

"Regional Progress and Challenges to Securing Vulnerable Nuclear Materials in Four Years; the former Soviet state (CIS) prospective"

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USSR disintegration consequences

- **After the USSR disintegration Russia as well as other former soviet republics – new independent states (NIS) were facing with number of tasks in nuclear field which have to be resolved as quick as possible.**



USSR disintegration consequences

(cont.)

Soviet nuclear program legacy can be described very briefly as follow:

- **Nuclear weapons (strategic and tactical) was located at the territories of 4 republics – Russian Federation (Russia), Ukraine, Byelorussia and Kazakhstan.**
- **Components of the fuel cycle such as uranium mining, refining, conversion, enrichment, fuel fabrication, NPP, SF storages, reprocessing, radioactive wastes storages, radioactive sources were distributed at different republics territories.**
- **Infrastructure of the soviet nuclear program (research centers/institutions, attended (concomitant) production facilities/plants) was also distributed at the republics territories.**



USSR disintegration consequences

(cont.)

- After 1991 situation look like:
- Uranium mining – Kazakhstan (mostly), Ukraine, Russia.
- Nuclear test sites – Russia (New Land, Arctic) Kazakhstan (Semipalatinsk).
- NPP – Russia, Ukraine, Lithuania, Kazakhstan.
- Fuel fabrication – Kazakhstan (Ulba) and Russia.
- Research reactors – each republic has own institute of nuclear physics with RR; standard soviet design (pool type) with HEU fuel.
- Research centers in nuclear field was in each republics.
- Radioactive waste storages – spread around USSR territory .
- Nuclear materials different type located at number of the republics territories.



USSR disintegration consequences

(cont.)

In this situation Russian political leaders have to spent great amount efforts and resources to resolve complicated technical and political tasks for fulfillment commitments and obligations as legal successor of the USSR. And first of to secure nuclear weapons, materials and facilities at own territory as well as at territories of other NIS.



What was done?

- **Russian efforts were focused on the following tasks:**
 - All NW was relocated from Ukraine Byelorussia and Kazakhstan to Russian territory;
 - Most dangerous NM from proliferation prospective were relocated from test site in Kazakhstan to Russian territory;
 - Continuous efforts to replace HEU fuel (90% U-235) in RR which was constructed in frame soviet nuclear program in soviet republics as well as in countries supported by USSR with LEU fuel (<20% U-235); it was done e.g. in RR Uzbekistan, Yugoslavia, Poland, Romania.
 - Continue relocation of fresh and irradiated HEU fuel of RR from different countries to Russian territory.



What was done? (cont.)

- **But not all tasks can be resolved by only Russian efforts.**
- **NIS join the IAEA and NPT and would like to use their rights in accordance with Article 4 of NPT. For this purpose they would like to use NM and facilities left at their possession.**



Soviet Nuclear Program legacy – what to do with it?

- **How to use soviet nuclear legacy – question different answer NIS leaders were trying to find.**
- **Russian case – we were trying to use soviet NM management system to maximum extend. It was not easy task under new political, economical, social conditions and great efforts were spent to resolve this task. The legal framework must be created from scratch for example.**



What was done?

In Russian situation the following important tasks were urgently done:

- Law on “Use of Atomic Energy” (in USSR was no such law) was created;
- Law on export control of sensitive materials and technologies was also created;
- Regulatory base for MPC&A still under development;
- Four stages export control system was created;
- The training centers for MPC&A personnel to teach them to use modern technologies in this area were created
- Regulatory agency role in nuclear field still need to be strengthened.



How Russia doing?

- **All those tasks required time, resources and efforts not only own Russian but international assistance such US – Russian MPC&A Program, TACIS Program with EC, bilateral collaboration program with some countries.**



NIS situation

- Other NIS has no real MPC&A systems and have to create such systems practically from zero.
- Specific of those States was also connected with their obligations and commitments the have to accept after they join the Agency and NPT as NNWS.
- They have to sign SA and put under safeguards ALL nuclear facilities and NM at their territory. They also must create legal framework for use of atomic energy and respectful regulatory framework.



Russia and NIS interaction

- Working on own tasks Russia never forget about assistance to NIS countries in securing their nuclear facilities and NM
- Level of collaboration of Russia and other NIS countries was defined in accordance with level of inter-states relationship which is formatting historically in different areas – political, economical, cultural etc. In some cases it was close enough relations in other cases it was quiet tense.
- But any way Russia was and is ready to take part in the technical assistance programs which international community provide the NIS countries in securing of their NM and facilities. Form of the participation could be different and depends or the situation.

What need to be done?

Main areas where the technical assistance of international community still required in short and long-term prospective:

- Consultancy in creating legal framework, regulatory activities, implementation of new documents in practice;
- Technical assistance to supply modern MPC&A equipment and relevant service;
- Training of the personnel to use those equipment;
- Relevant financial support IF necessary.



How it could be done?

Road map for securing of the vulnerable NM :

- Political desire of the State (leader or government) to get international assistance in such sensitive area as nuclear materials security; legal framework for the assistance is vital;
- Analysis of the situation in the State with participation of the international experts (inventory of NM and RS, security of its locations, MPC&A situation in general and what need to be done to enhanced it up to international standards etc.);
- Estimation of the recourses, time and efforts necessary for this enhancements;
- Search for sources (administrative, human, financial, technical etc.);
- Making plans for achieving the goals – dates, performers, responsible, controlling body etc.
- Just do it!



Any questions / suggestions?
Thanks for your attention!

