministers of the Global Initiative to Combat Nuclear Terrorism.
November 2008	Kazakhstan is accepted into the Zangger Committee following a decision by the Committee in Vienna. The Zangger Committee was formed in 1971 following the coming into force of the Nuclear Non-Proliferation Treaty (NPT), to serve as the “faithful interpreter” of its Article III, paragraph 2, to harmonize the interpretation of nuclear export control policies for NPT Parties.
March 2009	The Treaty on the Central Asian Nuclear Weapons Free Zone (CANWFZ), signed in September 2006 in Semipalatinsk, enters into force following the ratification by all member states.
December 2, 2009	At the initiative of Kazakhstan, the United Nations General Assembly unanimously passes the resolution proclaiming August 19 the International Day against Nuclear Tests.
April 2010	<p>UN Secretary General Ban Ki-moon visits the former Semipalatinsk nuclear test site and says: “To realize the world free from nuclear weapons is the top priority for the United Nations, and most ardent aspiration of the mankind. Here, in Semipalatinsk, I call on all nuclear-weapon states to follow suit of Kazakhstan.”</p> <p>Later, President Nursultan Nazarbayev participates in the Global Nuclear Security Summit in Washington, DC, and outlines Kazakhstan’s contribution to and vision of a world free from nuclear weapons.</p>
August 29, 2010	The International Day against Nuclear Tests is marked at the United Nations and throughout the world for the first time.

November 2010	In another critical nuclear non-proliferation milestone, Kazakhstan, in close cooperation with the United States and the IAEA, completes a large-scale 12-month project to ensure long-term secure storage for more than 10 metric tonnes of highly enriched uranium and three metric tonnes of weapons-grade plutonium from the BN-350 reactor in Aktau – enough material to make about 800 nuclear weapons. The fuel is now safely stored in the eastern Kazakhstan.
August 29, 2011	The 20 th anniversary of the closure of the Semipalatinsk nuclear test site. This date is now marked globally as the UN-recognized International Day against Nuclear Tests.
October 12, 2011	The International Forum for a Nuclear Weapons Free World is held in Astana. The Forum results in the signing of the Astana Declaration which provides support for new nuclear weapons free zones that comply with objectives approved by the UN Non-Proliferation Commission and “further creation of the zone free of weapons of mass destruction in the Middle East.”
January 1, 2012	The International Atomic Energy Agency approves Kazakhstan to host the world’s first international nuclear fuel bank at the Ulba Metallurgical Plant in Ust-Kamenogorsk in eastern Kazakhstan.
March 16-19, 2012	Jean-Luc Dehaene, the Mayor of the city of Ypres (Belgium) and the head of Mayors for Peace organization’s international secretariat visits Kazakhstan as the head of a delegation during which time 12 Kazakhstan cities join the organization.
March 26-27, 2012	At the Seoul Nuclear Security Summit, Presidents Nursultan Nazarbayev, Dmitry Medvedev and Barack Obama announce the completion of all major work to ensure the safety of the former Semipalatinsk nuclear test site. Nursultan Nazarbayev calls for the adoption of a Universal Declaration of a Nuclear Weapons Free World, which would be an important step towards a Nuclear Weapons Convention.
August 28, 2012	Astana becomes the 110th global capital to join the Mayors for Peace.

August 28-30, 2012 The conference “From a Nuclear Test Ban to a Nuclear-Weapons-Free World” takes place in Astana and Semey. President Nursultan Nazarbayev launches The Atom Project. German Foreign Minister Guido Westerwelle endorses The ATOM Project.

The Parliamentary Appeal for Nuclear Abolition, approved by the conference. calls on parliamentarians and governments to make concrete actions to achieve the abolition of nuclear weapons.

October 18, 2012 Kazakh, U.S. and Russian non-proliferation experts announce the completion a multi-year project to permanently seal dozens of test tunnels at the former Semipalatinsk test site securing hundreds of kilograms of highly enriched uranium left there as residue from the dozens of underground nuclear weapons tests, thus ensuring the permanent safety of these materials. According to U.S. officials, “this collaborative effort, announced at the 2012 Nuclear Security Summit by the Presidents of the United States, the Republic of Kazakhstan, and the Russian Federation, has been unprecedented in terms of actions to combat the threat of nuclear proliferation and nuclear terrorism.”

Since its launch and throughout 2012 the ATOM Project has held events in Kazakhstan, The Hague, Basel, Geneva and Washington D.C.. To date, people from more than 100 countries have signed the ATOM Project online petition to ban nuclear weapons tests and eradicate nuclear weapons from the world.

2013 The ATOM Project has held events and symposia under the theme “Looking for Peace” in Oslo, Moscow, New York, Washington D.C., Vienna, Tokyo and Berlin.

August 29, 2013 The ATOM Project initiates a minute of silence at 11.05 am, symbolizing Roman letter V (for victory) in memory of all survivors of nuclear weapons tests in the world.

September 5, 2013 The UN holds a special high-level panel to look for ways to advance nuclear disarmament timed to the International Day against Nuclear Tests.

February 2014 Kazakhstan’s Ministry of Foreign Affairs issues a statement on the 20th anniversary of the country’s accession to the NPT, calling for its universality.

